



# **The science of Public Administration: A theoretical and meta-theoretical enquiry**

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Thesis submitted in fulfilment of the requirements for the degree *Doctor of Philosophy in Public Management and Governance* at the North-West University

Promoter: Prof L Vermeulen

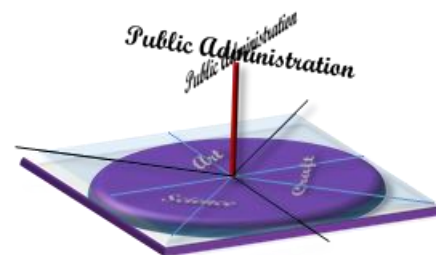
**Graduation:** December 2021

**Student number:** 21656886

*“A heightened activity of mind,  
an attuned awareness of the movement of thinking itself,  
and  
a willingness to follow where it leads.”*

*Aryeh Kosman, 2015*

# Declaration of originality



## DECLARATION OF ORIGINALITY

I, Christina Hendrika de Wet (Student number: 21656886), herewith declare that the dissertation entitled:

**“The science of Public Administration: A theoretical and meta-theoretical inquiry”,**

submitted in fulfilment of the requirements for the degree, *Doctor of Philosophy in Public Management and Governance* at the North-West University, is my own work and has never been submitted by me to any other university. I also declare that all the sources used have been acknowledged by means of complete referencing.

I understand that copies of this dissertation submitted for examination will remain the property of the North-West University.



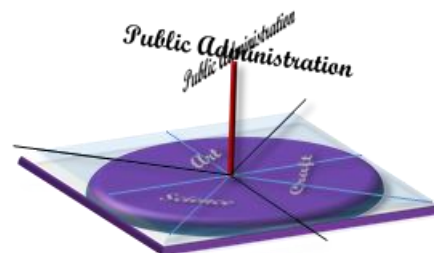
Signed:

CH de Wet

on this day: Friday, 28 February 2021

Student number: 21656886

# Acknowledgements



## ACKNOWLEDGEMENTS

**To God be all the glory!**

**My only worth and value is who I am in Christ Jesus.**

### **Psalm 46**

<sup>1</sup>God is our refuge and strength, a very present help in trouble.

<sup>2</sup>Therefore will not we fear, though the earth be removed, and though the mountains be carried into the midst of the sea;

<sup>3</sup>Though the waters thereof roar and be troubled, though the mountains shake with the swelling thereof. *Selah.*

<sup>4</sup>There is a river, the streams whereof shall make glad the city of God, the holy place of the tabernacles of the most High.

<sup>5</sup>God is in the midst of her; she shall not be moved: God shall help her, and that right early.

<sup>6</sup>The heathen raged, the kingdoms were moved: he uttered his voice, the earth melted.

<sup>7</sup>The \*LORD of hosts is with us; the God of Jacob is our refuge. *Selah.*

<sup>8</sup>Come, behold the works of the \*LORD, what desolations he hath made in the earth.

<sup>9</sup>He maketh wars to cease unto the end of the earth; he breaketh the bow, and cutteth the spear in sunder; he burneth the chariot in the fire.

<sup>10</sup>**Be still, and know that I am God: I will be exalted among the heathen, I will be exalted in the earth.**

<sup>11</sup>The \*LORD of hosts is with us; the God of Jacob is our refuge. *Selah.*"

*\*Adonai – The Anointed One.*

† Pa, al is Pa nie hier om hierdie stukkies van my lewe te ervaar nie, dit is die vrug op alles wat Pa my geleer het.

Mammie, ek kan nie eers begin om die omvang van Ma se onwrikbare liefde, vertrouwe, enorme ondersteuning en aanmoediging te beskryf nie. Baie, baie dankie daarvoor. Ma bly vir altyd my rots. Ek dra hierdie studie aan Ma op.

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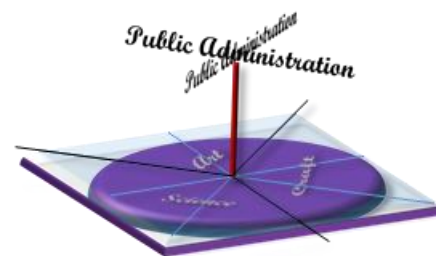
Oom Giel en tannie Annetjie, julle is vir my baie kosbaar. Baie dankie vir al julle gebede.

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# Abstract and Key words





## ABSTRACT

### KEY WORDS:

Public Administration; science as ontic expression; theoretical inquiry; meta-theoretical inquiry; Teleology; Ontology; Epistemology.

Throughout the spatio-temporal span of just over thirteen decades that account for Public Administration's existence, many scholars of this field of study bewailed the loss of an almost achieved scientific status. In addition, a lack of academic rigour and philosophically grounded epistemic depth caused and is still causing an anguish amongst scholars, scientists and practitioners of this field of study.

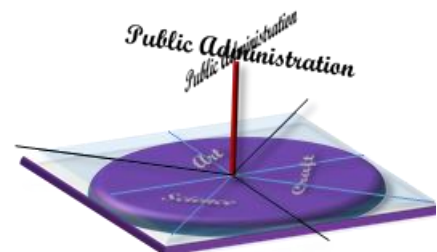
Emanating from the brief introduction, the following argument arises as fissure: P[p]ublic A[a]dministration in its ontic, pluralistic expression as science, as art and as craft, observed within the context of four distinct topographies immediately reveal the happenstance manner in which the holistic topography of P[p]ublic A[a]dministration is investigated and approached. Both P[p]ublic A[a]dministration as academic discipline and as practice reflect *noumenal* and phenomenal properties. However inadequately investigated and recognised, the *noumenal* properties represent the object P[p]ublic A[a]dministration in itself, and the phenomenal properties reflect the properties of the object within another or amongst others. In other words, the *noumenal* properties, by investigation of the academic field of study, reflect the purpose (Teleology), nature of being (Ontology), theory of knowledge (Epistemology), research method (Methodology), amongst many others. The *noumenal* properties of the practice will reveal elements such as the internal structure and substance of public institutions, matters of policy, strategy, resources and portfolios of public programmes. In contrast, the phenomenal properties of the field of study embody or denote the recognition of the *noumenal* properties of Public Administration as it subsists inamongst other academic fields of study such as Political Science, Sociology, History, Philosophy, and Business Sciences. In the case of public administration as practice, the phenomenal properties are recognised inamongst political-economic, socio-political, socio-cultural, socio-economic domains. Whichever quadrant in the topography of P[p]ublic A[a]dministration is investigated, such an investigation always happens within the strictures of either the field of study or its related practice's ontic expression, namely the science, the art and/or the craft.

There is no doubt that the enormity presented by the topographical landscape of P[p]ublic A[a]dministration has the power to intimidate even the most seasoned academic. Subsequently, this study focuses primarily on the following aspects of the academic-internal topography: the corporeal morphology and physiology of a science; the teleology or purpose of Public Administration that emanates from a teleological meta-theory; the ontic description of Public Administration that emanates from an ontological meta-theory; the epistemology of Public Administration that emanates from an epistemological meta-theory; and finally findings and recommendations that stem from recognising a knowledge triad, which is located in the anatomy of a science, between the Teleology, Ontology and Epistemology of Public Administration. The rationale and primary problem statement that directs this study is highlighted as follows: “to what extent will the application of meta-theoretical frameworks, derived from the theory of: the corporeal morphology and physiology of a science; Aristotelian philosophy and the knowledge triads that include: Apex I: Teleology; Apex II: Ontology; and Apex III: Epistemology, contribute, alter or deepen Public Administration theory?”

Prominent philosophers of science such as Thomas Kuhn, Margaret Masterman, Imre Lakatos and many others undeniably confirm the critical importance of having a philosophical bedrock and historical narratives that direct a field of study’s science. The importance of this study is therefore, embedded in the contribution towards a corporeal morphology and physiology of Public Administration’s ontic expression, which is recognised as a science, and the early development of a philosophical bedrock to this field of study.

This study therefore presents by means of the anatomy and physiology of Public Administration as a science, which includes its knowledge triads, the ontic, *noumenal* substance from which many novel research endeavours may follow.

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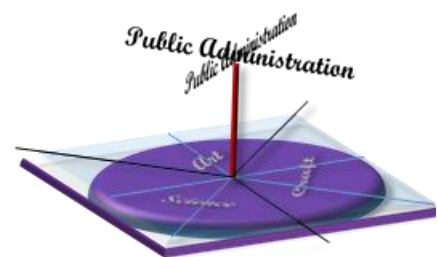
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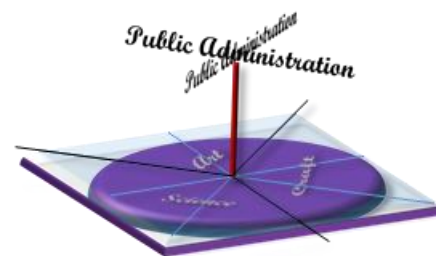
# List of abbreviations and acronyms



## LIST OF ABBREVIATIONS AND ACRONYMS

| LIST OF ABBREVIATIONS AND ACRONYMS |                                            |
|------------------------------------|--------------------------------------------|
| ABBREVIATION /<br>ACRONYM          | DESCRIPTION                                |
| CCA                                | Constant Comparative Analysis              |
| DNA                                | Deoxyribonucleic acid                      |
| NDP                                | National Development Plan: Vision for 2030 |

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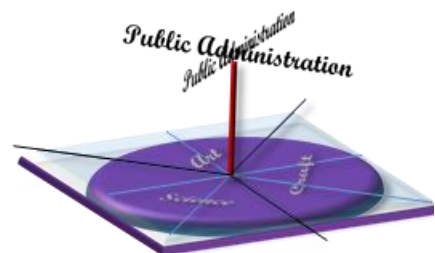
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# Chapter 1

## INTRODUCTION: THE BLUEPRINT

*"... we are continually constructing the realities we study, and that in fact learning about what is 'out there' cannot be separated from constructing the 'out there'."*

*Elise Boulding, 1979*



## **CHAPTER 1            INTRODUCTION: THE BLUEPRINT**

### **1.1        INTRODUCTION**

A spatio-temporal period of more than three and a half centuries, delineate the expanse between the founding fathers and contemporary scholars of the discipline of Public Administration. Since the mid to late 1600s, between Veit Ludwig von Seckendorff in Germany (1626 – 1692), (Sakli, 2013:153), Alexandre François Auguste Vivien de Goubert in France (1799 – 1854), (Sakli, 2013:153), Francis Lieber in Germany (1800 – 1872), (Rosser 2015:141), Johann Kaspar Bluntschli in Germany (1808 – 1881), (Sakli, 2013:153; & Rosser, 2015:141), Lorenz von Stein in Germany (1815 – 1890), (Thornhill & Van Dijk, 2010:99; Sakli, 2013:153; & Rosser, 2015:141), Rudolf von Gneist in Germany (1816 – 1895), (Rosser 2015:141), George S. Morris in the United States of America (1840 – 1889), (Rosser 2015:141), John W. Burgess in the United States of America (1844 – 1931), (Rosser 2015:141), Herbert B. Adams in the United States of America (1850 – 1901), (Rosser 2015:141), and Thomas Woodrow Wilson in the United States of America (1856 – 1924), (Thornhill & Van Dijk, 2010:99; Sakli, 2013:153; & Rosser 2015:141), Public Administration was, according to Peters (2003:8), based on five basic assumptions. In addition, Peters (2003:8, 9) asserted that, these basic assumptions ensured the following keystones: (a) the discipline reflected a normative position that could refract reproach and purposefully thrust academic scholar's and practitioner's conduct; and (b) the field of study was on-route to reach a scientific, paradigmatic accolade as the discipline pivoted on five distinct strengths. These strengths are identified as suppositions of: (a) self-sufficiency; (b) direct-control; (c) upward accountability; (d) uniformity; and (e) a public service system. Peters (2003:7) likewise apprised that these five strengths incited and liberated the core character of traditional-classic Public Administration in the following respects: (a) it presented a reasonably vigorous set of ideas, inherent to the nature of the discipline, which led practitioners to fully comprehend the expectations of performance in tasks, and offered direction to academics in terms of discernible, thought-provoking phenomena that solicited solutions; (b) it established a solid accord amongst academic scholars in terms of the nature of the discipline that innately displayed the nature of a state, and simultaneously suggested the appropriate form of public institution that demonstrated an ability to embark upon, carry out, and accomplish state intent; and (c) it bade an agreement in terms of the boundaries of Public Administration and the manner in which such boundaries were to be observed.

Many centuries later, the contemporary factual details of the discipline of Public Administration's academic character (in terms of its meta-theoretical and theoretical substance), lie in stark contrast to the earnest pursuance of a near scientific status, a normative position, and a scientific paradigmatic accolade that were illustrated during the formative years of this discipline.

Throughout the course of Public Administration's natural existence, many academic scholars raised their sombre concerns in terms of the field of study's scientific status, as will be revealed in the next section, and as Waldo (1968:2) lamented: "and so it continues to suffer, from so many identity crises that mere adolescence seems idyllic" (Peters, 1998:3; Raadschelders, 2013:v).

## **1.2 ORIENTATION AND PROBLEM STATEMENT**

A brief glance at the arguments and concerned reflections of academic scholars such as: Dahl (1947:1-11); Siffin (1956:367); Mosher (1968:221); Perry and Kraemer (1986:221); Elmore (1986:69); Perry (1991:15); Mokgoro (1992:30-31); Rhodes, Dargie, Melville and Tutt (1995:533); Seibel (1996:75); White, Adams and Forrester (1996:442); Chevallier (1996:68); Haque (1996:511, 512-513); Wamsley and Wolf (1996:383); Simon (1997:48); Van Braam (1998:21, 23 & 153); Dhameja (2003:1); Peters (2003:7 - 9); Denhardt (2004:150); Thornhill (2006:794); Ostrom (2008:36); Shields (2008:218); Rosenbloom, Kravchuk and Clerkin (2009:350, 511-512); Riccucci (2010:10); and Raadschelders (2013:22, 287), across the discipline of Public Administration's spatio-temporal trajectory, facilitates an impetus, platform and stimulus to earnestly seek a scientifically and philosophically grounded depth in the discipline's theoretical and meta-theoretical character (matter, substance and systems).

At closer inspection, two of the debilitating crises that hinder Public Administration from being ranked among the most esteemed branches of learning are the discipline's ontological (nature of being) and epistemological (theory of knowledge) statuses (Raadschelders, 2013:22). Raadschelders (2013:vi) observes three confronting challenges amongst the scholars of Public Administration as follows: (a) an internal disagreement exists in terms of the identity and nature of the discipline; (b) the object of study is determined far beyond its scholars, as it reaches citizens and practitioners; and (c) the sources of knowledge are scattered across a myriad of public organisations and societal associations.

Underneath the surface of Public Administration's epistemological crisis, lies an array of accusations that are noted as follows: Dahl (1947:1-11), identified three problems within the 'science' of Public Administration, of which the first is the recurring impossibility of excluding normative values from the challenges experienced in Public Administration. The aforementioned problem is based on the fact that Natural Science is not concerned with normative moral values, in other words, naturalistic fallacy, with which Simon (1997:48) and Riccucci (2010:10) concurs. The second problem is that the science of Public Administration has to include distinct aspects of human behaviour; and the third is that students of Public Administration need to research social settings. Raadschelders (1999:287) points out that the existential crises within the epistemology of Public Administration and government is embedded in an inability to conceptualise Public Administration, which spurs the fact that neither are in a position to clearly separate the discipline or practice from private sector administration, management and/or from politics. The study of Public Administration is in addition, burdened by the epistemological foundation of the study, the manner in which knowledge is acquired, and whether such knowledge is scientific or interpretive (Raadschelders, 1999:287). Furthermore, Public Administration as academic discipline shows a lack of attention to the origins of government (Ostrom, 2008:36); the discipline persists in its display of theoretical and methodological infirmities (Perry & Kraemer, 1986:221; Seibel, 1996:75; White, Adams & Forrester, 1996:442; and Van Braam, 1998:21, 23 & 153); the epistemological standing of the discipline remains enervated (Chevallier, 1996:68); scholars within the discipline anxiously pursue any new fad and fashion, in both study and practice (Rhodes, Dargie, Melville & Tutt, 1995:533); the discipline emphasises practice at the costly expense of academic enquiry (Haque, 1996:511); there is a lack of, or reactive responsiveness to the requirements of practitioners (Denhardt, 2004:150); and, the study is compelled to establish new foundations that will ground "governance, constitutionalism and pragmatism" (Wamsley & Wolf, 1996:383; Shields, 2008:218; Rosenbloom, Kravchuk & Clerkin, 2009:350, 511-512). Raadschelders (1999:287) furthermore describes the existential crises within Public Administration and government as that the latter lacks moral authority; and the study is a "discipline among others, a sub-discipline within Political Science, Business Administration, and Law or interdisciplinary."

Elements of existential crisis in praxis are observed as follows: despite the weak scientific authority of the discipline, there is a false belief that public administration has achieved an ethical 'high-ground' by the mere act of serving citizens, despite the feeble scientific power of the discipline (Perry, 1991:15); a strong existential foundation of government in society has been experienced for a lengthy period, but whenever a crisis is suffered, for example an economic crisis, serious issues and indictments of credibility occurs (Haque, 1996:512-513);

when public and market norms compete, a normative crisis immediately suggests itself; and a growing attention to public ethics and public law are indicative of a lurking crisis in public confidence (Haque, 1996:512-513).

Mosher (1968:221) and Elmore (1986:69) also recognise the following issues as matters for critical contemplation among scholars in the discipline: scholars of Public Administration have not directed its research endeavours, hence, a collection of discrete and disparate subjects that are in need of an intellectual focus subsists; Public Administration is pre-occupied with institutional descriptions, rather than meticulous analysis; the academic scope of inquiry in Public Administration appears to be unlimited; the discipline is in grave need of a rigorous methodology; scholars within the discipline appear to be nonchalant about academic, discipline related conceptualisations; the discipline has no agreed upon paradigm, theorems (rational result of axioms), (Fetzer, 2013:208), or theoretical systems; Public Administration does not have any 'stylised jargon' or 'symbols'; the field of study has not been mathematised or modelled into 'adminimetrics' (Perry & Kraemer, 1986:221); Public Administration lacks in sufficient academic rigour to command the respect of other academic disciplines or even the public at large; and, the discipline has an absence of a clear analytical framework (Siffin, 1956:367), which results in lecturers teaching students the descriptive versions of its subject matter, for example, Budgeting is presented as "the budgetary process". Mokgoro (1992:30-31) highlighted the fact that Public Administration displays a lack of theoretical depth and analytical focus, which leaves graduates ill prepared. In conclusion, Thornhill (2006:794) urges that scholars of the discipline of Public Administration earnestly need to acquire a scientific method.

Is it an immediate human reaction and expectation that arise when sensing any reference to an academic discipline that such a discipline ought to include principles of scientific structure and rigor in order to fulfil mankind's deepest sense of, and search for order, knowledge and truth? The efforts conducted by scientists such as: Comte ([1853], 1975:72, cited in Gieryn, 1983:781) who seceded positive science from theology and meta-physics; Wilson (1887) who urged scholars and practitioners of Public Administration to separate the latter from politics; Kuhn (1962; 2012) that recognised the structure of a scientific revolution and in that, posed "incommensurability" (Kuhn, 1962; 2012: xxx – xxxiii, 4, 147 – 149, 156, 197 – 198, 199); (Merton 1973:47 - 69; Popper 2002a:34, 41 cited in Gieryn, 1983:781) who posed "falsifiability"; who explained the distinct ability of modern science to present "certified knowledge"; the unease with which the implementation of private sector management principles are accepted in the public sector, which continues to be in question, and of which Lane (1996:6); Frederickson (1997:169); Frederickson and Ghere (2013:324); Maesschalck (2004:465); and



Van der Wal, de Graaf and Lasthuizen (2008:466) reason that private sector management approaches devalue the value sets that are of critical importance to serve public interest, all support the case in point. Gieryn (1983:781) argues that relentless debates over the likelihood and aptness of delineating a science are paradoxical in the sense that scholars are engaged in a continued dispute to establish the uniqueness of a discipline or a science and its intellectual activities. It is possible to extend the argument with countless examples, but perhaps the search for scientific depth in Public Administration will be served better by a philosophical and meta-theoretical understanding of the purpose imposed upon a discipline, and in that, the discipline's scientific character in which the latter displays a particular structure that is embedded in Aristotelian philosophy and an innate knowledge triad.

Both the Introduction and Orientation to this study present a synopsis of scholarly observations concerning P[public A]dministration as a science. Hereto, the researcher presents a critique as follows: i) none the scholarly observations documented here, which stretches across the period 1887 – 2015, have considered to explore, document or describe the anatomy and physiology of Public Administration as a science; ii) None of the scholarly observations documented here, have considered to explore, document or describe the substance that explain Public Administration's philosophy of science; and iii) None of the scholarly observations documented here, have considered to explore, document or describe the characteristics or physiognomies of Public Administration's theories and/or meta-theories. The research gap that incites this study is therefore: i) there is no evidence of a clearly defined corporeal morphology or anatomy and physiology of P[public A]dministration as a science; ii) there is no clear evidence of the position and substance of P[public A]dministration's philosophy of science within the corporeal morphology and physiology of a science; and iii) there are no meta-theories that have the capacity to explicate at least, the Teleology (purpose), Ontology (nature of being) and Epistemology (theory of knowledge and truth) to P[public A]dministration as a science.

Based on the afore-described research gap, and the position within which the discipline of Public Administration finds itself in a post-modern knowledge era, the phenomenon that this study will examine and explore is presented in a problem statement as follows: i) to identify and explain the corporeal morphology of Public Administration as a science; ii) to identify and explain the physiology of Public Administration as a science; iii) to develop meta-theories that pivots upon Aristotelian philosophy and a knowledge triad that include- Apex I: Teleology; Apex II: Ontology; and Apex III: Epistemology; and iv) to determine the extent to which the application of such meta-theoretical frameworks will contribute, alter or deepen P[public A]dministration theory.

In this light, the study thus presents research questions that will guide each of the distinct chapters in order to fulfil the research objectives and ultimately address the phenomenon and problem statement that this study wishes to address.

### **1.3 RESEARCH QUESTIONS**

Lichtman (2014:28, 30) advises that research has its primary origin in the examination of phenomena, and thus, research questions and the rationale behind a research study are intimately linked. Such a nexus between the rationale and research questions, relevant to this study, provides the impetus against which the research questions are formulated as highlighted in paragraphs 1.3.1, 1.3.1.1 and 1.3.1.2 below.

#### **1.3.1 Primary research questions:**

The primary research question that directed this study is documented as follows: What is present in the substance of Public Administration as a science?

#### **1.3.2 Secondary research questions:**

The secondary research questions that directed this study are listed as follows:

Public Administration and the structure of a science:

- What is the relevant literature and scientific explications that would guide this study towards the compilation of the corporeal morphology (anatomy) and physiology of a science, in which such literature directs the systematic construction of the structure and functioning of a science?
  - Which properties would such a corporeal morphology include that has the capacity to guide the systematic construction of the structure of a science?
  - Which properties would such a physiology include that has the capacity to guide the systematic construction of the functioning of a science?
- What are the corporeal morphological, physiological properties and theoretical resultants as product of juxtaposing relevant Public Administration data/theorems/theories against the structure and functioning of a science that represents Public Administration as a science?

## Public Administration, Aristotelian philosophy and its knowledge triad

Aristotelian philosophy includes three major apices recognised here as Teleology, Ontology and Epistemology. Chapters 3 – 5 will respectively address each of these apices against the research questions outlined below.

### Apex I – Teleology (the purpose of an object):

- Primary research question: What are the relevant literature and scientific explications that would guide this study towards the compilation of a Teleological meta-theoretical framework, in which the latter guides a systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)?
  - Secondary research question: Which properties would such a meta-theoretical framework include that guides the systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)?
- Primary research question: What are the meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework that represents the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of Public Administration, in order to establish the discipline's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)?
- What are elements of the body of knowledge that are incited by the following:
  - Secondary research question: What is the Teleology of the Ontology of Public Administration as a science?
  - Secondary research question: What is the Teleology of the Epistemology of Public Administration as a science?

### Apex II – Ontology (the nature of being and existence):

- What are the relevant literature and scientific explications that would guide this study towards the compilation of an Ontological meta-theoretical framework, in which the latter guides the systematic construction of being, in its state, source, expression and condition, in order to establish such an object's nature of being?

- What are the relevant literature and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework that represents being (Public Administration as the object in itself), or similarly, Public Administration in its state, source, expression and condition, in order to establish the discipline's nature of being?
- What are elements of the body of knowledge that are incited by the following:
  - What is the Ontology of the Teleology of Public Administration as a science?
  - What is the Ontology of the Epistemology of Public Administration as a science?

Apex III – Epistemology (theory of knowledge):

- What are the relevant literature and scientific explications that would guide this study towards the compilation of an Epistemological meta-theoretical framework, in which the latter guides the systematic construction of a discipline's theory of knowledge and justification?
- What are the literature and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework that represents a structured display of Public Administration's theory of knowledge?
- What are elements of the body of knowledge that are incited by the following:
  - What is the Epistemology of the Ontology of Public Administration as a science?

Section 1.4 follows by emphasising the research objectives that are identified to guide research progress.

## **1.4 RESEARCH OBJECTIVES**

Blaikie (2010:8) clarifies that the research objectives of a study determine the distinct purpose of exactly that which the study intends to achieve. Paragraphs 1.4.1, 1.4.1.1 and 1.4.1.2 thus follows by identifying the primary research objectives that will direct and guide this study towards addressing the phenomena identified in the problem statement as follows: How will the application of meta-theoretical frameworks, derived from the theory of the structure of a science and the three pillars of Aristotelian philosophy namely: Teleology; Ontology; and Epistemology, contribute, alter or deepen Public Administration theory?

### **1.4.1 Primary research objectives:**

The primary research objective that directed this study is documented as follows: To present that which is present in the substance of Public Administration as a science?

### 1.4.2 Secondary research objectives:

The secondary research objectives that directed this study are listed as follows:

Public Administration and the structure of a science.

- Identified relevant literature and scientific explications that guided this study towards the compilation of the corporeal morphology (anatomy) and physiology of a science, in which such literature directed the systematic construction of the structure and functioning of a science?
  - Identified properties of the corporeal morphology of a science that has the capacity to guide the systematic construction of the structure of a science?
  - Identified properties of the physiology of a science that has the capacity to guide the systematic construction of the structure of a science?
- Identified corporeal morphological, physiological properties and theoretical resultants as product of juxtaposing relevant Public Administration data/theorems/theories against the structure and functioning of a science that represents Public Administration as a science?

Public Administration, Aristotelian philosophy and its knowledge triad

As mentioned before, Aristotelian philosophy includes three major apices recognised here as Teleology, Ontology and Epistemology. Chapters 3 – 5 will respectively address each of these apices against the research objectives that follows.

Apex I – Teleology (the purpose of an object):

- Identified, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of a Teleological meta-theoretical framework, in which the latter directed a systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).
  - A constructed and presented Teleological meta-theoretical framework, in which the latter directed the systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).

- Presented, analysed and interpreted Teleological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a Teleological meta-theoretical framework that represented the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of Public Administration, in order to establish the academic discipline's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).

#### Apex II – Ontology (the nature of being and existence):

- Presented, identified, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of an Ontological meta-theoretical framework, in which the latter directed the systematic construction of being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish the object's nature of being.
  - A constructed and presented Ontological meta-theoretical framework, in which the latter directed the systematic construction of being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish such an object's nature of being.
- A presented analysed and interpreted Ontological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against an Ontological meta-theoretical framework, that represented being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish the academic discipline's nature of being.

#### Apex III – Epistemology (theory of knowledge):

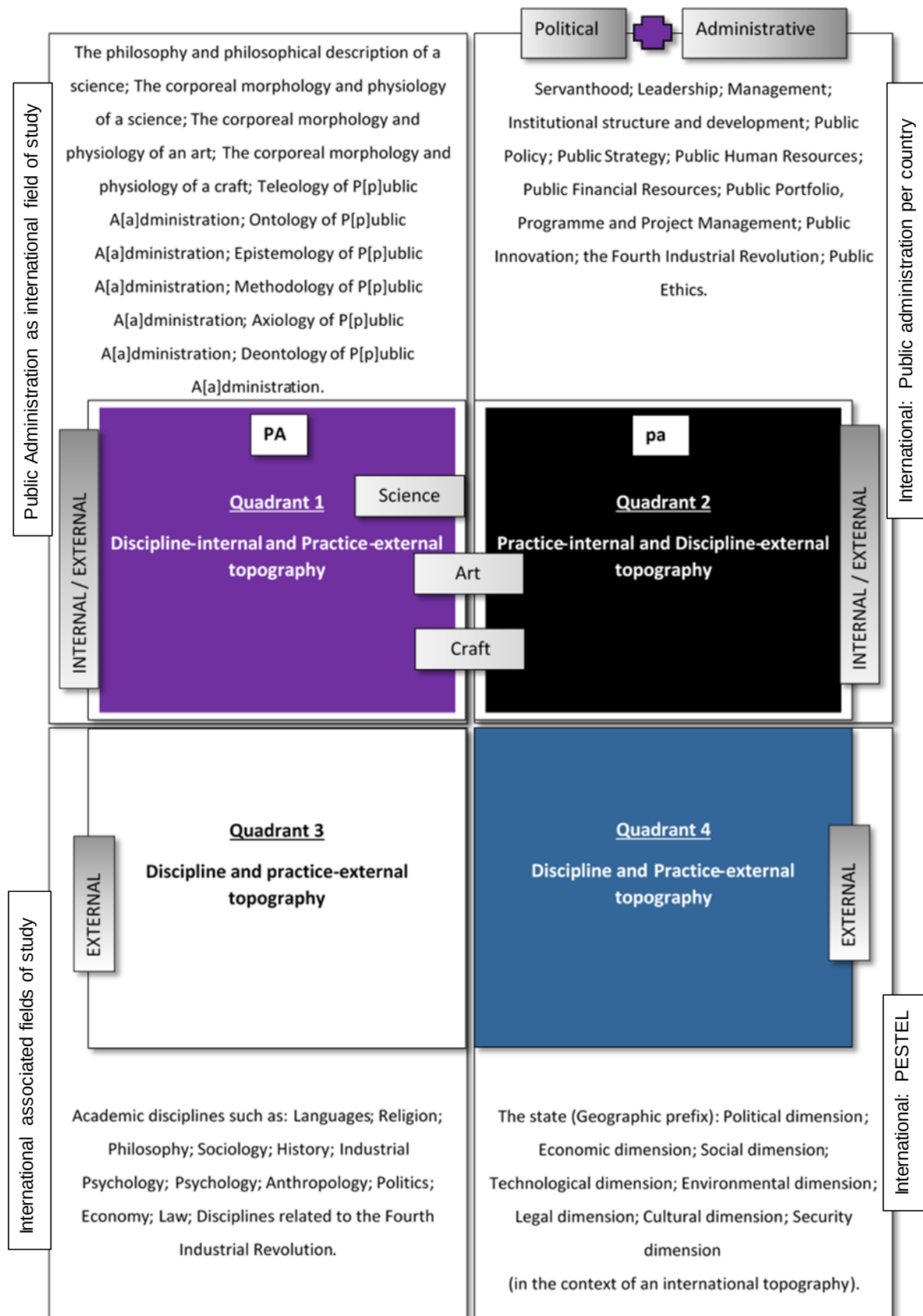
- Identified and presented, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of an Epistemological meta-theoretical framework in which the latter directed the systematic construction of an academic discipline's theory of knowledge.
  - Constructed and presented Epistemological meta-theoretical framework, in which the latter directed the systematic construction of an academic discipline's theory of knowledge.
- Presented, analysed and interpreted Epistemological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against an Epistemological meta-theoretical framework that represents a structured display of Public Administration's theory of knowledge.

Against the context of the primary research questions and objectives that directed this study in the examination of a distinct phenomenon, section 1.5 follows by explicating initiating directing arguments posed by this study.

## **1.5 CENTRAL THEORETICAL STATEMENTS**

A central theoretical statement includes the fundamental hypothesis or directing argument/s of a study (De Lange, De Bruyn, Janse van Rensburg, Rheeder, & Kruger, 2016:14). In light of the Introduction, Orientation and Problem Statement that sketches the context of that which incited this study, it is of importance to observe the larger P[ublic A]dministration context within which this research investigation took place. Figure 1.1 that follows, reflects the holistic landscape that scholars of P[ublic A]dministration should rightfully consider when conducting research in the discipline and its related practice. All four quadrants have to be considered in the context of the pluralistic, ontic expression of P[ublic A]dministration as a science, as an art and as a craft. Quadrant 1 displays the Discipline-internal topography and as such refers to the philosophy and the philosophical ambit of Public Administration, the corporeal morphology and physiology of the science, the art and the craft of Public Administration. In addition, Quadrant 1 also refers to the Teleology, Ontology, Epistemology, Methodology, Axiology and Deontology that shapes a philosophical understanding of the field of study, as well as the potential for theory development. In contrast, Quadrant 2 has reference to the Discipline external - Practice-internal topography, where aspects such as servanthood, leadership, management, public institutional structure amongst others are considered. Quadrant 3 echoes the Discipline-external topography and thus considers academic disciplines such as Politics, Philosophy amongst others. Quadrant 4 exhibits the Discipline external - Practice-external topography that has a direct relation to the state and the dimensions such as a political, social and economic, amongst other dimensions in a state.

**Figure 1.1 Positioning P[p]ublic A[a]dministration in the topography that is relevant to both the field of study and its related practice**



**Source:** Author's perspective



The central theoretical statements that this study thus proffers, denotes and comprise of five primary properties that falls within the ambit of Quadrant 1 - the Discipline-internal topography: of which the first property is recognised as the corporeal morphology of a science; the second property is recognised as the physiology of a science; the third property is documented as Aristotelian philosophy and the knowledge triad, which includes three sub-properties recognised as Teleology, Ontology and Epistemology; the fourth property reflects the conceptualisation and physiognomies of a theory; and the fifth property illuminates the conceptualisation and physiognomies of a meta-theory. In the process of this research investigation, Language-Analytical Philosophy plays a critical role. The argument that supports the significant position of Language-Analytical Philosophy in this study, is supported by its conceptualisation and physiognomies. Tugendhat (2016:5) informs that: “[c]learly Language-Analytical Philosophy refers to a way of doing philosophy, which involves the belief that the problems of philosophy can be solved, or must be solved, by means of an analysis of language. Beaney (2017:1) identifies the “cardinal intellectual virtues” of Analytic Philosophy as follows: Analytic Philosophy accentuates clarity, precision and rigour in that there is: “clarity of thinking”; “precision of expression”; and “rigour of argumentation”. In light of the aforementioned, paragraphs 1.5.1, 1.5.2, 1.5.3 and 1.5.4 respectively present this study’s primary theoretical properties as follows:

### **1.5.1 The corporeal morphology of a science**

Jacob (2007:1) advises that “anatomy is the study of the structure of the body.” Bearing Jacob’s (2007:1) instruct in mind when he refers to the human body, this study considers anatomy in relation to the body of a science. This study therefore positions a science as that it similarly reflects a corporeal morphology, anatomy or bodily form and structure, and that it is possible to recognise and conceptualise the different nodal entities in a science as each nodal entity respectively performs a different role with a different purpose within the body of a science. Ruminating an initial ontological (being in itself) understanding of Public Administration as field of study: in its source (immanent, transcendental or both); in its state (static, dynamic or both); in its expression (whole, plural or both); and in its condition (individualistic or relational or both, differentiated or un-differentiated or both), Ingraham and Lynn Jr. (2004), Stout (2012:389) and Rhodes (2016), amongst many other scholars of Public Administration recognise the manifestation of a preliminary understanding of the expression of the nature of the discipline. Public Administration reveals, in itself, countenances of a science, an art and a craft that in essence qualify the discipline’s ontological plurality. Such plurality compelled this study to recognise Public Administration as science, as art and as

craft, even though the main propulsion behind this study focuses largely on Public Administration as a science.

Although there may exist many approaches towards a fundamental understanding of the corporeal morphology (bodily form and structure or anatomy) of a science, this study, in part, examined the phenomenon of the structure of a science. This study therefore explored the corporeal morphology of a science in its linguistic explication and principle denotation as that such a structure consists of the following sub-entities: a) conspicuous, interactive nodal entities; b) the developmental anatomy of a science and nodal entities in a science; and the c) the regional anatomy of a science.

This study juxtaposed Public Administration as field of study, and within this expression, the discipline's nature as a science. The investigation then probed deeper into the science of Public Administration by providing: an explication of the corporeal morphology (bodily form and structure) or the anatomy of a science. Some of the aims that motivated the investigation was: a) to collect intelligence and an understanding of the corporeal morphology of the science within the discipline and its praxis; b) to establish a particular order that a scientific character brings to a field of study; and c) to expand Public Administration theory, that is substantiated by means of meta-theoretical frameworks.

### **1.5.2 The physiology of a science**

Fessard, Paillard and Massion (1973:550), as well as Pioreschi (2007:480) agree on the critical relationship between anatomy and physiology. Sembulingam and Sembulingam (2012:xxiii) describe physiology as the most antediluvian branch of science and that it in essence reveals the enigma encapsulated in the operating features of and between respective organs in the human body. It is within the context of the recognition of nodal entities in the corporeal morphology of a science that this study will similarly investigate the probability of a physiology amongst nodal entities in the body of a science. Such an investigation will include distinct physiological conceptualisations, principles and properties that the anatomical structure and included, the nodal entities within the anatomical structure inherently displays.

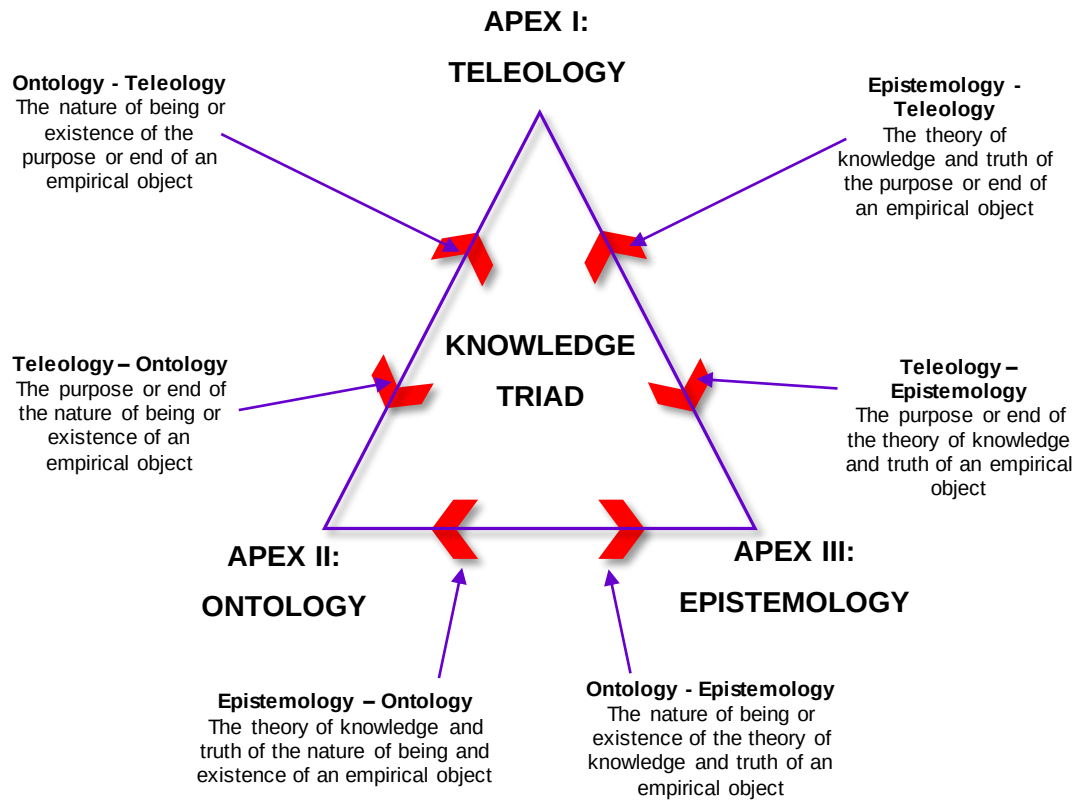
The third primary property that this study posed in its directing arguments included Aristotelian philosophy and the knowledge triad. Paragraph 1.5.3 therefore offers preliminary statements to Aristotelian apices, recognised as Teleology, Ontology and Epistemology as the apices were examined respectively and in context of Public Administration as field of study.

### 1.5.3 Aristotelian philosophy and the knowledge triad

Aristotelian philosophy presents an assemblage of three fundamental pillars, or three apices that direct a science, by means of an inherent knowledge triad that includes a theoretical explication of the inherent purpose, nature of being, and theory of knowledge of such a science (Couclelis, 2009:4). Couclelis (2009:4) advises that the fundamental combination of Teleology, Ontology and Epistemology, as the three pillars of Aristotelian philosophy shape a unique triad, recognised in this study as a knowledge triad from which it is possible to extrapolate an immeasurable wealth of knowledge in terms of an academic field of inquiry. In addition to the three apices in the knowledge triad, each connecting line from one apex to another suggests a unique angle of incidence in terms of the field of study. Couclelis (2009:5) introduces respective connectors between: (a) Teleology and Ontology that would specifically focus on the purpose and being in itself of an object in the real world; (b) the connector between Ontology and Epistemology focusses on the theory of knowledge and being in itself of an object, as it exists in the real world; and (c) the connector between Teleology and Epistemology suggests the purpose and theory of knowledge of an object. It would thus be conceivable to establish fundamental knowledge from the following apex connectors, in addition to the three apices in themselves: the Teleology – Ontology combination suggests the purpose of the nature of being, of Public Administration, as empirical object and field of study; the Ontology – Teleology combination suggests the nature of being of the purpose of Public Administration as empirical object and field of study; the Ontology – Epistemology combination suggests the nature of being of the theory of knowledge of Public Administration as empirical object and field of study; the Epistemology – Ontology combination suggests the theory of knowledge of the nature of being of Public Administration as empirical object and field of study; the Teleology – Epistemology combination suggests the purpose of the theory of knowledge of Public Administration as empirical object and field of study; and the Epistemology – Teleology combination suggests the theory of knowledge of the purpose of Public Administration as empirical object and field of study.

Figure 1.2 that follows provides a visual representation of the three apices included in Aristotelian philosophy and the knowledge triad. Each of the apices illustrated below, represents a fundamental element within the structure of a science and could respectively and in combination establish essential knowledge within a science.

**Figure 1.2: The three pillars of Aristotelian philosophy - The knowledge triad**



**Source:** The author's perspective as adapted from Couclelis (2009:4)

Considering the three pillars of Aristotelian philosophy, the immediate *a priori* inquiries in terms of Public Administration as a science were recognised as follows: What is the generally accepted purpose or teleological intent of a science in Public Administration? What is the generally accepted nature of being or ontological explication of a science in Public Administration as field of study? What is the universally accepted theory of knowledge or epistemological explication of a science in Public Administration? The three apices Teleology, Ontology and Epistemology included in Aristotelian philosophy are briefly introduced as follows:

#### 1.5.3.1 Apex I: Teleology (the purpose of an object)

Rosenkrantz and Hoffman (2011:306) conceptualise Teleology as that it is an examination of the purpose (*télos* and *téleios*) of an object, therefore an object's teleological explication would include or propound the object's primary reason for existence. Critical to consider is the fact that "[N]ature exercises her craft sensibly; she seeks what is serviceable, reaches after the best, wishes a certain result, does nothing purposeless or unreasonable, and acts always with

an eye on the best.” “God and nature do nothing without purpose.” “The gifts of nature are not ours to command, but the truly fortunate possess them as a result of certain divine causes” (*to dia ti*) (Guthrie, 1990:107, 108). Couclelis (2009:4), in agreement with Rosenkrantz and Hoffman (2011:306) thus propounds that the key property of Teleology is to determine the purpose of an object. An inquiry relevant to Public Administration theory is: what is the purpose of Public Administration within its geographical prefix and contextual spatio-temporal ambit? And, how does Teleology’s core character connect to the core character of Ontology and Epistemology in order to recognise the discipline’s ontological and epistemological apices as they enhance the level and depth of knowledge of the field of study and praxis?

#### 1.5.3.2 Apex II: Ontology (the nature of being of an object)

Guthrie (1990:204) states that, Aristotle’s question of “what is it that is?” carries the exact same linguistic denotation as, “what is being?”, “Being *qua* being” or, “being in so far as being”? Ontology can be described as a principal category of meta-physics, which concerns itself with the nature of determining the purpose (because), possibility and necessity, as well as spatio-temporality (Guarino, Oberle & Staab, 2009:1) or, *res-extensa* and *res-temporalis*, (Summa, 2014:251). Ontology is furthermore conceptualised as a study of the nature of being, reality and truth. It is thus the nature of being or the nature of reality that is investigated (Mouton & Joubert, 1990:11-13; Lor, 2019:12). Stout (2012:388) propounds that Ontology, as the theory of existence, being or reality, encapsulates the following noticeable outcomes in application: a) Ontology confirms a particular relation between a fundamental conception of reality (Ontology) and a definite position in the theory of knowledge (epistemology); b) Ontology concedes the particular political, economic and social configurations within a State and so shapes the philosophical and value obligations of all political, economic and social patterns and arrangements; and c) Ontology reveals the fundamental assumptions, and elucidates political, economic and social forms that are thought of as suitable, or even essential to be grounded in the nature of being.

#### 1.5.3.3 Apex III: Epistemology (the theory of knowledge of an object)

Honderich (2005:260) and Lor (2019:16) conceptualised Epistemology, as that it is concerned with the nature or study of knowledge, its capacity, extent and general foundation. Horrigan (2007: vii, viii) states that the term epistemology stems from the Greek lexicon that represents these two terms as *episteme* (knowledge or science), and *logos* (study). The root concept or origin of the term epistemology is defined as “the science of knowledge studied from the philosophical point of view, or the science of knowledge, in its ultimate causes or first principles,

studied using the light of reason” (Horrigan, 2007:vii, viii). Couclelis (2009:5) in addition advises that Epistemology is directed towards the nature and scope of knowledge.

Guthrie (1990:179) and Groarke (2009:174) classify first principles as axiomatic or self-evident, and in that classification, scholars have to appreciate the fact that: first principles are not reached through the progression of reasoning that stems from more primary principles; rather, first principles are reached by means of an understanding or insight in the absolute conviction that first principles carry within themselves. According to Marshall (2014), Aristotle referred to the “philosophy of being” as “first philosophy” based on the fact that such philosophy is not focussed on an investigation of segments of reality such as the political, the mathematical, or the historical features, but instead, reality in itself, which is also referred to as meta-physics. Within the concept of meta-physics and first principles, Aristotle propounds ten categories as follows (Marshall, 2014): a) “Substance” – (*ousia*, “*to dia te*” or “*ti esti*”), which Aristotle describes as an exceptional category, based on its independence. Substance is conceptualised “as that which neither can be predicated of anything nor be said to be in anything.” Aristotle refers to substance as “primary substances”. The nine categories that follow, is referred to by Aristotle as “accidental” and thus are “secondary substances”, based on the fact that they are contingent upon a primary substance and cannot subsist by themselves; b) “Quantity” – (*poson*), refers to the augmentation of an object, which may either present itself as distinctly isolated or incessant, and in which its parts are or are not relatively positioned to each other; c) “Quality” – (*poion*), in which the type of quality is determined that subsequently reveals the nature of an object; d) “Relation” – (*pros ti*), which investigates the relation of an object to other objects; e) “Place” – (*pou*), determines the *spatio* relation between an object and its locale or surroundings; f) “Time” – (*pote*), refers to the object in a temporality or sequence of occurrences; g) “Position” – (*keisthai*) the moment of cessation, post action. Position is thus relative to action; h) “State or habitus” – (*echein*, “to have”), the state of cessation post experience. State is thus relative to passion; i) “Action” – (*poiein*, “to make” or “to do”), the incitement of change in a different object; and j) “Affection” – (*paschein*, “to suffer” or “to undergo”), receiving change from a different object. In this context, section 1.5.3 follows by introducing a conceptualisation and the physiognomies of a theory.

#### **1.5.4 Conceptualisation and physiognomies of a theory**

Academic artefacts presented by Nef and Dwivedi (1985:236), Boyne (1996:682 - 688), Haque (1996:510 - 536), Rutgers (1998:553 - 564) and Ostrom (2008:1 - 15) confirm scholars’ yearning for theoretical depth in the discipline of Public Administration. Based on the significant

role that theory building plays in this study, section 1.5.4.1 considers a synthesis of the conceptualisation of a theory as well as its distinct physiognomies.

#### 1.5.4.1 Conceptualisation of a theory

Given the inherent, highly complex, pluralistic nature of P(p)ublic A(a)dministration as science, as art, as craft, as academic discipline, and as practice, with a triple foci on public institutions' organisation, citizen's needs and an external environment, wherein a universal subliminal understanding persists that there may be 201 varying versions (as many countries as there are on earth), (Westra, Gray & D'Aloia, 2016:268), of statutory, legislative and regulatory frameworks, and forms of public administration practice on the globe. Whilst each country, nation or state may be grappling with their own socio-political, socio-economic socio-cultural, and political-economic phenomena, how would scholars of the academic discipline of Public Administration conceptualise the exact substance and physiognomies of a theory, and similarly, its own theories, that is nuanced in such a way that it will fundamentally underpin and generally direct all of the above? The question is, is such an assignment even conceivable? As if the complexity sketched here is not enough, Public Administration as science cannot adopt the normative position held in science proper, or the philosophy of science, as *a priori* natural laws do not affect this discipline, and in particular where human beings' free will as well as Axiology (the study of norms, ethics and values) are major constituents for consideration. Would such a recognition of the convoluted factual details imply that Public Administration too should agree on the description of a theory as that it is "a supposition or a system of ideas intended to explain something, especially one based on general principles, independent of the thing to be explained"? (You & Henderson-Sellers, 2010:47; Murphy, 2011:59; Stevenson & Waite, 2011:1496; Anglin, Morrison & Maddrell, 2012:182; Cabell & Valsiner, 2013:vi; Chirkov, 2015:157; Dervin & Benjamin, 2015:n.p.; Graham, 2016:119; Oxford Living Dictionaries, 2017). If within this ambit, agreement amongst scholars of Public Administration has the ability to subsist, what is the system of ideas and the general principles that define Public Administration as academic discipline, and with reference to this study, Public Administration as science that have the independent capacity to explicate observed phenomena? In other words, what would such a system of ideas and general principles represent in Public Administration as field of study?

During the process of considering the conceptualisation of the term theory and the critical physiognomies that guide the construction of a theory, Mungazi (1999:15) propounded that academic theory reflects the theoretical substances extant in a field of study, in which such substances are a critical prerequisite to any research endeavour and subsequent theory

building. Firstly, theories pose a distinct agenda from which human beings make sense of the world around them (Phillips, 2014:536). Secondly, the act of theory building is submerged in a dynamic circular motion of continuous investigation, observation and theory building, which in essence includes the following procedural stages: a) human beings make sense of the world around them; b) the occurrence of spatio-temporal phenomena appears; c) human beings no longer makes sense of the world around them; d) human beings engage in investigation and observation; e) human beings engage in the construction of new or revised theory; f) human beings again begin to make sense of the world around them and subsequently they are able to engage in clarification and forecasting (Gioia & Pitre, 1990:587). Theory could thus in its most general sense be conceptualised as an abstract depiction or elucidation of observed occurrences (Gioia & Pitre, 1990:587). Theory is similarly defined as a generality, removed from particular instances, a construct, removed from one singular phenomenon (Phillips, 2014:536). Norton (1987:3) stated that theories are concerned with, and are therefore intimately related to objective reality, and in turn, it is theories that structure such reality. Therefore, theory is grounded in the generalities of explicit occurrences, whilst displaying numerous diverse levels of abstraction, aims and ideals, founded on the theory's level of abstraction.

Theoretical underpinnings, gained from academic engagement in distinct disciplines, result in the possibility of an ability to investigate phenomena and to establish inferences about such phenomena (Phillips, 2014:536). Theories are broadly classified into three distinct types, listed as follows: a) distinctive theories; b) conventional theories; and c) meta-theories (Reus-Smit, 2013:589 - 608). Based on the fact that this study discusses meta-theory comprehensively in section 1.5.4 of the Central Theoretical Statements related to this study, minimal attention will be devoted to the conceptualisation and physiognomies of meta-theories here. According to Aij, Aernoudts and Joosten (2015:200 - 215), the physiognomies of distinctive theories are reflected as follows: distinctive theories i) investigate specific phenomena such as the practice of quotidian science in the School of Government Studies at the North-West University, South Africa; ii) assist the explanatory process of explicating and predicting occurrences; iii) are generalities that explain specific occurrences; iv) subsists at a more sophisticated level of abstraction, relative to such distinctive occurrences; and v) are generalities related to distinct phenomena. In contrast, conventional theories reflect at a more elevated level of abstraction than distinctive theories. Conventional theories include the following physiognomies: i) a higher level of abstraction than conventional theories in the sense that it engages in phenomena such the decolonisation of African countries or the universalities embedded in the quotidian science of Public Administration, rather than the decolonisation of a rural community in one of South Africa's 11 provinces, or the practice of public administration in a South African Public Service



department or unit; and ii) reflect the generality of a variety of distinctive theories within the ambit of a higher level of abstraction. Briefly, meta-theories venture beyond the level of abstraction displayed by conventional theories as it explicates for example the abstract manner in which theological and philosophical worldviews, zeitgeist, purpose of being, nature of being, and knowledge, beliefs and truth are constructed and how such constructs describe these elements as disciplines in themselves, patterns of human beings' cognitive processes in terms of addressing philosophical, scientific, and the philosophy that direct explications of phenomena and *noumena*, whilst offering postulations that human beings employ to gain knowledge in these disciplines themselves, to direct hypothesising and to conducting research.

Luthar (1997:459) elucidates that the activity of theory building is approached from many different angles, to which she illuminates four such instances, listed here as: a) detection of the distinct areas in which theoretical models are absent or wanting; b) detailing features of theories that position such theories as consummate in terms of directing future development; c) exemplifying processes by which accruing empirical evidence assimilates with existing theoretical viewpoints; and d) attending to admonitions that need to be contemplated whilst assuming such theoretical endeavours. Against the fundamental background of the substances that determine a theory, it needs to be noted that the philosophical exposition of this study reflects as Pluralism. Therefore, it is important to recognise that the physiognomies displayed below lean towards a positivist-naturalistically oriented display of the physiognomies of a theory, which may appear entirely different when viewed through the lenses of a pluralistic-theistic philosophical viewpoint. The initial identification of the physiognomies of a theory therefore just acts as point of departure and will in future chapters appear dissimilar when constructed in a true pluralistic orientation. The study thus proceeds by documenting the basic physiognomies of a theory with cognisance that it may appear subjective.

#### 1.5.4.2 Physiognomies of a theory

Academic theories comprise of the following succinctly stated physiognomies: again, with no hierarchical intension, such academic theories reflect- a) a scope. Brody (2012:73) determines the scope of a theory as that it would include conceptualisations of all the physiognomies listed from b – u below, as it is understood in the context of the phenomena under investigation. The scope thus determines the cognitive border posts of the theory itself; b) generality. Chinn and Kramer (2014:205) advise that the generality of a theory denotes the scope of function and the aim of a theory; c) comprehensiveness. Kelly (2020:110, 215, 353, 367) propounds that the aggregate calculation of elements included in a theory, verifies its relative level of comprehensiveness; d) appropriateness. Amos and Boohan (2013:36) claim that the

appropriateness of scientific theories largely depends upon the type and class of phenomena that is being addressed. Hettema (2000:xxi) averred that the appropriateness of a scientific theory has a restrained appeal to reality and as such, scientific theories are largely founded on instrumental notions of theories with regards to observation; e) applicability / relevance. Applicability or relevance is exhibited when the research inquiry addresses the phenomena as well as the opportunities afforded by the interaction between human beings, institutions and information technology (Mayer, Röder, Hartwig & Quick, 2014:173). In the very near future, such applicability / relevance will have to include: “computational systems that make [human beings] think; robotics that help [human beings] create; and a digital nervous system that connects [human beings] far beyond their senses” (Conti, 2017); f) heuristic value. Heuristic value reflects as the gauge that determines the formation of ideas in terms of a theory’s potential to permit human beings to uncover or acquire new knowledge (Fisher, 1978:29); g) validity. Friedman (1953:300) advocated that “the ultimate test of the validity of a theory is not conforming to the norms of formal logic, but the ability to deduce facts that have not yet been observed, that are capable of being contradicted by observation, and that subsequent observation does not contradict”; h) parsimony, simplicity or Ockham’s razor. Sober (2006:531) assert that parsimony, simplicity or Ockham’s razor, determines whether the theory is factually correct or circa factually correct, or if the theory displays the capacity to determine exact forecasts; i) openness. Maso (1995:1) averred that the openness of a theory pivots on the theory’s philosophical positioning and that a theory is the result of an alliance between science and philosophy to which such an alliance is a precursor to theory development; j) an ability to explain and predict. Descriptive and predictive control emphasises the ability of a theory that permits human beings firstly, to provide meaningful explications of a phenomenon, and secondly, to accurately prognosticate imminent occasions and consequences. Accurate explication and prognostication are recognised as valid theory. However, both predictability and testability are contentious topics in the Social Sciences. Hanzel (2010:337) affirms that predictions in the Social Sciences are often thought of as problematic, considering the philosophy and methodology of its science, of which such challenges are grounded in the fact that investigating phenomena in the Social Sciences are habitually highly complex in nature and largely interconnected, to the point that it is inconceivable to establish ‘law-like’ generalities in these sciences whilst ruminating for example human beings’ free will, and the predictions may themselves modify the phenomena predicted; k) testability. The Testability Principle or empirical testability is a physiognomy of a theory that determines the scientific status of a theory (Laudan, 1977:108 - 110). Theory should in some form “be testable through reference to existing or new facts about reality” (Baggott, 2013); l) trustworthiness. Dawid (2013:188) asserts that theoretical reasoning, empirical testing and confirmation considerably augments the trustworthiness of scientific theories; m) logical structure. The logical structure of theories

centres on that which theories assert, and how to realistically critique and enhance such theories (Hamminga, 2005:129); n) rigor. Rigor is achieved through the application of scientific physiognomies, methods, experience and expertise (Ikanology), (Mayer, Röder, Hartwig & Quick, 2014:173); o) scientific theories explicate the world and forecasts its events (Witt, 2010:118 – 120); p) organisation. Bechmann (2009:103) defines organisation in scientific theory firstly, as an arrangement of the procedural development of research, which in theory is unrestricted, and secondly, as a process of decoding the research into discrete controllable elements. Stepin (2009:56) refers to organisation in scientific theories as “the defining strategies of scientific quest.” Stepin (2009:56 - 65) furthermore identifies 14 aspects for consideration in the organisation of scientific theories as follows: i) Theoretical knowledge transpires as a consequence of historic advancement of “culture and civilisation”; ii) A fully-fledged science, in contrast to a pre-science, is not restrained by the structure of objects, their substances and relationships that are already subsistent in prevailing practice, production and quotidian incidents; iii) In contrast, extraordinary advancements in contemporary environments become conceivable in developed sciences, based on modern methods and approaches of producing knowledge; iv) The theoretical methods and approaches of inquiry, and the evolution from pre-science to science first occurred in mathematics, thereafter in the natural sciences, followed by the technical and social sciences; v) Scientific knowledge is underpinned by a multifaceted historically evolving organisation that, in a spatio-temporal context, continuously incite advanced stages of organisation, which in succession inspire the strata of knowledge determined during earlier spatio-temporal periods and subsequently lead to such knowledge’s transformative evolution; vi) The substance structure of scientific theories is conceptualised by means of systemic organisation of abstract objects such as theoretical constructs; vii) Theoretical structures perform a pivotal task in the formation and distribution of a theory that is achieved by both a deductive inference, supplemented by the extrapolation of results from equations, and cerebral investigations that are underpinned by theoretical structures; viii) The creation of a theory and its theoretical mechanisms are deemed as a phenomenon that exhibits itself initially as the dilemma of the origin of theoretical organisations; ix) During the procedure of establishing conjectural representations, abstract objects are awarded with the most modern physiognomies, based on their initiation into a new configuration of associations; x) The process of constructive validation thus permits an exposure of the weaknesses in a theory and therefore safeguards a reform of scientific knowledge; xi) A detection of the process of constructive validation poses an explanation to the origin of paradigmatic models of theoretical responsibilities as the explication of a theory is conducted by means of consecutive synthesis and generality within the ambit of a distinct field of study’s theoretical systems, structures and laws; xii) During the historical advancement of a science, such a science’s strategies that direct theoretical inquiries, simultaneously evolves; xiii) The force of accrued novel empirical and

theoretical data in scientific fields of study and the unavoidable impact of socio-political, socio-economic, socio-cultural and political-economic dynamics will inherently alter the strategies of theoretical investigation throughout the historical evolution of a science; xiv) During the trajectory of global scientific revolutions, when the physiognomies embedded in the basis of a science are re-evaluated, a transformation in scientific rationality occurs. History revealed three fundamental forms of rationality as “classical science, non-classical science, and post-non-classical science. Resuming with Brody’s (2012:73) physiognomies of a theory, the list continues as follows: q) integration. Novel prototypes of integration in a science with the socio-political, socio-economic, socio-cultural and political-economic spheres are prevalent as the need for science’s praxis relevance and altered social purpose rises; r) power. Joseph (2004:140) asserts that a positivist stimulus on political theory fortified the opinion that scientific theories of control, supremacy and authority should be predominantly explanatory, suggesting intentions that could be empirically substantiated and thus disengaging the investigation of power from normative concerns; s) range. Vineyard (1949) advised that the range of a theory e.g. “the range of valid claims about what is true and what is knowable”, and the range of phenomena that a theory addresses, (Sneed, 1971:290; Carr, 2009:39), directly determines such a theory’s value and if there is confusion over two theories that are similar, the theory with the largest range will be regarded as the finer choice; t) justified propositions. Moser (2012:30) claims that advocates of the ‘contextualist theory of scientific justification’ assert that scientific justification is always in a qualified position against a distinct theoretical viewpoint or structure that governs which scientific inquiries are commendable for inquiry and which types of solutions to scientific phenomena are justifiable; and u) accessibility. Chinn and Kramer (2014:205) determine accessibility as the range to which empirical gauges for the concepts can be recognised, and to what degree the aim of the theory can be reached. Wood (2011:178) affirms that a theory is positioned “conceptually somewhere between a paradigm and a model”.

Listed as such, the purpose, nature of being and the potential for knowledge, beliefs and truth, embedded in a theory remain abstruse and veiled, whereas the moment that these characteristic are viewed individually, through the lenses of the distinct purpose that a theory serves (a teleological explication of a theory), the nature of its being (an ontological explication of a theory) and its potential for inciting knowledge, beliefs and truth (an epistemological explication of a theory), as observed within the context of a philosophical, scientific and historical triad, where applicable to the social sciences, these 21 characteristics incite structured meaning to the manner that scientists in the natural sciences view the fundamental physiognomies of a scientific theory. However, based on the positioning of Public Administration as academic discipline, being predominantly related to the social and management sciences, physiognomies true to the nature of this discipline and its science will

be pursued. Throughout the various chapters of this study, theory development remains a prominent objective with holistic reference to Public Administration as a science. In more particular detail, such theory development reflects the corporeal morphology, physiology, teleology, ontology and epistemology of Public Administration as science. Within the ambit of a largely positivist influenced set of physiognomies of a theory, this study proceeds to investigate the conceptualisation as well as the distinct physiognomies of a meta-theory.

### **1.5.5 Conceptualisation and physiognomies of a meta-theory**

Considering the point of departure to a conceptualisation of a meta-theory, Della Porta and Keating (2008:352) define such a form of theory as a theory that explicates theories, or a theory that denotes prerequisites for the appositeness of a presented theory. The paragraphs that follow, highlight the properties that collectively explicate the theoretical and characteristic nature of a meta-theory as philosophical constituent, extant in a science.

#### **1.5.5.1 Conceptualisation of a meta-theory**

Wallis (2010:76) introduces the meta-theoretical process as that it includes amongst many others, the following elements: a) arranging theories and arranging their elements (Wallace, 1992:53); b) The application of reflexivity (Steier, 1991:156), which implies critical reflection (D'Cruz, Gillingham & Melendez, 2005:73); and, "[d]econstruction and reconstruction" (Ritzer, 1991:11). Hereto Wallis (2010:76) defined and explicated metatheorising as that the latter's product is recognisable as a meta-theorem, and that such a meta-theorem is a) "a statement about a theory in general"; and/or b) "a statement about a specific theory". In addition, Raadschelders (2013:197) conceptualise a meta-theory as that it is a theory concerning theories, which investigates corpuses of associated theories, and, that has the potential to classify groups of theories perhaps to the position of a taxonomy. In addition, Feigl (1970), Aldridge, Kuby and Strevy (1992:683), Murphy (2011:58) and Verstegen (2013:18) define a meta-theory as the philosophical constituent of a paradigm that regulates the manner in which models and theories are to be structured. Aldridge *et al.* (1992:683) furthermore state that a meta-theory is a paradigm or worldview through which the Social Sciences are able to focus on the behaviour of human beings. Freire (2013:271) advocates that a meta-theory is itself a logical theory of which the linguistics are so broad that the meta-theory reflects an ability to articulate the entire collection of an object's properties. Suls and Rothman (2004:119) state that "[n]o scientific field seems to advance without an implicit or explicit set of meta-theoretical assumptions."

Based on a synthesis of the scholarly contributions offered by: Feigl (1970); Aldridge, Kuby and Strevy (1992:683); Suls and Rothman (2004:119); Murphy (2011:58); Freire (2013:271); Raadschelders (2013:197); and Verstegen (2013:18), it is stated that a meta-theory is a logical theory that represents itself as a philosophical constituent of a paradigm or worldview, of which the linguistic elements are so broad that it has the ability to: investigate corpuses of associated theories; classify groups of theories perhaps to the position of a taxonomy; regulate the manner in which models and theories are to be structured; and articulate the entire collection of an object's properties, without which no scientific field progresses. Within the ambit of a conceptualised reflection of a meta-theory, paragraph 1.5.4.2 briefly reflects on the physiognomies inherent to a meta-theory.

#### 1.5.5.2 Physiognomies of a meta-theory

Mowen (2000:274) suggests three physiognomies of a meta-theory as follows: a) Meta-theories tie theories, which scientists, academic scholars or researchers previously thought of as isolated; b) Meta-theories advance parsimony; and c) Meta-theories incite neoteric knowledge. Verstegen (2013:18) furthermore advises that a meta-theory presents itself in four distinct forms, which are identified as follows: a) a meta-theory; b) a discipline specific meta-theory; c) a traditional theory; and d) a methodology. A meta-theory is conjectural, fallible and subject to continuous enhancement (Verstegen, 2013:18). Meta-theories thus briefly reflect the following properties: a) a physiological bonding property between theories that were considered to be dissimilar; b) an economy of explanation in conformity property; c) a persuasive property; d) a pluralistic expressive property; e) a property that requires continuous advancement in the philosophical (Teleology, Ontology, Epistemology, Methodology, Axiology and Ikanology), historical (Philosophy of the science as the historical paradigmatic advancements) evolution of a science and an academic discipline; and f) a property that reflects an implicit or explicit set of meta-theoretical assumptions.

The aforementioned Central Theoretical Statements created the context within which this study investigated the contributions that the construction of the corporeal morphology and physiology of Public Administration as science and within it, Aristotelian philosophy, with specific focus on the three apices in the knowledge triad, provided to the discipline in terms of theoretical and meta-theoretical advancement. Section 1.6 follows by explicating the Research Methodology that underpins and direct this investigation.

## 1.6 RESEARCH METHODOLOGY

Kumar (2008:5) advised that research methodology is a systematic, scientific approach to establish solutions to phenomena. Terre Blanche, Durrheim and Painter (2009:6) explain that research methodology details the manner in which research is conducted in order to study a particular theme. Kumar (2005:215) reiterates the importance and ethical responsibility of employing a suitable methodology when effecting research. Brynard and Hanekom (2006:1) illuminate research methodology as “a methodological and systematic enquiry” “in pursuit of valid knowledge.” Mouton (2001:6) furthermore elucidates a “three world framework” as fundamental basis to research, in which the following depictions are connected to each of these three worlds: World one appeals to pragmatic significance and depicts life as commonplace in which social and physical veracity, uninitiated knowledge and several worldly spheres persist; World two appeals to epistemic (theory of knowledge) substance and captures scientific knowledge, disciplines and research inquiries; and world three appeals to analytical and diagnostic attentiveness to meta-science and thus comprises of the “philosophy of science, research methodology, research ethics, and, [the] sociology and historiography of science”. Mouton's (2001:6) framework as well as Brynard and Hanekom's (2006:1) conceptualisation affirm the fact that this study has distinct relevance to all three worlds of research inquiry, as it appeals to pragmatic significance, epistemic substance and an analytic and diagnostic attentiveness to meta-science, as the study presents a methodical and orderly inquiry into a quest for authentic knowledge, relevant to Public Administration as a science. Supino and Borer (2012:1) conceptualise research as that at its core, research is: a meticulously planned systematic process that establishes the keys, which unlock explanations to unrequited phenomena; such a meticulously planned systematic process thus includes vigilant thought and investigation of a distinct topic or event; the tactics and determined teleological explication vary from study to study, but novel knowledge persistently remains to be the fundamental end result; new knowledge includes products such as the depiction of a neoteric phenomenon, the conceptualisation of a neoteric correlation between two or more entities or objects; and, the advance of a neoteric model, pattern or structure, or, the application of prevailing principles or procedures to a neoteric context. With the primary features of research in mind, Supino and Borer (2012:1) furthermore pronounce the supplementary adjective of research as its conspicuous methodology, which in combination has raised to the status of an academic field of study in itself that includes a definite model, rules and prerequisites to safeguard evidence. In addition, Tuckman and Harper (2012) advise that proper research needs to include at least five of the following six characteristics: a) research has to be conducted systematically; b) research needs to display logic; c) research has to display the empirical; d) research has to be reductive; e) research has to be reproducible and

transmissible; and f) research has to influence and add to universal knowledge. In addition to Tuckman and Harper (2012) and Supino and Borer's (2012:1) advice, Vasilachis de Gialdino (2011:n.p.) distinguishes between a linguistic explanation of the following two concepts: a) a teleological understanding of Epistemology as established discipline; and b) an epistemological reflection, in which the latter has a distinct relevance to, and position in the description of a study's research methodology. According to Vasilachis de Gialdino (2011:n.p.), Epistemology attempts to obtain solutions to the following phenomena: How do human beings know reality?; What are the associations between the "knower" and that which is "known"?; What are the physiognomies, philosophies and suppositions that direct the process of knowing and the achievement of inferences?; What is the potential of the process of knowing to be imparted to others in order for such a process to be exposed to a quality assessment; and, what is the trustworthiness of its inferences? In contrast, epistemological reflection's optimal aim is not universality; epistemological reflection neither depict a normative position nor a completed field of study; epistemological reflection comprises of an assiduous, ingenious pursuit that reflects recurrent transformation; and epistemological reflection displays the complexities confronted by researchers when the physiognomies of that which they intend to know are unparalleled, unobservable or unexplainable in part or in whole by means of existing theories, concepts or methodological approaches. Subsequently, the depiction of this study's research methodology recognises Vasilachis de Gialdino's (2011:n.p.) differentiation between the established disciplines of Teleology, Ontology, Epistemology, Research Methodology, Axiology, Ikanology and Deontology, and thus includes a teleological, an ontological, and an epistemological reflection, relevant to the philosophical sub-structure of the Research Methodology applied in this investigation.

Within the afore-described ambit and directives, the research methodology employed to sustain this study will be outlined in the paragraphs that follow. Table 1.1 below provides a synoptic insight into the philosophical sub-structure of this study's research methodology that best sustains the design and application of this distinct scientific inquiry.



**Table 1.1: A constructive generic framework that represents an intelligible, rational approach to the research methodology's philosophical sub-structure as it is applied in this study**

| A. The philosophical sub-structure to this study:                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements in the constructive generic framework of this study's research methodology      | Application in the research methodology's sub-structure<br>(Reflections on philosophical belief systems)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Theological worldview:</b><br>Worldviews that guide research practice.                | The researcher's theological worldview in which this study is anchored, and which shapes the wellspring of that by which the researcher lives, moves and has her being, reflects itself as <b>Christian Theism</b> . However, important to this study is the fact that in the Republic of South Africa the range of Theological worldviews will include: Theism under the three Abrahamic religions (Christian Theism, Judaism and Islam) as well as the Bahá'í faith; Ancestral, Tribal, Animist, or other Traditional African religions; Hindu; Atheist or Agnostic; Buddhist.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Philosophical worldview:</b>                                                          | The philosophical worldviews that direct this study is a combination of <b>Pluralism in the scientific enterprise itself</b> , which in effect propounds, amongst others that human beings concurrently belong to numerous groups, which sequentially either collaborate or counteract.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>The Theological and philosophical foundation of this study.</b>                       | Even though the researcher's Theological worldview reflects as Christian Theism, it is naïve to consider Public Administration on the globe as that it reflects one intelligent network (human beings, things, processes and data) of absolute similarity. Subsequently Pluralism establishes the ambit within which diversity subsists and thus creates the point of departure to this study.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Research paradigm: What are the 'lenses' through which the investigation is observed?    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Teleological-pluralistic reflection:</b><br>What is the purpose of the investigation? | The teleological belief system that underpins this research investigation is based on Aristotelian reverse causation, and is briefly outlined as that it includes: The final 'be-causes' (that for the sake of which the study exists)- meta-theory and theory advancement with a particular focus on the corporeal morphology and the physiology of Public Administration as science; The material 'be-causes' (that out of which the study exists)- a comprehensive literature review that explicates the anatomy (corporeal morphology) and physiology of a science as well as Teleology, Ontology and Epsitemology as primary themes; The efficient or moving 'be-causes' (that from which the study comes into existence)- through which both the skills and competence (Ikanology) of the researcher, and academic scholars as authors of the aforementioned articles contribute towards the richness of the substance recognised; The formal 'be-causes' (what is it to be?)- as meta-theories and |

## A. The philosophical sub-structure to this study:

| Elements in the constructive generic framework of this study's research methodology                                                                                                                                                                                                                                                                                                                                                                                                                                 | Application in the research methodology's sub-structure<br>(Reflections on philosophical belief systems)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Ontological-pluralistic reflection:</b></p> <p>"What is the form and nature of reality, therefore, what is there that we can know about it?"(Guba &amp; Lincoln, 1998:201).</p>                                                                                                                                                                                                                                                                                                                               | <p>theories of Public Administration as science, that contribute to the larger discipline and practice. Based on the Pluralistic point of departure, it is highlighted that more than two (since the philosophical basis does not suggest Dualism) final, material, efficient or moving, and formal 'be-causes' may present itself.</p> <p>The ontological paradigm or ontological position propounded by this study is <b>ontological pluralism</b> that upholds the probability of a number of ontological suppositions about reality, truth and existence, whilst averting a pre-conceptualised and fixed position. The choice in selection of ontological pluralism as ontological reflection is substantiated by the fact that this study investigates an array of ontologies in Chapter 3 and the research methodology should thus create the ambit within which such an investigation could occur. Ontological pluralism should neither be seen as an Ontological position or discipline, nor as that Ontological Pluralism is the same as ontological neutrality, but rather as an ontological strategy to a distinct research methodology.</p>                                                                                                                                                                                                                   |
| <p><b>Epistemological-pluralistic reflection:</b></p> <p>How can reality be known?</p> <p>What is the relationship between the knower and what is known?</p> <p>What are the characteristics, principles and assumptions that guide the process of knowing and the achievement of findings?</p> <p>What is the possibility of the implemented process being shared and repeated by others in order to assess the quality of the research and the reliability of those findings? (Vasilachis de Gialdino, 2011).</p> | <p>The epistemological reflection that substantiates the research methodology in this study is recognised as epistemological pluralism, which is understood as that it considers all epistemic capacities as well as incapacities in a uniform manner, without giving predilection to any specific epistemological reflection. The motivation behind epistemic pluralism as epistemological reflection to the research methodology of this study, pivots on the basis that Chapter 4 of this study considers the potential of an array of epistemic viewpoints that may contribute to the theory of knowledge related to Public Administration as academic discipline and as practice. The major epistemological inquiries however remain as follows:</p> <p><b>What is to be known</b> about the corporeal morphology (bodily form &amp; structure) and physiology (function) of a science within Public Administration as field of study and practice, and meta-theories and theories lead to theory advancement in the discipline and practice of Public Administration and its ontological expression as a science?</p> <p><b>How is it known?</b></p> <p>By investigating literature that explicates the corporeal morphology (bodily form &amp; structure) and physiology (function) of a science; the process and physiognomies of establishing meta-theories.</p> |

| A. The philosophical sub-structure to this study:                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements in the constructive generic framework of this study's research methodology | Application in the research methodology's sub-structure<br>(Reflections on philosophical belief systems)                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                     | <p><b>Who is the knower?</b></p> <p>The epistemological belief system sustaining this study, rejects a hierarchical structure between researcher and the researched, as it acknowledges that the researcher is not the sole authority on the science of Public Administration and the field of study's accompanying meta-theories and theories, but are rather positioned in a co-creative relationship with other academic knowers (authors) on the topic of the researched. Thus the knower is reflected as a multitude of academic scholars.</p> |

**Source:** Author's perspective

### 1.6.1 The philosophical sub-structure of this study

Sire (2015:56) introduces the concept of worldviews as that human beings have an innate conjectural and suppositional disposition, which are echoed "in and by which we live, and move and have our being." By means of a contrasting statement that is constructivist in nature, Underhill (2011:238) asserts that even though worldviews are an inevitable part of the human character, such worldviews are not coerced by the transcendent; ideological worldviews are sustained by human beings, and human beings alone. A recognition of the natural human state is often appreciated in the concepts that humans apply, such as "worldview, world picture, paradigm in the Kuhnian sense, sophisticated reifications, mind-set, ideology, pattern of belief, habitus, social imaginary and cultural liturgy" (Sire, 2015:56). Wessels and Pauw (1999:364), Kirby and McKenna (2004:71, 72) and Anastas (2012:267) maintain that research is a human activity, which therefore makes it uncomplicated to agree with Leavy (2014:2-3) who propounds that human beings' approach to research is similarly shaped by worldviews as its fundamental point of departure. Such an understanding thus necessitates this research investigation, with particular reference to the selection and explanation of research methodology applied in this study, to consider and include the theological, cultural, scientific, philosophical, legal, political, economic, social and psychological worldview/s, research paradigm, teleological, ontological and epistemological explications and reflections that direct the constructive, pluralistic generic methodological framework as an intelligible, rational approach to the research methodology as it is applied in this study. A consideration and

explanation of a theological worldview, as point of departure to the philosophical sub-structure of this study therefore commences with a clarification of the worldview to which the author as researcher and by implication, this study is affixed.

#### 1.6.1.1 The theological worldview that anchors this investigation: Christian Theism

The author as researcher's worldview, is anchored in Christian Theism. The basis of Christian Theism as worldview, echoes an absolute certitude as documented in Genesis 1 (Bible, 2006) that God is the Creator of the universe and everything that is in it, which by implication thus includes human beings (Bible, 2006:1-3). Christian Theism propounds that: firstly, God the Father (first identity) created human beings in His image, as it reflects in Genesis 1:27 (Bible, 2006:3) and, that He is actively engaged in the way that we live, move and have our being (Deuteronomy 31:6; Deuteronomy 31:8; Joshua 1:5; I Kings 8:57; I Chronicles 28:20; Psalms 37:28; Psalms 94:14; Isaiah 41:17; Isaiah 42:16, Isaiah 55:11, and Hebrews 13:5), (Bible, 2006), Acts 17:28 states that "For in Him, we live and move and have our being (Bible, 2006); secondly, that human beings have sinned and are debauched, but in His perfect Being, God sent His only begotten Son, Jesus Christ (second identity) to die for the forgiveness of our sins, and if human beings (John 3:16), (Bible, 2006:1680) by choice, seated in the free will that He has bestowed upon human beings (Genesis 2:16-19, Deuteronomy 30:19-20, Joshua 24:15, Proverbs 16:9, Isaiah 55:6-7, 2 Chronicles 9:7, Ezekiel 18:30-32, I Corinthians 10:13, Romans 6:23, Romans 10:9-10, Romans 13:2, Galatians 5:13, 16-17, 2 Peter 3:9, Mark 8:34, John 1:12 – 13, John 7:17, & Revelation 3:20), (Bible, 2006), choose to declare our sins with conviction of mind and sincerity of heart to Him, and request His pardon through Jesus Christ, human beings will receive His all-embracing mercy and an eternal life with Him (Psalm 103:8-12, Isaiah 53:1-5, Isaiah 55:6-9, Joel 2:12-13, Romans 5:1, John 3:16, I John 1:4-7), (Bible, 2006); Thirdly, God's continued involvement in human beings' lives, reverberates in the fact that He, through His Holy Spirit (third identity) continues to advise, direct and guide human beings' lives, acts and being (Luke 24:49, John 1:33, John 2:33, John 12:16, John 14:16, 25 & 26, John 15:26, John 16:7, 13 & Acts 1:4), (Bible, 2006). Within such an understanding of the worldview that directs not only the researcher, but simultaneously this distinct research act, it is understood that God is observed, by means of a fundamental ontological interpretation: a) in source, as transcendent and immanent; b) in state, as both static and dynamic; c) in expression, as whole and plural; and d) in condition, as undifferentiated and differentiated individual, and as undifferentiated and differentiated relational. Thus, God is: omnipotent-sovereign, good and eternal Being, He is of that which is beyond this world and that which is in this world through His omniscience; God is both static in His un-changeable Being, and dynamic through His engagement with human beings; God is whole (One) and

plural (Triune) in the expression of Himself; and therefore, God is indistinguishable and separable individual and indistinguishable and separable relational in His condition. From a Christian Theist viewpoint, human beings, in their ontological clarification thus reflect as that:

- a) human beings' source is God, omnipotent-sovereign, good, eternal, omniscient, both transcendent and immanent, both static and dynamic, both whole and plural, and undifferentiated and differentiated individual and undifferentiated and differentiated relational;
- b) human beings' state is dynamic in the sense that human beings are in a continuous state of change, striving towards expressing the virtues articulated by the triune God;
- c) in its expression is plural that reflects a physical body that includes both cognitive capacities and a soul; and
- d) in condition is differentiated individual and differentiated relational.

During the process of offering the fundamental nature of Christian Theism, the researcher took heed of, and was similarly incited by Archer's (1998) observations as follows: firstly, that:

- a) human beings very often recompense inattention to the relation between theological worldviews, philosophical worldviews and both their expressions in the philosophical underpinnings (a teleological, ontological and empirical substratum) of a study's Research Methodology, that justify these innate worldviews and in that, fall prey to a 'blind' followership or declared devotion to a teleological, ontological and epistemological expression of distinct philosophical worldviews without recognition of the disassociation or association between their innate theological worldviews and the philosophical worldviews articulated in diverse philosophical sub-structures of varying research perspectives; and
- b) that it is possible for a philosophical worldview, different to a human being's innate theological worldview, to direct human beings' acts such as teaching and research, devoid of any judicious examination of the innate nature of the worldview itself. But, even in this human dilemma, the Bible is not silent. Hebrews 5:14 (Bible, 2006:2040) refers to the "power of discernment" to distinguish between that which is of, and in association with God and that which is not. The dissonance between Christian Theism as worldview and Constructivism as philosophical worldview for example, primarily becomes recognisable when it is understood in the following context: Christian Theism declares that God's continued involvement in human beings' lives, reverberates in the fact that He, through His Holy Spirit (third identity) continues to advise, direct and guide human beings' lives, acts and being, and Constructivism declares that human beings are solely responsible for the state of the experiential world in which we subsist, and so in gratitude or blame, for it is only human beings that subliminally and materially construct and assemble the experiential world. Below the threshold of consciousness, Christian Theists thus sense such dissonance, which results either in an unease to reconcile the varying viewpoints and rejection of the worldview, or, conscious efforts to search for justified similarities in the varying viewpoints.

Against the background of Christian Theism as worldview that is inherently part of the researcher, apposite research paradigms were meticulously selected to direct this investigation. Section 1.6.1.2 therefore follows with an elucidation to the philosophical worldview/s applicable to this study.

#### 1.6.1.2 The philosophical worldviews that underpin this study

The point of departure thus in selecting a preferred philosophical worldview that is in agreement with Christian Theism would reflect the following truth “only if there is an Ultimate Mind can there be a basis for finite minds” (Cooley, Sr., 2013:8). However, based on the nature of this study, its consideration of both the philosophical and philosophy of Public Administration as academic discipline, it would be naïve to consider the globe as that it reflects only one intelligent network (human beings, things, processes and data) of absolute similarity. Subsequently, Pluralism establishes the ambit within which diversity subsists and thus creates the philosophical point of departure to this study. Of critical importance to refer back to at this point, is that which was mentioned in section 1.6.1.1 as: “Christian Theists thus sense such dissonance, which results either in an unease to reconcile the varying viewpoints and rejection of the worldview, or, conscious efforts to search for justified similarities in the varying viewpoints.”; The dissonance referred to here, is that Christian Theists do not believe that there are many ways to get into heaven. When considering John 14:6: “Jesus told him, I am the way, the truth and the life. No-one can come to Father except through Me.” (Bible, 2006:1712, 1713). Christian Theists would thus rather explain their acceptance of plurality against the triune nature of God.

Mead (1946:95) conceptualises worldview as an enunciated philosophical arrangement, or a subliminal position towards life and the world. Similarly, Rickman (1979:47) describes worldview as that there is within human beings an importunate predisposition, which is to attain an all-inclusive interpretation, a *Weltanschauung*, or a philosophy, in which an image of reality is united with an appreciation of its denotation, value and ideological activities. Slife and Williams (1995:16, 49) advocate that even though philosophical worldviews continue to affect research practice, and thus need to be recognised, such philosophical worldviews remain, for the most part, concealed in the execution of research endeavours. Creswell (2008:5) remarks that, during the planning phase of a research endeavour, it is of vital importance for researchers to: a) cognitively reflect upon the worldview suppositions on which they construct the research initiative; b) reflect upon the strategy of inquiry that relates to this distinct worldview; and c) reflect upon the specific methods or procedures of research, that translate the distinct research methodology into practice.

Avnon and De-Shalit (2012:6) propound that Pluralism developed from the rudimentary notion that the global population comprises of many different individuals, each maintaining a marginally dissimilar opinion of what is virtuous. Pluralism is therefore viewed as a social verity, intrinsic to the multiplicity of human beings (Avnon & De-Shalit, 2012:6). Pluralism spurs the conviction that: reality comprises of diverse components; there are an array of opposing, nevertheless veritable depictions of the world; there is no distinct explicatory arrangement or viewpoint of reality that encompasses the capacity to justify and interpret all of life's phenomenal confrontations; and there is no conspicuous truth, not even in matters of moral concern, to which Christian Theism would naturally disagree (Perelman, 1978:51); Okoro, (2013:266). Pluralism rejects any ambitions towards an unflawed uniformity founded upon a distinct standard or benchmark, more accurately, it acknowledges the subsistence of pluralism, constructed by means of discordant beliefs (Perelman, 1978:52). Pluralism is most efficiently applied in studies of a qualitative nature, as exact and measurable decrees by nature suggest the diminution of one value against another and diversity against similitude (Perelman, 1978:53). Kekes (2000:68) maintains that it is the duty of any pluralist to resolve three distinct inquiries, which he describes as follows: firstly, which substances could be described as plural? secondly, what are the motives for pronouncing such substances as plural? and, thirdly, which intellectual advances are ensued post the pronouncement of such substances as plural? In response to these inquiries, Kekes (2000:68 - 79) advances the following explications to the afore-described three inquiries: firstly, it is argued that the substances which Plurality maintains as plural, are methods of reflection; these substances are "scientific, historical, religious, aesthetic, moral and subjective" approaches to knowledge and the importance of facts; Pluralism expresses itself either as method of reflection or by means of the essential components of reality, cognitive positions, values or cultures; Pluralism therefore reflects amongst others, upon the meta-physical, the ontological, the epistemological, and the axiological spheres; all types of Pluralism employ dissimilarity as their foundation and thus hold dissimilarity as an integral part of reality rather than it being ostensible; Pluralists argue that there is plurality in both means of understanding the importance of pertinent facts and in the ordered arrangement of intellectual conduct; secondly, modes of reflection display plurality, based on the fact that they are exclusively dissimilar; thirdly, the functional advantage of Plurality is its proficiency to endure despite mundane disruptions.

In critique, Brocklesby (1994; 1997), and Mingers and Brocklesby (1996) had reservations in terms of methodological pluralism with specific reference to: its cultural viability and intellectual reliability; and the philosophical disorder that pluralism suggests when considering fundamentally varying paradigmatic suppositions about the ontological and epistemological

reflections. However, this study is required to consider an array of theological and philosophical worldviews as the point of departure to understanding Public Administration. This is based on the fact that Public Administration is taught, learned and practiced by communities across the globe. Hereto, it can be stated that Public Administration is highly influenced by both a geographical prefix and a form of state.

In light of the arguments for and against Pluralism, the afore-described physiognomies of Pluralism as philosophical worldview to this study initiated the backdrop against which the philosophical sub-structure of this study will be advanced. Section 1.6.1.3 therefore follows with an elucidation to the research paradigm applicable to this study.

#### 1.6.1.3 The research paradigm relevant to this investigation

Based on the scholarly contributions made by Kuhn (1962; 2012:10-12, 19-20, 23-25, 27-34, 42, 44-51, 62-65, 67-79, 80, 86, 83-92, 94-95 103, 109-134, 144-149, 152-158, 166-168, 171-172, 174-190, 198-199), Masterman (1970; 1990:59 - 90) and Hacking (2012: xi, xvi-xxv, xiin, xvii-xxiii), a paradigm or *exemplum* includes: a universally recognised philosophy; a whole tradition; a standard example or model; and a source of instrumentation to science, as it governs perception itself (provides an angle of incidence). A paradigm represents the lenses through which scientists in a particular science view the world and practice science in a spatio-temporal context, whilst being deeply rooted in a theological or non-theological, cultural, ethical, philosophical, political, economic, sociological, legal and psychological foundation. Kuhn (1962; 2012) pioneered knowledge that shaped human beings' fundamental understanding of the concept scientific paradigm. Contemplating the 21 divergent senses of a paradigm, or as Kuhn argued, 22 senses (Kuhn, 1962; 2012:294; Hacking, 2012:xviii), and its intrinsic physiognomies, Masterman (1970:65-66) distilled Kuhn's (1962; 2012) array of examples to a paradigm into three distinct senses that generally cluster Kuhn's expositions as follows: a scientific paradigm contains a meta-physical sense, which includes a theological, cultural, ethical, philosophical, scientific, political, economic, sociological, legal and psychological worldview, and the philosophy of the field of study, inclusive of its historical advancement; a sociological sense, which considers the active human participators (scientists) in the field of study; and an artefact or construct sense, which has reference to the research and practice and resultant research and practice products in a field of study. In general terms, such knowledge proves to be true in both the Natural and Social Sciences, however, an interpretive dispute arises between the aforementioned two sciences in their respective construal of teleological, ontological and epistemological reflections. Of importance, is the fact that Kuhn's investigation focussed largely on the Natural Sciences and



the physiological reactions of a Natural Science's development. Vasilachis de Gialdino (2009) propound that: the investigation of any phenomena in the Social Sciences, similarly to that in the Natural Sciences, is profoundly influenced by a presumed paradigm; however, the progression of paradigms in the Natural sciences, expresses itself by means of a distinct process that includes a pre-science phase, followed by the establishment of a fully-fledged science; such a fully-fledged science is incited, usually by a single paradigm (model) that suggests a rigid set of *a priori* resolutions to phenomena, in which normal or quotidian science is practiced until the paradigm can no longer provide solutions to phenomena. The inability of a paradigm to offer solutions initiates the emergence of a crisis, after which a paradigmatic revolution arises and the advent of a new paradigm follows, in which old theory is replaced with new theory (Kuhn, 1962; 2012). The Social Sciences according to Vasilachis de Gialdino (2009) display more of an accumulative paradigmatic advancement in which multiple paradigms may actively direct the science; based on the presumed paradigm/s, solutions to phenomena may vary dramatically; such paradigms shape the "theoretical-methodological framework that directs the entire research investigation; Kuhn's (1962; 2012) idea of a paradigm was conducted within the ambit of a distinct knowledge area and the phenomena that ascend from the teleological, ontological and epistemological research reflections within the Social Sciences are therefore not perceived from a similar *a priori* intelligence as would be the case in the Natural Sciences; co-existing paradigms is not such a peculiar phenomenon in the Social Sciences as is the case in the Natural Sciences; accretion, re-articulation, advancements, revising and modernising of paradigmatic theories are concomitant to social phenomena, which is often incited by socio-global events such as industrial revolutions.

Encountered phenomena and *noumena* exhibit divergent solutions in the Social, Management and Administrative Sciences, depending on variances in both the prepositioned theological worldview/s and the philosophical worldview/s, which evidently direct the philosophical reflections of a research inquiry.

Pluralism as philosophical paradigm to this study, shapes the foundation of paradigmatic reflections adopted in this study and expose the latter's orientation in a teleological reflection (theory of purpose), an ontological reflection (theory of the nature of being), and an epistemological reflection (theory of knowledge and truth), as elements to the Research Methodology (theory of the principles, models, rules, methods and postulates) that plan and direct this particular research inquiry.

#### 1.6.1.4 A pluralistic-teleological-methodological reflection on the Research Methodology of this investigation.

Table 1.1, as constructive generic framework, represented an intelligible, rational approach to Research Methodology as it is applied in this study. A brief reflection on the purpose of this study subsequently follows.

The pluralistic-teleological-methodological belief system that underpins this research investigation pivots upon the Aristotelian methodology of reverse causation to which Chapter 3 of this study provides a comprehensive and detailed explanation in meta-theory and in theory. An aspect that requires immediate clarification is the fact that the term causation should not be read in the context of cause-effect, but rather in the precise manner in which Aristotle denoted it, as the 'be-causes', in other words as a response to the question why? To this effect the discussion here merely provides and outlines a brief clarification of the Aristotelian teleological explication of reverse causation in its four fundamental parts as it is applied to establish the holistic purpose of this study as follows:

The final 'be-cause' (as the first of four parts to a pluralistic-teleological inquiry) or, that for the sake of which the holistically viewed investigation exists, reflects more detailed in the problem statement, section 1.2 and research objectives, denoted in section 1.4 of this study. However, in brief explanation, the final 'because of this study is presented in true pluralistic, constructivist argument as Vico (Croce, 2019) aptly stated: "*Verum ipsum factum*", "the true is the made". In light of Vico's statement, the presented phenomena in this study enfolded as: How will the application of meta-theoretical frameworks, derived from the theory of the structure of a science and the three pillars of Aristotelian philosophy namely: Teleology; Ontology; and Epistemology, contribute, alter or deepen Public Administration theory? The solution to this inquiry is embedded in the meticulous construction of meta-theoretical frameworks from which Public Administration as science, its teleological, ontological, and epistemological reflections reveal its essence, its application and its connection between essence and application and thus the knowledge and truth embedded in itself. The final 'because' thus of this investigation reveals the final purpose on which this investigation hinges as: a contribution that alters or deepens Public Administration theory.

The material 'be-cause' (as the second of four parts to a pluralistic-teleological inquiry), or, that out of which the study exists, is constructed by means of a comprehensive literature review, Language-Analytical Philosophy of relevant academic literature, as well as a Qualitative Content Analysis (QCA) of the identified literature. This study therefore, presents

the matter out of which the anatomy of a science comprises as inclusive of developmental anatomy (gross and microscopic anatomy, regional anatomy, systemic anatomy, nodal entities (vertices that contain static quantifiable and/or qualified properties to which values could be ascribed, and edges that tangibly or intangibly connect vertices), internal and external environments to a science as a whole, and the physiology of nodal entities in a science. In its material 'be-cause' therefore, this study presents the corporeal morphology of Public Administration as a science in its developmental, regional, systemic and physiological properties or matter, inclusive of its teleological, ontological and epistemological properties.

The efficient or moving 'be-cause', (as the third of four parts to a pluralistic-teleological inquiry), or, that from which motion or rest comes, embodies a process of hylomorphism (Manning, 2013:173 - 187), that effectually represents the phases that illuminate the activity of matter into form. Such a process implies the manner in which the afore described matter relevant to this study (the corporeal morphology in its developmental, regional, systemic and physiological properties or matter inclusive of its teleological, ontological and epistemological properties) are transformed (by means of the skills and competence of the researcher, academic scholars that presented relevant literature to this study, and academic scholars as authors of the aforementioned academic articles), (the Ikanology recognised in this study), to aid the constructed form, structure and function of a science. In true Aristotelian sense, the focus during this phase largely has its emphasis on Ikanology as the skills and competence of relevant contributors to this study. Such contributors are therefore, responsible for the transformation of the corporeal morphology of Public Administration as a science in its developmental, regional, systemic and physiological properties or matter, inclusive of its teleological, ontological and epistemological properties to present the constructed form, structure and function of a science, and in such a science, the teleology or purpose of a science, the ontology or nature of a science, and the epistemology or theory of knowledge of a science, which ultimately manifest in theory advancement to the science of Public Administration.

The formal 'be-cause' (as the fourth of four parts to a pluralistic-teleological inquiry) or, what is it to be? reflects more detailed in the research objectives, denoted in section 1.4 of this study. However, in brief explanation, the final 'because of this study is presented as: The constructed form/s, structure/s and function/s of a science, and in such a science, the teleology or purpose of a science, the ontology or nature of a science, and the epistemology or theory of knowledge of Public Administration as a science.

The collective purpose of this study, initiated by means of a pluralistic-teleological-methodological foundation to explicate the why? of this study, is therefore explained as follows: To contribute, alter or deepen Public Administration theory by means of the distinct process of hylomorphism that includes constructing the matter (corporeal morphology in its developmental, regional, systemic and physiological properties or matter, inclusive of its Teleology, Ontology and Epistemology), relevant to this study, and to transform such matter by means of Ikanology, (the skills and competence of the researcher, academic scholars that presented relevant literature to this study, and academic scholars as authors of the aforementioned academic articles), into a formal shape, recognised as the form, structure and function of Public Administration as a science.

Against the collective pluralistic-teleological-methodological strategic purpose of this research investigation, an explanation follows that illuminates the pluralistic-ontological-methodological reflection related to this study's Research Methodology.

#### 1.6.1.5 A pluralistic-ontological-methodological reflection in the Research Methodology of this investigation

Northoff (2004:44) substantiates Pluralism as follows: "Because of our humanly restricted situations, we cannot step outside all possible human viewpoints and decide which one of our different conceptual schemes and ways of structuring the world, is the only absolute true one or closer to the truth than all others." Therefore, an array of focussed traditions through which diverse groupings of human beings assemble the world are required to sustain dissimilar domains of existence (McLeod-Harrison, 2009:14; Ludwig, 2015:33). Being, reality and existence can be viewed by a multitude of varying angles, through numerous theoretical strategies (McDaniel, 2017:46). Pluralism therefore maintains the probability of ontological suppositions related to existence and reality, but fervently evades a presumed ontological position. The effect of such a standpoint expands the capacity of viable ontological conjectures, rather than rejecting or disregarding it (Northoff, 2004:45). The principal quality of ontological pluralism as methodological design is that it permits a collection of ontological views to co-appear or co-subsist (Hirsch, 2004:231). Esbjörn-Hargens (2015:126) explicates the conceptual variance between epistemological Pluralism, methodological Pluralism and ontological Pluralism as that: the physiognomies of epistemological Pluralism represent the recognition of numerous perspectives when an object is observed; the physiognomies of methodological Pluralism represent subjects that apply an array of methods whilst observing an object; and the physiognomies of ontological Pluralism represents the fact that subjects apply an array of methods to observe numerous, coinciding and interacting objects. In

combination, the modest account of an initially uncomplicated enactment between these three representations of Pluralism, converts itself into an intricate intact realist representation of the research object (Esbjörn-Hargens, 2015:126). The recognition of such knowledge awareness responds to this study, firstly in the manner that during a recognition and application of pluralistic theories of knowledge, as it is denoted in Chapter 5, numerous philosophical and theoretically grounded perspectives reveal themselves as they are represented in the corporeal morphology and physiology of Public Administration as science. Secondly, in the application of methodological Pluralism in Language-Analytical Philosophy and Qualitative Content Analysis (QCA), represent the plurality in research methods that support the processes of object observation, which ultimately lead towards Public Administration as science's deeply nuanced pluralistic theory development. Thirdly, given the application of pluralistic perspectives and methods extant in the process of investigating the nature of being and reality in Chapter 4, numerous, coinciding and interacting theological and philosophical worldviews present a rich collage of the manner in which human beings view a being, and themselves as human beings, objects, processes and data. The result of what initially appeared as a modest account of an uncomplicated enactment between these three representations of Pluralism, converts itself into an intricate intact realist representation of the corporeal morphology and physiology of Public Administration as a science.

In the process of creating an ontological-methodological platform against which this study will display the potential to investigate a variety of extant ontologies that has the potential to collectively explicate the nature of being and reality in the context of Public Administration as a science, section 1.5.1 of this study initiated a generic ontological framework, designed by Stout (2012:389) that creates both the basis of this study's ontological-pluralistic reflection as well as the structure against which a collection of ontologies will be investigated in Chapter 4.

Based on the intricate connection and relation between Teleological, Ontological, Methodological and Epistemic Pluralism, which later in this study (Chapter 2) becomes known as distinct vertices that are connected by edges to shape four knowledge triads in Public Administration as a science, the study continues to explicate a pluralistic-epistemological-methodological reflection as significant element to the philosophical sub-structure of this study's Research Methodology.

#### 1.6.1.6 A pluralistic-epistemological-methodological reflection in the Research Methodology of this study

The point of departure to a pluralistic-epistemological-methodological reflection of this study's Research Methodology, commences by reiterating the fact that epistemological pluralism represents the recognition of numerous perspectives when an object is observed (Esbjörn-Hargens, 2015:126). The implication of Esbjörn-Hargens' (2015:126) factual statement implies that each and every individual epistemic capacity and incapacity requires identical consideration without any partiality (Kekes, 2000:68). Kekes (2000:68 - 79) furthermore propounds that Epistemic Pluralism rejects a hierarchical classification of theories of knowledge, for if such a structure existed, a single epistemic perspective would be observed and thought of as a supreme or impartial viewpoint. Farmer (2015:4) denotes that the term epistemic has a distinct reference to knowing, and pluralism has reference to the multiple strategic angles of incidence by means of which human beings know as that there are many ways of knowing. To illustrate the validity of the application of Pluralism as philosophical viewpoint and as research strategy (teleological-pluralist-methodology, ontological-pluralist-methodology, and epistemological-pluralist-methodology) in the case of Public Administration, the multiple layers of plural expressions in the field of study itself, effortlessly present Public Administration as a science, an art and a craft, (Rhodes, 2016:638 - 647), it is also distinctly present in both the academia (Public Administration) and practice (public administration) in which such practice varies from state to state. Scholars, philosophers, scientists and historians of Public Administration, and artists and craftswomen and men (practitioners) incite a multiplicity of ways through which both the field of study and the praxis thereof is known. Waldo (1984:203) claimed that "administrative thought must establish a working relationship with every province in the realm of human learning", which by implication advises Epistemic Pluralism's distinct relevance to the ambit of Public Administration as field of study and as praxis.

The epistemic enormity of Public Administration coerced the pluralistic-epistemological-methodological reflection to identify three questions, noted as follows: What is to be known about the corporeal morphology (bodily form & structure) and physiology (function) of a science within Public Administration as field of study; and, meta-theories and theories that will lead to theory advancement in the discipline of Public Administration and its expression as science? How is it known? By the application of conceptual research, relevant to the research topic; and, by the application of Qualitative Content Analysis (QCA) and Language-Analytical Philosophy to relevant literature; Who is the knower? As briefly mentioned before, the epistemological belief system sustaining this study, rejects a hierarchical structure between

researcher and the researched, since it needs to be acknowledged that the researcher is not the sole authority on the science of Public Administration and the field of study's accompanying meta-theories and theories, but are rather positioned in a co-creative relationship with the researched. The knower is thus reflected as a multitude of academic scholars.

In conclusion to the philosophical-methodological sub-structure of this study, it is important to note the manner in which Pluralism as distinct philosophical worldview, shaped the teleological, ontological and epistemological research methodological strategy that directs the latter's praxis sub-structure. The chapter's description of this study's constructive generic framework that represents an intelligible, rational approach to the research methodology's praxis sub-structure follows by presenting Table 1.2.

**Table 1.2: A constructive generic framework that represents an intelligible, rational approach to the research methodology's praxis sub-structure as it is applied in this study**

| B. The praxis sub-structure of this study:                                          |                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements in the constructive generic framework of this study's research methodology | Application to this study                                                                                                                                                                                                                                                             |
| Research type:                                                                      | Conceptual research (Descriptive/interpretive research).                                                                                                                                                                                                                              |
| Methods of reasoning:                                                               | Inductive: Phase 1 of Chapter 2;<br>Deductive: Phase 1 of Chapters 3 – 5;<br>Abductive: Phase 2 of Chapters 6 (Holistic results).                                                                                                                                                     |
| Research method:                                                                    | Descriptive/interpretivist: Qualitative Content Analysis (QCA), (Chapters 2 – 5).                                                                                                                                                                                                     |
| Research instrument:                                                                | Literature review.                                                                                                                                                                                                                                                                    |
| Research population and sampling:                                                   | Population: Academic documented sources whether it may be academic books or academic journal articles that explicate the following topics: <ul style="list-style-type: none"> <li>• The anatomy (corporeal morphology) of a science</li> <li>• The physiology of a science</li> </ul> |

B. The praxis sub-structure of this study:

| Elements in the constructive generic framework of this study's research methodology | Application to this study                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | <ul style="list-style-type: none"> <li>• (Apex I) Teleology (an objects purpose)</li> <li>• (Apex II) Ontology (the nature of being and existence)</li> <li>• (Apex III) Epistemology (the theory of knowledge and truth)</li> </ul> <p>Sampling:</p> <ul style="list-style-type: none"> <li>• Non probability sampling; and</li> <li>• Purposive sampling</li> </ul>                                                                                                                                                                                                                                                                                |
| <b>Analysis and interpretation of data:</b>                                         | <p>Interpretation of data:</p> <ul style="list-style-type: none"> <li>• The anatomy (corporeal morphology) of a science</li> <li>• The physiology of a science</li> <li>• The anatomy and physiology of Public Administration as a science;</li> <li>• (Apex I) Teleology (an objects purpose)</li> <li>• The Teleology of Public Administration as a science;</li> <li>• (Apex II) Ontology (the nature of being and existence)</li> <li>• The Ontology of Public Administration as a science;</li> <li>• (Apex III) Epistemology (the theory of knowledge and truth)</li> <li>• The Epistemology of Public Administration as a science;</li> </ul> |
| <b>Data analysis tool:</b>                                                          | Language-Analytical Philosophy; and<br>Constant Comparative Analysis (Leech & Onwuegbuzie, 2008:594).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Legitimation, Validity, reliability and dependability:</b>                       | Descriptive, Interpretive and Theoretical validity<br>"Legitimation refers to the trustworthiness, credibility, dependability, confirmability, and/or transferability of the inferences made" (Guba, 1981; Onwuegbuzie & Leech, 2007:580).                                                                                                                                                                                                                                                                                                                                                                                                           |

**Source:** Author's perspective

### 1.6.2 The methodological praxis sub-structure of this study

The praxis sub-structure of this study's research methodology, represented in Table 1.2 above, includes: the research type as conceptual research; methods of reasoning as inductive deductive and abductive, depending on the distinct phase of inquiry in chapters 2 – 6; research instruments as a literature review; research population as academic artefacts or academic documented sources that includes theoretical data on the anatomy (corporeal morphology) and physiology of a science, Teleology (an objects purpose), Ontology (the nature of being



and existence) and Epistemology (the theory of knowledge and truth); Analysis of data occurred by means of Language-Analytical Philosophy, and the interpretation of data as the anatomy (corporeal morphology) and physiology, the Teleology (an objects purpose), the Ontology (the nature of being and existence) and the Epistemology (the theory of knowledge and truth) of Public Administration as a science; and in conclusion, legitimation, validity, reliability and dependability includes descriptive, interpretive and theoretical validity as objective, as well as legitimation that Guba (1981) and Onwuegbuzie and Leech (2007:580) explicate as that the success of inferences is measured against the following criteria, trustworthiness, credibility, dependability, confirmability, and/or transferability.

#### 1.6.2.1 Research type: Conceptual research

Mouton (2005:175, 176) defines conceptual research as an “analysis of the meaning of words or concepts through clarification and elaboration of the different dimenions of meaning”. To this effect, Mouton (2005:175, 176) clarifies the design-classification of conceptual research as non-empirical, and that this type of research is based on secondary textual data. In this context, it is evident throughout this study that the research, in each instance applies an analysis of the meaning of relevant words or concepts through clarification and elaboration of the different dimenions of meaning, to ultimately construct theory and meta-theories that are applicable to Public Administration as a science. It will similarly become evident that the design-classification applied in this study is non-empirical and pivots upon secondary textual data.

Ravitch and Riggan (2016) define conceptual research as: i) an argument about why the topic one wishes to study matters; and ii) why the means proposed to study it are appropriate and rigorous. In this light, the conceptual framework should argue convincingly that: i) the research questions are an extention of the argument for relevance; ii) the research design maps onto the study goals, questions and contexts; iii) the data to be collected, provides the researcher with the raw material needed to explore the research questions; and, iv) the analytic approach allows the researcher to effectively address those questions. The argument that illuminates this study as significant commences with a spatio-temporal reflection on the scholarly discourse of that which scholars and practitions wrote about or documented in academic artefacts, when they reflected on P[p]ublic A[a]dministration as a science. The significance of this study is embedded in the statement that throughout this scholarly discourse-continuum, not a single scholar considered to deconstruct the body of a science, with the aim of concretising an agreed-upon understanding of: i) the distinct elements (nodal entities) that are extant in a science; the manner in which these nodal entities act within themselves and

amongst each other, to facilitate the active presence of a science in the discipline and its related practice. Hereto, P[ublic A[dm]nistration's philosophy of science becomes the pinnacle of that which could be described as the philosophical bedrock of P[ublic A[dm]nistration as a science. The researcher thus argues that a *noumenal* understanding (P[ublic A[dm]nistration as a science in itself), is imperative before the discipline and its practice, as a science, can be understood as phenomenon in an external world. A deep-rooted comprehension of distinct concepts and terminology applicable to a *noumenal* composition of P[ublic A[dm]nistration as a science, in its form, structure and activities are thus a non-negotiable imperative; ii) it becomes evident throughout the study, that the research questions and objectives (primary and secondary) are inciters towards the achievement of a *noumenal* understanding of P[ublic A[dm]nistration as a science; iii) Miles, Huberman and Sandaña (2014:20) argue that a conceptual framework explains either graphically or in narrative form the main things to be studied, the key factors, variables or constructs and the presumed relationship among them. Frameworks can be simple or elaborate, commonsensical or theory driven, descriptive or casual. Relevant to the latter, the research research design employed in this study presents itself as a map or blue print that contextualises this particular study's study goals, questions and contexts; iii) the collected data, relevant to this investigation, equipped the researcher with initial raw material that was needed to explore the research questions, to ultimately construct theoretical and meta-theoretical contributions to P[ublic A[dm]nistration as a science; iv) The application of Langauge Analytical Philosophy (LAP) enabled the researcher to address the research questions, and ultimately reach the research objectives. The latter is evident in the theoretical and meta-theoretical contributions of each individual chapter included in this study.

Whilst considering the research type that a specific study adopts, it is critical to consider the limitations that accompanies such research type. The following paragraph thus reflects on the limitations associated with Conceptual research as research type.

#### 1.6.2.1.1 Limitations

In the context of a comprehensive explanation of the physiognomies of Conceptual research as research type, Mouton (2005:176) highlights a limitation of conceptual research as that "[p]oor conceptual analysis leads to conceptual confusion, theoretical ambiguities and fallacious reasoning. The researcher thus took heed of this limitation as follows: i) "[p]oor conceptual analysis leads to conceptual confusion". During the introduction of each new concept that gave meaning to an understanding of the topic under discussion, the researcher took meticulous care to understand and explain each concept from its root meaning and

description, to its ultimate contextualisation within the parametres of this study. Hereto, initially understanding ‘paradigm’ as a concept and later as a theoretical concept in the P[p]ublic A[a]dministration as a science domain, is evident as one example of such an instance; ii) “[p]oor conceptual analysis leads to theoretical ambiguities”. The researcher made sure that throughout this study, an array of root concept statements was presented, in each instance as point of departure in understanding a concept. Thereafter, an array of concept-in-context statements were considered to argue for the correct understanding of theoretical concepts as they need to be considered in P[p]ublic A[a]dministration as a science. A typical instance is reflected in an argument presented by the researcher in Chapter 3 of this study, where Aristotle’s ‘four causes’ has no relation to cause-and-effect, but rather has a relation to the concept ‘because’ when seeking an answer to the question ‘Why?’; iii) “[p]oor conceptual analysis leads to fallacious reasoning”. In this study, fallacies and as such fallacious reasoning are understood as that it considers two types of fallacies, documented as follows: i) formal fallacies that are evaluated according to the form of argument; and ii) informal fallacies, which are evaluated, based on the content of an argument. Such statements are similarly referred to as logically valid arguments that pivot on a number of premises (syllogisms as major and minor premises), which in acceptance or denial of such premises, automatically results in a confirming or denying conclusion.

Formal fallacies are recognised as follows: i) Affirming the consequent, which implies that an invalid attempt to use the *modus ponens* argument, where the antecedent necessitates the consequent. *Modus ponens* is thus the presentation of a false belief that by affirming the truth of an argument, the conclusion/s become the affirmation; and ii) Denying the antecedent, with a defective use of the *modus tollens* argument. As such, the antecedent is denied, instead of the consequent. *Modus tollens* thus implies that by denying the truth of an argument, the conclusion thus becomes the confirmed denial (Long, 2013).

In contrast, informal fallacies are often ascribed to hurried and neglectful reasoning. Such fallacies are applied with the clear intent to mislead the reader or audience, to justify a claim that is not true. The application of such fallacies are often charged with emotion. Informal fallacies are furthermore attributed not just to arguments with an actual premise-conclusion form, but also to wider use of language that is intended to establish a claim or make a point. The predominant intent however of informal fallacies is to mislead through information that is not overtly presented. The researcher made sure that in each argument, such an argument was investigated from the point of view, of multiple scholarly contributions that pivot on the original concept-root descriptors.

With the afore-described limitations of conceptual research, the chapter continues by investigating methods of reasoning in research. These methods include inductive, deductive and abductive reasoning.

#### 1.6.2.2 Methods of reasoning in research

Blank (1984:38) argues that reasoning in research is primarily aimed at ascertaining the required and adequate circumstances to explicate a phenomenon. Scientific reasoning is furthermore the pursuit of knowledge and associations between objects, and of the physiognomies of these objects in themselves, during which human beings can, in the application of such knowledge, either methodically unveil the conspicuous nature of objects and their associations and/or expand such knowledge to accrue knowledge in unfamiliar domains (Misra, 2002:18). The three types of scientific reasoning applied in this study are inductive, deductive and abductive reasoning, which will respectively be outlined in the following paragraphs.

##### 1.6.2.2.1 *Inductive reasoning*

Berg and Latin (2008:9), Hughes and Lavery (2004:197 - 206), Griffiths (2009:13), Rossi (2011:2) and Bisanz, Bisanz, and Korpan (1994:181 - 210) all agree in terms of the conceptualisation of inductive reasoning as that it advances from an exact particular towards the whole, and in so doing, display the method of reasoning as establishing inferences and suppositions, based on observation. A distinct set of observations is thus used to reach a wide-ranging end. Bisanz, Bisanz, and Korpan (1994:181 - 210) state that: inductive reasoning generates an upsurge in knowledge; however, inductive reasoning may be perilous, based on the fact that it may or may not be factually correct, even if the premises are factually correct; and inductive practices have to be sternly restrained if credible conclusions are the desired object. Inductive reasoning is applied in Phase 1 of Chapters 2 - 5, whilst documenting factual data that is inferred from a comprehensive literature review, respectively on the corporeal morphology and physiology of a science, and the three Aristotelian apices namely: Teleology; Ontology; and Epistemology.

True to the pluralistic character of both the discipline under investigation and this particular study, the methodological reflection of this study suggests more than one way of reasoning, and thus also reflects as pluralistic in its construction. The methodological sub-structure of this study subsequently also introduces deductive reasoning as a second (no hierarchical intention) way of reasoning to this research endeavour.

#### 1.6.2.2.2 *Deductive reasoning*

Berg and Latin (2008:9) explain deductive reasoning as that this act of reasoning advances, in contrast to inductive reasoning, from a broad perspective to explicit particulars. Hughes and Lavery (2004:197 - 206), Rossi (2011:2) and Bisanz, Bisanz, and Korpan (1994:181 - 210) advocate that deductive reasoning obtains the required conclusion as it is derived from presented facts or hypotheses. Bisanz, Bisanz, and Korpan (1994:181 - 210) maintain that: deductive reasoning by no means yield augmented semantic data; and an acceptable supposition has to be factually correct if the premises are factually correct, and if the conclusion proves to be factually incorrect, then any one of the premises will be factually incorrect. Phase 2 of Chapters 2 – 5 employ deductive reasoning when Public Administration related factual data are submerged into the predetermined meta-theories that represent the corporeal morphology and physiology of a science, and the three Aristotelian apices namely: Teleology; Ontology; and Epistemology, to establish philosophically grounded theory advancement in Public Administration as a science.

This particular research inquiry simultaneously introduces a third level of reasoning, recognised as abductive reasoning with the specific focus on including the ingenious pronouncement of novel theory that resolves the unanticipated circumstance (Alvesson & Kärreman, 2007:1269).

#### 1.6.2.2.3 *Abductive reasoning*

Alvesson and Kärreman (2007:1269) explain abductive reasoning as that this form of reasoning: originates from an unanticipated circumstance in which cognitive logic functions by means of reverse actions that spur inventions within a credible environment or a theory that makes the unanticipated circumstance significant. In addition to this explanation, Alvesson and Kärreman (2007:1269) proceed to highlight three features of abductive reasoning as follows: a) abductive reasoning is the employment of proven interpretive theory; b) abductive reasoning is the recognition of unanticipated circumstances against the background of proven interpretive theory; and c) abductive reasoning is the ingenious pronouncement of a novel theory that resolves the unanticipated circumstance. Walton (2014:31) informs that the nature of abductive reasoning reflects as: convincing and credible; a “reverse *modus ponens* inference”, or the ‘if-then’ rule. Reichertz (2007:219, 220) conceptualises the features of abduction as that it includes the following elements:

- Abduction represents the uncovering or construction of distinct arrangements of properties, for which no apposite elucidation can be offered from an already existing body of knowledge;
- Such a construction or uncovering is underpinned by means of a cognitive appreciation of accumulated data through which new rules are conceived or determined;
- Novel associations within an archetypal arrangement of characteristics signify the ingenious result that incites an original initiative;
- Abduction advances from “a known quantity (= result), to two unknown entities namely (= rule + case)”; and
- “Abduction is a cerebral process, an intellectual act, a mental leap, that brings together things which one had never associated with one another: a cognitive logic of discovery.”

The principles that inform abductive reasoning, mostly found meaning in phase 3, applied in Chapter 6, where inferences are collected from Chapters 2 – 5 to be documented in Chapter 6. It is similarly the intention of Chapter 6 to provide a triangulation of the novel knowledge gathered in Chapters 2 – 5 in order to ascertain a potential body of knowledge for the discipline of Public Administration.

Against the three forms of reasoning applied to this study, a description of the methods suggested in the Research Methodology follows.

#### 1.6.2.3 Research methods

The rationale for the application of Qualitative Data Analysis (QDA), is based on the following reasoning: Included in the natural sequence of this study, Table 1.4 that follows later in this chapter, a visual matrix-map was inserted that presents the theoretical, the meta-theoretical and the academic-empirical landscapes, as well as the boundary composition (scope) relevant to this study. Against this layout, the progressive phases within the life cycle of each chapter becomes visible. With specific reference to Chapters 2 – 5 of this study, the respective chapters are submitted to three distinct phases, recognised as a theoretical stage, a meta-theoretical stage, and constructing discipline specific theory stage, which cannot all be treated throughout this study in the same methodological fashion, if sustained success is sought in the inquiry. Phase 1, recognised as the theoretical phase of Chapters 2 – 5, have to be subjected to an inductive approach, which is apposite when preceding knowledge with reference to “the phenomenon under investigation is limited or fragmented” (Elo & Kyngäs,

2008:107 - 115). Phases 1 of each of these four chapters thus rely on an inductive approach to initiate an upsurge in knowledge in order to ultimately reach the pinnacle of a meta-theory that has the capacity to explicate the identified apices (Bisanz, Bisanz, and Korpan, 1994:181 - 210). Phase 2 of Chapters 2 - 5 in contrast, requires a deductive approach that will allow the study to juxtapose Public Administration knowledge into the meta-theory, in order to establish the specific meaning of the Teleology, Ontology and Epistemology of Public Administration. Once phases 1, 2 are completed as it reflects in Chapters 2 - 5, the study is able to present a triangulation in Chapter 6, that speaks to a knowledge triad that includes Teleology, Ontology and Epistemology as apices. Viewed holistically, this research endeavour therefore applies inductive, deductive and abductive reasoning, based on the requirement of the various phases within the different chapters of this study.

Having established the approach that supports the research inquiry, it is inevitable to identify an accommodating method through which the research design is applied. The method that was selected through which data was systematically gathered, is Qualitative Content Analysis (QCA). The following explanation establishes a particular denotation; the rationale behind this specific methodology; the benefits and disadvantages to the concept against which QCA will be applied as research design.

#### *1.6.2.3.1 Descriptive: Qualitative Content Analysis (QCA)*

Kracauer's (1952:631 – 642) creation, introduced in his thesis, "The Challenge of Qualitative Content Analysis" (Kracauer, 1952:631 - 642; Schreiner, 2012:11; Kuckartz, 2014:31; Von Moltke 2016:236), announced the naissance of Qualitative Content Analysis (QCA). Kuckartz (2014:31) informs that Siegfried Kracauer (1952) presented a content analysis, dissimilar from that which was recognised as the conventional manner of analysing a corpus of content. The then novel QCA was no longer confined within the parameters of a governing "behaviourist paradigm", in which established subject matter or its "quantification" persisted, as Berelson (1941) suggested it should (Kuckartz, 2014:31), but rather, was directed by the hermeneutics or interpretation, the "meaning" of the body of text (Klafki, 2001:126 – 127), and an analysis of its unrestrained substance (Kracauer, 1952:631 - 642; Schreiner, 2012:1). Kracauer (1952:638) defines QCA as that it comprises of the choice and logical arrangement of condensed categories that convey the substantive "meaning" of a body of text, with a view to test individual assumptions and hypotheses. Schreiner (2012:1) and Krippendorff (2012:10) inform that QCA necessitates a methodically ordered examination of a corpus of texts, illustrations and symbolic substances that are, for example, included in the corpus of discipline

specific academic journal articles, or the artefacts of an academic discipline, which do not necessarily reflect either the author or the reader's perspective. According to Krippendorff (2012:28 – 30), a text in itself displays six distinct features, listed as follows: a) A body of text in itself displays no goals or ideals, thus, text exhibits no traits when observed autonomously from the author or the reader. Therefore, the matter included in the body of content, for example the body of content included in the four academic journals, selected to support the empirical investigation of this study, has no self-inflicted goals or ideals, autonomous from the academic scholars and practitioners of Public Administration that wrote the articles, or the readers that view and comprehend the meaning of these articles (Schreiner, 2012:1); b) Texts do not have “singular meanings” that could be discovered, acknowledged or designated to explicate what they are, or to correlate them with their ontological explication to establish for example, “the states of their sources”. This study therefore recognises that in the examination of a corpus of text, such text presents a stratum of meanings, listed as follows: i) The author's meaning to the text; ii) The myriad of reader's varying meanings to the text; iii) The meaning of the author's conscious message, if recognised, which may be entirely dissimilar to what the content analyst, researcher or other readers may give to the text; and iv) The meaning of the text's subliminal message, if recognised, which could be entirely dissimilar to what the content analyst, researcher or other readers may give to the text. Such knowledge at least, awakens the extant, vastness of complex textual networks' vertices (nodes) and edges (links), which in consideration makes the probability of denoting a single meaning to text, highly improbable. Hence, the introduction of this study's philosophical-methodological paradigm, which is Pluralism, reflects an initiating awareness of the complexity rooted in multiple viewpoints; c) the meanings incited by a corpus of text are not imparted. Concurrence between two or more conscious minds, establishing the author's meaning in the text or what the text means to for example scholars and practitioners of Public Administration, would un-complicate a qualitative content analysis extensively, but such an accord seldom subsists in reality; d) Meanings (contents), speak to something other than the given texts, even though the text remains to be the fundamental point of departure in QCA, and even where agreement between two or more conscious minds propose that the given text encompass distinct qualities. QCA requires that the analyst considers the manner in which human beings use text and what such text discloses to human beings, and what are the understandings and activities that such text incite. This procedure requires the qualitative content analyst to venture beyond the “physicality” of the text. An example of such an instance is observed in Chapter 3 of this study, where scholars of Aristotle's theory on Teleology and reverse causation vehemently argue that Aristotle did not imply an application of the Theory of Cause-and-Effect, but rather meant the ‘be-causes’ that explain the purpose of substance, which evidentially suggest dissimilar meanings, approaches and results in the construction of an applicable meta-theory that explicates Aristotelian



Teleology; e) Texts have meanings relative to particular contexts, discourses and purposes. One example of this reflects in Heidegger and Descartes' subject-object dilemma (Çüçen, 1998); and f) The nature of texts requires that: i) qualitative content analysts need to establish distinct inferences from a corpus of texts and transform such inferences into a relevant milieu; ii) the scope of such an action thus implies an inclusion of the printed substance itself to that which is implied by the printed substance and that which has distinct relevance to the identified audience; iii) The process similarly entails the manner in which a qualitative content analyst perceive a specific corpus of texts up to and including the manner in which a designated audience will be influenced by such texts from the point of accessible data to subliminal phenomena and *noumena*. Within the epistemological representation of QCA, this study reflected on Krippendorff's (2012:36) framework that suggests a process through which an analytical construct will be established that has the capacity to direct the respective phases 4 of Chapters 2 – 5 and the manner in which QCA as approach relates to the research topic, problem statement, research questions and research objectives of this investigation.

In the context of an epistemological representation of QCA, Krippendorff's (2012:36) framework (Figure 1.2) suggests the following six procedural phases as follows: a) A point of departure is recognised by the corpus of text that a qualitative content analyst assembled through which an analytical endeavour commences; b) The research title, problem statement, research questions and objectives of the investigation that a qualitative content analyst aspire to address, shape the next phase of consideration in a successful QCA. This phase, in itself, presents a stratum of substances that requires the meticulous consideration of the qualitative content analyst; c) The next phase requires the qualitative content analyst to pay attention to the context within which sense is made of the corpus of texts; d) The realisation of a context is followed by the formation of an analytical construct that directs the qualitative content analyst to action the QCA. Such an analytical construct is founded on that which the qualitative content analyst knows about the milieu of the corpus of text; e) The QCA is hereafter achieved, by means of inferences, of which the purpose is to reflect the solutions to the research questions that initiated the research inquiry; and f) The final phase reflects validation of evidence, which represents the decisive justification of QCA.

The application of Qualitative Content Analysis during Phase 1 of each of Chapters 2 – 5 will enhance this study's ability not only to construct rich, discipline related theory and meta-theories, but similarly to recognise subliminal meanings in terms of the academic status of Public Administration as science.

Following the research methods are the purposefully selected research instruments, which are considered to present the corpus of text for investigation. Paragraph 1.6.2.4 thus follows by providing an insight and rationale behind the selection of research instruments, applicable to this study.

#### 1.6.2.4 Research instrument

The research instrument selected to support this study is a literature review and an explication thereof follows.

##### 1.6.2.4.1 *Literature review*

Machi and McEvoy (2009:4), and Onwuegbuzie, Leech and Collins (2011:186) define a literature review as that it is a written or typed document, that offers a rationally argued claim, based on a thorough awareness and appreciation of the progressive state of knowledge that relates to subject matter within a field of knowledge. Onwuegbuzie, Collins, Leech, Dellinger and Jiao (2010:173) furthermore conceptualise a literature review as an elucidation of a selected variety of published and/or unpublished documents that are obtainable from diverse origins, which relate to a distinct theme that ultimately comprises of summarisation, investigation, assessment and an amalgamation of the content included in a document. In contrast to the consideration of only written or typed documents that Machi and McEvoy (2009:4), and Onwuegbuzie, Leech and Collins (2011:186) suggested, Onwuegbuzie, Leech, Bustamante, Collins and Combs (2010:473) propound that the major sources to a literature review are found in speech, during “observations”, “drawings, photographs”, video recorded clips and written or typed records.

Mouton (2001:86) identifies a literature study as the originating stage of an empirical study. The process of reviewing an existing body of scholarship (literature study) ensures critical factors in the research process. Mouton (2001:87) highlights the following motives: the study should not be a replication of preceding research; reviewing an existing body of scholarship, enables the researcher to ascertain the latest, reliable and trustworthy scholarly efforts; it enables the researcher to determine the most widely accepted empirical findings in a specific area of research; it assists the researcher to recognise instrumentation that displays demonstrated reliability and validity; through the process of literature review, the researcher establishes generally acknowledged descriptions of fundamental concepts. Mouton (2001:91) offers key elements as critical indicators of a high-quality literature review:

- “It should be exhaustive in its coverage of the main aspects of the study”;
- “It should be fair in its treatment of others”;
- “It should be topical and current”;
- “It cannot be confined to internet sources”; and
- “It should be well organised”.

Based on Machi and McEvoy (2009:4), Onwuegbuzie, Leech and Collins (2011:186), Onwuegbuzie, Collins, Leech, Dellinger and Jiao (2010:173) and Onwuegbuzie, Leech, Bustamante, Collins and Combs’ (2010:473) conceptualisation of a literature review and Mouton’s (2001:91) key elements of a high-quality literature review, the main aspects of inquiry in this study reflect as follows: a) Phase 1 of Chapters 2 – 5, in which respective literature reviews are performed to the point of saturation, by means of inductive reasoning and Qualitative Content Analysis (QCA) that serves as research instrument, to extract theory that has relevance to- i) the anatomy and physiology of a science (Chapter 2), ii) Teleology (Chapter 3), iii) Ontology (Chapter 4), and iv) Epistemology (Chapter 5), as independent disciplines; b) Phase 2 of Chapters 2 – 5 in which respective literature reviews are performed to the point of saturation, by means of deductive reasoning and QCA as research instrument that serve to extract the teleological, ontological and epistemological physiognomies of meta-theories, and to construct meta-theories that respectively address- i) Teleology (Chapter 3), ii) Ontology (Chapter 4), and iii) Epistemology (Chapter 5) as independent disciplines, inclusive of meta-theoretical and theoretical contributions; c) Phase 3 of Chapters 2 – 5, in which respective literature reviews are performed to the point of saturation, by means of abductive reasoning and QCA as research instrument, to identify theory that has relevance to- i) the anatomy and physiology of Public Administration as a science (Chapter 2), ii) the teleological meta-theory of Public Administration as a science (Chapter 3), iii) the ontological meta-theory of Public Administration as a science (Chapter 4), and iv) the epistemological meta-theory of Public Administration as a science (Chapter 5); d) Phase 4 that has relevance to Chapters 2 - 6, in which a triangulation between the Teleology, Ontology and Epistemology of Public Administration is performed, unobtrusively, to the point of saturation, by means of deductive reasoning and QCA as research instrument, on a corpus of text, which reflect as academic documented sources (artefacts of Public Administration, as listed in Table 1.2) to determine from this corpus of text- i) Who are the ‘knowers’ and what is the ‘known’ in the examination of the anatomy and physiology of Public Administration as a science, the teleology of Public Administration as a science, the ontology of Public Administration as a science, and the epistemology of Public Administration as a science, and what are the theoretical contributions to the discipline of Public Administration? ii) What of the science of Public Administration is

investigated that reflects the theories relevant to the anatomy and physiology of Public Administration as a science, the teleology of Public Administration as a science, the ontology of Public Administration as a science, and the epistemology of Public Administration as a science, and what were the theoretical contributions? iii) What incited an investigation of the anatomy and physiology, the teleology, the ontology, and the epistemology of Public Administration as a science that will be recognisable from the author's problem statement? iv) Where were the science of Public Administration investigated in its anatomy and physiology, teleology ontology, and epistemology that provided a spatial context? v) When were the anatomy and physiology, teleology ontology, and epistemology of Public Administration as science investigated that provided a temporal context and in combination with iv) and v), delivered the spatio-temporal context of theories and meta-theories that need to be developed in the discipline of Public Administration? vi) How was the science of Public Administration in its anatomy and physiology, teleology ontology, and epistemology investigated that reflected the scholar's distinct preference in application of research methodology?

Within the complex structure of this research inquiry, a literature study, systematically addresses each of these inquiries in order for this study to address its title, problem statement, research questions and research objectives. Having established the research instrument relevant to this study, section 1.6.2.5 follows by providing an explication to the population and sampling, relevant to this study.

#### 1.6.2.5 Population and sampling

Based on the fact that this study is classified as conceptual research, there is no population or sampling involved.

#### 1.6.2.6 Analysis and interpretation of data

Stone, Dunphy, and Smith (1966:5), Krippendorff (2012:21) as well as Franzosi (2009:549) explicate data analysis as that it represents a research technique, which supports the process of drawing iterative and convincing deductions with the particular aim of analytically and impartially recognising distinct physiognomies from text that is positioned to convey a particular message in a distinct context.

#### 1.6.2.7 Data analysis tools

The research techniques that are respectively applied to analyse and interpret the data relevant to this study are recognised as Language-Analytical Philosophy (LAP) and Constant Comparative Analysis (CCA). A description of the composition of the two data analysis tools that are applied, follows by commencing with an explanation of Language-Analytical Philosophy (LAP). Hereto, the intent behind the application of the said data analysis tool to this study, as well as the contribution that Language-Analytical Philosophy (LAP) has in establishing a meticulously correct appreciation of the technical language applied in this study is explained in the next section.

##### 1.6.2.7.1 *Language-Analytical Philosophy (LAP)*

Urmson (1956:27, 41, 118), Ayer and Ginestier (1957:184-185), Charlesworth (1961:147, 148) and Apel (2013:2) draw attention to the fact that “[i]t was not actually the analytic methods of the sciences under study by Analytical Philosophy which gave this philosophy its name; but rather its own method of analysis...”. Apel (2013:2) informs that: i) Language Analytical Philosophy (LAP) is deeply associated with terms such as “[m]eaning and [t]ruth”, “[m]eaning and [v]erification”, and “[l]anguage, [t]ruth and [l]ogic”; ii) all sentences are arrangements of words that are complete in itself and serve as conductors of meaning; iii) in the sciences, such arrangements of words that are complete in themselves must first and foremost be appreciated as expressions of human intent, prior to the process of deducing such arrangements from general laws, and in that, explicate the factual details that such sentences describe; iv) LAP is a philosophy of science that accedes to the philosophical doctrine which holds that “all reality is objective and external to the mind, and that knowledge is reliably based on observed objects and events” (The Free Dictionary, 2018), as the teleological intent of science; Hereto, the challenges that are evoked by an analysis of language must direct LAP right to the core of such challenges “which the theory of understanding of Humanities was designed to cope with”; v) and, this radical type of analysis “is not applied to the objective facts of science, but rather to the sentences of science, *i.e.*, not to things, but to the language that speak of these things”.

During the course of this study, LAP played a critical role in verifying the exact meaning of key terms, which have the ability to mislead scholars in its entirety. A sophisticated example hereof appears in Chapter 3 of this study during the process of determining the elements of a meta-theory that underpins Teleology, or the study of an object’s purpose against which numerous theories could be developed for the discipline and practice of P[p]ublic A[a]dministration. At first inspection, there are scholars that refer to Aristotle’s description of Teleology as that it is

a theory of cause and effect. However, during a meticulous investigation of the language included in the description of Teleology, it becomes clear that Aristotle did not refer to the theory of cause and effect in this context but rather to the be-causes or the reasons for existence that explicate the purpose of an object. This observation is confirmed in research conducted by Vlastos (1969:294).

In addition to LAP, Constant Comparative Analysis (CCA) similarly played a critical role, post to the construction of the anatomy and physiology of a science, and the construction of meta-theories that support Teleology, Ontology and Epistemology. The motivation behind the application of CCA in this study can be described as that all the foundational constructs only provide the general philosophical structure that has to be considered in the context of P[ublic A]dministration, which if it was not done would render the study meaningless to this particular field of study and its practice. A rendition of the essence of CCA thus follows.

#### Constant Comparative Analysis (CCA)

With reference to Constant Comparative Analysis (CCA), Strauss and Corbin (1998:90, 93) reveal five typical physiognomies that encompass this data analysis tool as follows:

- The aim of CCA is to construct theory, and not to move into the mode of testing such theory;
- The aim of CCA is to furnish researchers with analytic tools that would support them to analyse data;
- The aim of CCA is to equip researchers to recognise and comprehend manifold denotations that may emanate from the data;
- The aim of CCA is to support researchers with both a systematic as well as a creative process through which such researchers could analyse data;
- To assist researchers to detect, construct and recognise the relationships between elements of the data when assembling a theme.

1.6.2.8 Research rigor: internal validity versus credibility, external validity versus transferability, reliability versus dependability, and objectivity versus confirmability.

Terre Blanche *et al.* (2009:90, 91) define validity as the research's ability to display evidence of unassailable deductions as well as drawing persuasive and credible, realistic and authentic inferences. Terre Blanche *et al.* (2009:92) define reliability as the degree to which the results of a research investigation are repeatable. As opposed to positivists who are of the understanding that they are conducting research in a stable, "unchanging reality where

reliability is a valued [and valid] criterion" (Terre Blanche *et al.*, 2009:93), interpretive and constructionist researchers understand the landscape that they investigate as unstable and highly dynamic. Interpretive and constructionist researchers therefore propose that inferences should be dependable. Terre Blanche *et al.* (2009:93) proffer meaning to the concept of dependability as that it is the extent to which readers will be persuaded that the inferences transpired in the exact manner that the researcher has explained it. Relevant to this study, is Terre Blanche *et al.*'s. (2009:93, 94) observation that dependability is obtained through abounding and factual explanations that display evidence of the fact that activities and viewpoints were extrapolated from contextual interactions. Reliability furthermore finds substance in Glaser and Strauss' (2006:61) explanation of saturation that no additional data will be found that would enhance the elements of a distinct category.

In order to substantiate Terre Blanche *et al.*'s. (2009) concerns, Guba and Lincoln (1985:219), Mertens and Ginsberg (2009:466) and Houghton, Casey, Shaw and Murphy (2013:13) provide meaningful explications with reference to the impact that a philosophical paradigm has on the angle of incidence to research investigations. At first glance, validity (internal and external), reliability and objectivity appear as standard obligation in the description of quality and rigor validation measures to a research investigation's methodology. However, these three quality validating measures reflect a substantially different denotation, depending on the paradigm through which they are observed. With reference to two conflicting paradigms, which Guba and Lincoln (2005:114) and Mertens and Ginsberg (2009:466) used to illustrate the variance in the paradigmatic denotation of validity, reliability and dependability against such paradigmatic variance in meaning, when observed from a positivist's point of view, and when observed from an interpretivist's point of view. Positivists consider the following "internal validity, external validity, reliability and objectivity" as measures of a study that reflects quality, whereas interpretivists justify a "trustworthiness criteria of credibility, transferability, dependability and confirmability" as the elements on which an investigation of quality pivots (Lincoln & Guba, 1985:219; Mertens & Ginsberg, 2009:466). Houghton *et al.* (2013:13) explicate Lincoln and Guba's (1985:219) cognition behind credibility, dependability, confirmability and transferability, as measures of research rigor, respectively as follows: a) Credibility depicts the significance and credibility of research findings (Leininger, 1994:110; Lincoln & Guba, 1985:213, 219; Polit & Beck, 2006:41, 332 – 335, 498), which comprises of the following two activities, i) credibility directs the research investigation in a convincing way, and ii) credibility enhances the display of integrity throughout the research investigation; b) Dependability is frequently associated with reliability in quantitative research and refers to data stability (Graneheim & Lundman, 2004:109, 110; Tobin & Begley, 2004:391, 392; Shah & Corley, 2006:1829, 1830; Rolfe, 2006:305); c) Confirmability denotes impartiality and data

precision (Tobin & Begley, 2004:392, 393), which are associated with dependability, in which both reflect an analogous method; and d) Transferability signifies the potential of research findings to be adopted into other research investigations that represent analogous contexts or circumstances, while still maintaining its original viewpoint (Leininger, 1994:106). By means of the reference to scholars' such as Leininger (1994:110), Graneheim and Lundman (2004:109, 110), Tobin and Begley (2004:391, 392), Polit and Beck (2006: 41, 332 – 335, 498), Rolfe (2006:305), Shah and Corley (2006:1829, 1830), Mertens and Ginsberg (2009:466), Houghton, Casey, Shaw and Murphy's (2013:13) application of "credibility, dependability, confirmability and transferability" as instruments of quality and rigor in their research investigations, establish transferability as a sustained case in point.

Based on the pluralistic position of this study, both viewpoints are recognised, but more so in their conflict. This study therefore recognises all the elements in both views of research rigor, without giving hierarchical supremacy to either of the two viewpoints or their substance. The study will furthermore apply relevant methods of rigor throughout, by means of whichever element in the structure of rigor presents itself as the most suitable to obtain the research objectives relevant to this study. Section 1.7 thus continues by outlining this study's foundational viewpoint on research ethics against an ethical sub-structure to the methodology of this distinct research inquiry.

## **1.7 RESEARCH ETHICS**

Porter (2001:20), Pojman and Fieser (2012:2), Wiles (2012:4) and Matsumoto and Leong Jones (2009:323) distinguish Ethics as a branch of Philosophy that specifically aims to direct phenomena and *noumena* concerning morality. Gert (1998:9) argues that morality reflects its essence in that it relates to human behaviour and the manner in which such behaviour affects other human beings and/or objects in the natural environment. Kwansah-Aidoo (2005:61) and Wiles (2012:4) furthermore explicate that research ethics typically refer to behavioural morality within the context of a research inquiry. Whilst considering this particular study through a pluralistic philosophical viewpoint, Buchanan (2004:28, 29) propounds that ethical pluralism is the recognition that a collection of "ethical decision-making frameworks" are considered in the researcher's quest to solve a phenomenon. Against these introductory thoughts, section 1.7 commences by considering scholarly contributions to research ethics against a constructive generic framework that represents an intelligible, rational approach to the research methodology's ethics sub-structure, as outlined in Table 1.3 below that includes ethical pluralism, value pluralism and reflexive pluralism as primary cognitive elements, which direct both the structure of discussion that follows, and this study.



**Table 1.3: A constructive generic framework that represents an intelligible, rational approach to the research methodology's ethics sub-structure as it is applied in this study**

| C. The Ethics sub-structure to this study:                                                         |                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements in the constructive generic framework of this study's research methodology                | Application to this study                                                                                                                                                                                                                                                                                             |
| <b>Ethical pluralism:</b>                                                                          | Human beings' dispositions; and<br>Quests for morals, ethics and behavioural patterns.                                                                                                                                                                                                                                |
| <b>Value pluralism:</b>                                                                            | The incompatible disposition of human beings – moral divergence.                                                                                                                                                                                                                                                      |
| <b>Reflexive methodological pluralism:</b><br>"The politics of positionality"<br>(Madison, 2005:6) | The manner in which verified and substantiated claims shape researchers' construction of 'knowledge claims'.<br>a) "What kind[s] of evidence [are] being presented?"<br>b) "What are the limits of the evidence under investigation?"<br>c) What is the researcher's evidence, evidence of?" (Montgomerie, 2017:130). |

**Source:** Madison (2005:6); Kerr-Wilson (2017:193); Montgomerie (2017:130); as well as the author's perspective

### 1.7.1 The ethical sub-structure of this study

Neuendorf (2016:130) determines the dilemma concerning approaches to morality and ethics in research endeavours, which similarly confronts the ethical sub-structure of this study as follows: It is a rare occurrence to stumble upon ethical appraisals or criticisms of "qualitative content analysis, perhaps because so many of them conduct unobtrusive analysis of message content that is publicly available". Based on the fact that matters of morality's primary incitement are spawned in relationships and entrenched in both moral attitude and human intent towards others and the natural environment (Verbeke, 1997:146), a point of departure in explicating the ethical substructure of this study is to determine and differentiate between both human and substance presence and relationship, extant in this research endeavour. Finnis (2011:163) states that: "[I]n moral matters, what is intended, is *per se* [intrinsic], but what follows *praeter intentionem* [is not intended] is, so to speak incidental." Within the context of Verbeke (1997:146), Finnis (2011:163) and Neuendorf's (2016:130) observations, this study is therefore obligated to: firstly recognise a primary layer in this research investigation's relation to matters of moral and ethical attitude and intent, whilst the researcher engages in an

unobtrusive interaction with a phenomenon related and corpus of text (a corpus of text that has the potential to address the research problem); and secondly, to search deeper than such obvious primary recognition, as a discipline related corpus of text does not in its first appearance have the innate ability to be affected by matters of moral or ethical attitude or intent, or does it? In this primary layer, the responsibility therefore solely lies on the researcher to display moral or ethical attitude and intent towards the academic corpus of text in a non-reciprocal relationship when interpretation and inferences are made from such text.

During the recognition of a secondary layer, it is understood that a discipline related corpus of text came into being at the hands and cognitive processes of academic scholars of such disciplines. The recognition thus of the secondary layer establishes an awareness of two factors that require attention in matters of moral or ethical attitude or intent. The first factor has reference to the researcher's moral or ethical obligation in attitude and intent towards the academic authors of the corpus of texts, and the second factor has reference to the researcher's moral or ethical obligations of attitude and intent towards the respective academic disciplines. From the afore-described, it becomes clear that the researcher is positioned in non-reciprocal relationships with an academic corpus of text, the scholars that authored the text, and the respective academic disciplines.

Within the context of a pluralistic worldview, an example is offered that explicates a differentiation between the manner in which Europeans would populate a list of moral convictions applicable to a research entity and the manner in which Africans would populate a list that addresses the same research entity. The Belmont Report: Ethical Principles and Guidelines for Protection of Human Subjects of Research (1978), based on a Western value-system, identified three principles of ethical conduct in Biomedical and Behavioural research endeavours as follows: "respect for persons; beneficence [the welfare of the research participants should be the primary goal of the researcher]; and justice". In contrast, Onuoha (2007: online), in his representation of Bioethics across Borders: An African Perspective, which is based on an African value-system included the following three principles of ethical conduct in research endeavours as follows: "humanity; community; and morality" to which contrasting differences are observable. These differences obtain clarity on many levels such as a declaration of independence versus a declaration of dependence (Kumar, 2002). In the context of a Western value-system that proclaims- "I am, therefore you are" (Ugwuanyi, 2011), and an African value-system, which proclaims- "you are, therefore I am" (Amenanda & Amarananda, 2006:30), the different viewpoints become even more apparent.

Prior to the identification of broad ethical aspects that are considered in this study, it is firstly necessary to observe ethics through the philosophical lens that underpins this research investigation.

#### 1.7.1.1 Ethical pluralism

Ethical, value or moral pluralism in essence, is constructed upon the philosophy of human beings' dispositions and quests for morals, ethics and behavioural patterns, in which: a) such dispositions include physiognomies such as: i) "plurality"; ii) "incompatibility"; and iii) "incommensurability"; and, b) such quests construct the matter relevant to human beings' moral, ethical and behavioural existence (Perrett, 1998:61; Cherniss, 2017:187, 188). With reference to ethical pluralism's position on "plurality", Cherniss (2017:195, 197) explicates that a multitude of indisputable human values subsist, in which the diminution of such an anthology of human values into a particular preponderant value or value scheme presents inconceivability (Perrett, 1998:61). Perrett's (1998:61) observation is based on the fact that such dissimilarities incite divergence in the equality of value validity and similarly presents complex dichotomies (Moon, 2012:175), such as personal liberation versus social equality and communal stability, unbiased justice versus sympathy and clemency, and exact accuracy versus communal practicality (Berlin, 1997; Galston, 2009:29). Crowder (2002:53) and Cherniss (2017) state that "incommensurability" in ethical pluralism refers to the fact that discordant values are often presented simultaneously, which requires either human compromise or human choice at the expense of indisputably significant moral principles and subsequent moral privation. Pluralism rejects hierarchy and subsequently neither morals nor values are observed by means of a hierarchical status that presents singular supremacy (Perelman, 1978:52; Kekes, 2000:68 – 79; Cherniss, 2017).

In addition to the factual details that depict ethical pluralism, this study similarly considers and include the brief specificities that explicate value pluralism. The paragraphs that follows thus provides the main insights into value pluralism that are considered in this study.

#### 1.7.1.2 Value pluralism

Crowder (2002:3, 5, 7) captures the essence of value pluralism as follows: a) Value pluralism does not simply represent 'plurality of belief', or the notion that dissimilar human beings or clusters of human beings have faith in contradictory ideas, value pluralism is a distinct assertion that reflects the "true nature of morality", impartial to other systems of belief; b) Value pluralism is a meta-theory that conceptualises the true physiognomies of moral/ethical/value

as substance; c) Value pluralism reflects human beings' awareness of profundity in moral divergences; d) Value pluralism represents one perception of the ontological description of morality that earnestly considers the incompatible disposition of human beings' moral encounters, in which such incompatible moral encounters reflect as accurate confirmation that the moral fractures in human beings' experiences is an inherent fact of life; e) Value pluralism, for example, has the ability to depict the nature of phenomena, extant in public policy; f) Value pluralism instructs that in such instances of moral conflict, human beings are required to advance, devoid of comfort and regulation of universal guidelines, as no single value or limited range of values will offer sustained supremacy, and no value or range of limited values are proficient to "commensurate all others".

Against these insights of value pluralism's core physiognomies and philosophy, as well as the natural structure against which this study reflects upon a particular blueprint that directs the investigation on matters of morality, such reflection continues by explicating the nature of reflexive plurality.

### **1.7.2 Reflexive methodological pluralism**

Popa and Guillermin (2017:19, 20) argue that methodological pluralism pivots on the basis that research methods from varying paradigms, in which the latter considers dissimilar attributes of reality often present a deeper and stronger comprehension of the researched phenomena (Mingers, 2001:214; Hesse-Biber & Johnson, 2013). Popa and Guillermin (2017:21) furthermore advise that by not considering reflexive methodological pluralism in a particular research situation that the research investigation probability of enforcing an actual supremacy of a particular research paradigm to influence the investigation. In this vain, this particular research investigation poses the application of varying research methods, during the differing phases and chapters of the research investigation as illustrated in Table 1.4 of this Chapter that are most likely to enable the investigation towards the successful acquisition of solutions to research questions and successfully attained research objectives.

In addition, and in conclusion of this study's position in matters of moral plurality, Terre Blanche *et al.* (2009:72) state the following: a) that an independent and competent research ethics committee should subject all protocols to independent ethical review, prior to the commencement of data collection. In adherence to this ethical research requirement, the North-West University houses a faculty-based, research ethics committee and all research efforts are subject to the approval of this committee, hence the appearance of an ethical code on the title page of this document; b) four standard components of consent that are highlighted

as follows: dissemination of applicable information; units of analysis' competence and understanding; voluntariness in participation and freedom to decline or withdraw after commencement of the study; and formalisation of consent, which are all included in the North West University (NWU) ethics criteria.

## **1.8 SIGNIFICANCE OF THE STUDY**

As elaborated upon in the Introduction to Chapter 1, it is just to state that Public Administration, as academic discipline and as practice, continue to find itself in an eminently delicate position. Over decades, reputed scholars and practitioners, as further elaborated upon in the problem statement to this study, bemoaned the shortcomings and imperfections of the scientific, philosophical, theoretical and meta-theoretical disposition of the field of study, of which the Minnowbrook I (1968), Minnowbrook II (1988) and Minnowbrook III (2008) Conferences, and the Mount Grace I – II Conferences in South Africa duly testified (Bowornwathana, 2010:S64 – S68; Mubangizi & Theron, 2011:33 – 50).

Motivated by both the ancient origins of philosophy and post-modern forms of scientific reasoning, the significance of this study is rooted in the following arguments that specifically direct its focus on Public Administration as a science:

- a) The science of Public Administration needs to find that which reflects its own distinct philosophical physiognomies
  - i) As mentioned earlier in this chapter, Lakatos (1978:102) emphatically stated that a science without a philosophy is wondering visionless in this world; on route to nowhere. This study therefore firstly and deliberately aimed to consider theory that has the capacity to establish a meta-theory that reflects the corporeal morphology and the physiology of a science, within which a philosophical root and the mainstay of this science direct all the vertices and paradigm/s that are prevalent to the distinct description of the bodily form and structure or the anatomy of a science. Of critical importance, is a distinction between: the philosophical character of a science in its discipline that represents the teleological (purpose), the ontological (nature of being), the epistemological (theory of knowledge and truth), the methodological (principles, methods, rules and postulates), the axiological (norms and values) and the ikanological (skills and competence of scientists in a science) description of a science; and the philosophy of a science in its discipline, which represents a historical trajectory of basic values, varying worldviews, scientific approaches, methods, gravity of statements, technological gravity and phenomenal and *noumenal* foci of the science during a spatio-temporal display of itself as discipline and as practice. The

regional and developmental anatomy of a science thus play a distinct role in the process of establishing the substances that represent the philosophical and philosophy of a science.

- ii) Whilst still considering the anatomy of a science in its discipline, this study secondly aims to make a contribution in terms of the manner in which systemic, physiological relations between afore-mentioned vertices in a science persist, as these varying vertices, each with their own particular physiognomies affect and influence each other.
  - iii) Of importance to this study, the third contribution aims to establish, by means of the afore-described theoretically grounded meta-theories, to establish the philosophical physiognomies of Public Administration as science as well as the philosophy of Public Administration as science.
- b) This study furthermore aims to contribute theory and Public Administration relevant theory in terms of the distinct composition of a knowledge triad that includes Ontology, Epistemology and Teleology as its main apices. Such theory emanates in combination from the theoretical compilations of Chapters 2 – 5.

Following the significance of this study, is the provisional chapter layout of this inquiry that provides a logical sequential progression towards final findings, recommendations and conclusion.

## **1.9 PROVISIONAL CHAPTER LAYOUT**

The provisional chapter layout, presented in this Section, provides a visual matrix-map, as well as chapter titles and chapter descriptions, of which the latter includes the respective research questions and research objectives related to each chapter of this study.

### **1.9.1 A visual matrix-map of this study**

The visual design of the chapter layout in this research is presented by means of a table format, matrix-map, which horizontally represents each of the eight chapters, and vertically denotes each of the five phases, as it is pursued in this research. The five phases signify the theoretical and empirical progression of this study and includes: (a) Phase 1: theory; (b) Phase 2: a meta-theoretical framework; (c) Phase 3: application of a meta-theoretical framework to discipline specific (Public Administration) theory; and (d) Phase 4: Findings and Recommendations (Phase 4 will be reflected as a collective in Chapter 6), which are respectively relevant to Chapters 2 – 5. Chapters 2 – 5 furthermore reflects the following individual chapters: Chapter 2: The structure of a science: Gauging Public Administration's

spatio-temporal paradigmatic progression; The Three Pillars of Aristotelian Philosophy: The knowledge triad (Chapter 3: Apex I- Aristotelian Teleology: *Aitias* as all the ways of stating Public Administration's *to dia ti* through *vis a fronte*; Chapter 4: Apex II- Ontology, Being in its state, source, expression and condition: The discipline of Public Administration's Ontic mainspring and physiognomies. Chapter 5: Apex III- Epistemology; Public Administration and the theory of knowledge; and Chapter 6: Findings, Recommendations and Conclusion. Chapters 1 and 6 respectively reflects the Introduction, Recommendations, Findings and Conclusion of this study, and subsequently do not display the vertically phased composition of the matrix-map. Table 1.4 denotes a visual layout of the table format matrix-map representing the five progressive phases and a numeric sequential chapter outline as blueprint to the planning of this study.

**Table 1.4: A matrix-map representing the theoretical, meta-theoretical and empirical landscape and boundary composition (scope) against the progressive phases (life cycle) included in the sequence of this study**

|                                                                 | CHAPTER 1    | CHAPTER 2                                                                                                                                      | CHAPTER 3                                                                                                         | CHAPTER 4                                                                                                         | CHAPTER 5                                                                                                             | CHAPTER 6                    |
|-----------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------|
|                                                                 |              |                                                                                                                                                | The three pillars of Aristotelian philosophy: the knowledge triad                                                 |                                                                                                                   |                                                                                                                       |                              |
|                                                                 | Introduction | The structure of a science                                                                                                                     | Apex I: Teleology                                                                                                 | Apex II: Ontology                                                                                                 | Apex III: Epistemology                                                                                                | Findings and recommendations |
| PHASE 1: Theory                                                 |              | Theory of the structure of a science                                                                                                           | Teleological theory                                                                                               | Ontological theory                                                                                                | Epistemological theory                                                                                                | Conclusion                   |
| PHASE 2: Meta-theoretical framework                             |              | Meta-theoretical framework that underpins the structure of a science                                                                           | Teleological meta-theoretical framework                                                                           | Ontological meta-theoretical framework                                                                            | Epistemological meta-theoretical framework                                                                            |                              |
| PHASE 3: Application of Meta-theoretical framework to PA theory |              | Application of a meta-theoretical framework that underpins the structure of a science to the theory of the discipline of Public Administration | Application of a Teleological meta-theoretical framework to the theory of the discipline of Public Administration | Application of an Ontological meta-theoretical framework to the theory of the discipline of Public Administration | Application of an Epistemological meta-theoretical framework to the theory of the discipline of Public Administration |                              |
| PHASE 4: Triangulation, Findings and Recommendations            |              | Findings and recommendations                                                                                                                   | Findings and recommendations                                                                                      | Findings and recommendations                                                                                      | Findings and recommendations                                                                                          |                              |

**Source:** Author's perspective



### 1.9.2 Chapter titles and descriptions

The chapter titles and chapter descriptions are outlined as follows:

#### **CHAPTER 1 INTRODUCTION: THE BLUEPRINT**

The Introduction to this study initiates and institutes the context, phenomenon, research questions and objectives, central theoretical statements, as well as the distinct research methodological features that prepare the ambit within which the phenomena of Public Administration as science, and the science's corporeal morphology, physiology, teleology, ontology and epistemology are examined throughout this study. The blueprint to this study furthermore offers statements on research ethics as well as the implications that this study may have on the larger discipline and practice of Public Administration.

#### **CHAPTER 2 THE ONTOLOGY OF A SCIENCE: THE CORPOREAL MORPHOLOGY AND PHYSIOLOGY OF PUBLIC ADMINISTRATION AS A SCIENCE**

A recognised science exhibits distinct features in its corporeal morphology and subsequent physiology. Within the corporeal morphology of a science, a number of vertices or nodal entities are observable, each with its own unique strata, progression, characteristics and purpose, embedded within the system of a science. The physiology of a science recognises amongst others, such vertices' unique characteristics and purpose in an attempt to map the systemic relations between these vertices as they affect, influence and respond to each other. By means of such recognition and supportive theory, Chapter 2 constructs a meta-theoretical framework that explicates the corporeal morphology and physiology of a science, after which the meta-theory directs Public Administration as science's discipline-related theory.

#### **CHAPTER 3 (APEX I) - ARISTOTELIAN TELEOLOGY: *AITIAS* AS ALL THE WAYS OF STATING PUBLIC ADMINISTRATION'S *TO DIA TI* THROUGH *VIS A FRONTE***

Chapter 3 introduces the theory that underpins Teleology or causal examination from which a teleological meta-theoretical framework is constructed. The teleological meta-theoretical framework is then juxtaposed against the theory of Public Administration in order to determine the purpose (*aitias*) and 'because' (*to dia ti*) of Public Administration as academic discipline and as science in a contemporary era by means of reversed causation (*vis a fronte*).

## **CHAPTER 4 (APEX II) - BEING IN ITS SOURCE, STATE, EXPRESSION AND CONDITION: THE DISCIPLINE OF PUBLIC ADMINISTRATION AS SCIENCE'S ONTIC MAINSPRING AND PHYSIOGNOMIES**

In order to establish the springboard of Public Administration's ontological foundations, Chapter 4 examines being in its state, source, expression and condition towards a meta-theoretical framework, from which the discipline of Public Administration's theoretical and ontological position are determined.

## **CHAPTER 5 (APEX III) – EPISTEMOLOGY, THE THEORY OF BELIEF, JUSTIFICATION, KNOWLEDGE AND TRUTH IN THE CONTEXT OF PUBLIC ADMINISTRATION AS A SCIENCE**

Public Administration's epistemological arrangement will be investigated by means of a meta-theoretical framework, extrapolated from the theory of Teleology, Ontology, and Epistemology, the theory of the discipline and science, as established in Chapters 2, 3 and 4 of this study, as well as a post-modern epistemological perspective.

## **CHAPTER 6 CHAPTERS' SUMMARY, RECOMMENDATIONS AND CONCLUSION**

Chapter 6 arranges and displays a summation of the findings and recommendations per chapter (inclusive of Chapters 2 – 5), presenting the assertions made in terms of the application of the respective meta-theoretical frameworks and Public Administration, observed in the context of such meta-theoretical frameworks; secondly in terms of a series of questions to the empirical study respective to each chapter as included in this research; and thirdly in terms of the findings attained from the collective application of the knowledge triad. Chapter 6 simultaneously includes concluding remarks to this research endeavour.

### **1.10 CONCLUSION**

Chapter 1 began by sketching a brief introduction that established the ambit or blue print against which this study systematically progressed. The succinctly delineated domain of Public Administration as academic discipline and as practice, required of the researcher to reflect on the larger dominion of this field of study. This process in turn, illuminated conspicuous phenomena inherent to the branch of learning that evoked esteemed scholars to bemoan an array of imperfections and weaknesses that impede the field of study. The one phenomenon that protruded beyond all others and similarly summarises all others is contained

in Mokgoro (1992:30 – 31) and Thornhill's (2006:794) respective observations that the discipline of Public Administration is in dire need of theoretical depth and scientific method. Observed in the context of such phenomenon, Lakatos (1978:102) claimed that a science without a philosophy is visionless and thus on route to nowhere. In the plurality of its ontological expression, Public Administration display three distinct appearances, which are recognised as the science, the art and the craft of this academic discipline and its practice (Rhodes, 2016:638 - 647). From these three manifestations of the discipline, much attention is paid to the art and the craft, and perhaps even more so to the art than the craft (Rhodes, 2016:639) and the manner in which the art finds meaning in praxis. In truth, regrettably little transpires in the development of its science and subsequent philosophical and theoretical underpinnings. Considering the position within which the discipline of Public Administration and in particular, the state of its science find itself in the post-modern knowledge era, the phenomenon that this study therefore proposed to examine and explore was outlined in the problem statement as to what extent the construction and application of meta-theoretical frameworks, relevant to the corporeal morphology, physiology, teleology, ontology and epistemology would contribute, alter or deepen Public Administration as science's theory.

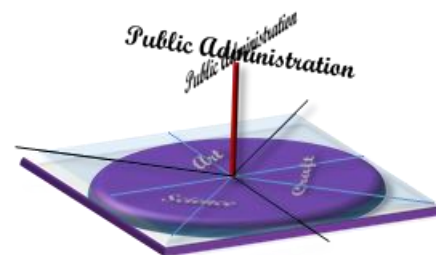
In this light, Chapter 1 delineated this study's primary research questions that directed each of the respected future chapters to achieve its corresponding research objective. Within the chapter's own progression, the conceptualisation and recognition of distinct physiognomies to the significant applied concepts are explicated in the central theoretical statements. In order for the research investigation to advance, the central theoretical statements were followed by a research methodological reflection that in essence reflected an intelligible, rational approach to the philosophical, praxis and ethical sub-structures of this study. A provisional chapter layout firstly presented a visual matrix-map that explicated the matrix approach and progression of this study, and secondly provided the various chapter titles and descriptions.

In essence, Chapter 1 provided the comprehensive blueprint against which the inquiry was conducted. Chapter 2 thus commences by providing an explication of the corporeal morphology and physiology of Public Administration as science.

# Chapter 2

## THE CORPOREAL MORPHOLOGY AND PHYSIOLOGY OF PUBLIC ADMINISTRATION AS A SCIENCE

*“... our theories both contribute to forming our experience and give meaning to the language we use for reporting it” (Appiah, 2005:37).*



## CHAPTER 2 THE CORPOREAL MORPHOLOGY AND PHYSIOLOGY OF PUBLIC ADMINISTRATION AS A SCIENCE

### 2.1 INTRODUCTION

Chapter 1 offered an introductory synopsis, methodological philosophy, as well as the context and structure of the phenomena that this study intends to address namely: “The science of Public Administration: a theoretical and meta-theoretical inquiry.” Supporting the primary theme to this study, the chapter relevant research inquiry was motivated in Chapter 1 as follows: “To what extent will the application of [a] meta-theoretical framework[s], derived from the theory of the structure of a science, contribute, alter or deepen Public Administration theory?”

Scholars of Public Administration have reluctantly grown accustomed to the descriptive judgements casted upon this field of study, which in essence mirrors a deep-seated and continued rift amongst rival foresights and the absence of individuality, intellectual and paradigmatic declarations as central predicaments (Harmon, 1989:437; Haque, 1996; Dubnick, 1999:1). What is regrettably less considered, is the subliminally coerced impact that a pivotal occurrence such as the Herbert Simon-Dwight Waldo debate, in retrospect, had on the trajectory that this discipline would respect in its narrative epoch. The Simon-Waldo debate did not only incite principal theoreticians of Public Administration to fervently defend this field of study against the ‘immoralities’ of value-neutral logical positivism, more prominently at this critical junction, the debate attached Public Administration’s ontological substance to reflect as a profession, rather than vehemently leading a persistent voyage of extraordinary discovery in search of this discipline’s individual, intellectual, paradigmatically driven, pluralistic academic status, amongst an array of social sciences (Dubnick, 1999:1, 3). With Dubnick’s (1999) proverbial elephant released from the room, Chapter 2 neither follows, nor deliver a riposte to the Simon-Waldo discourse and the trajectory of Public Administration as profession, but rather pursue an uncharted track of constructing the anatomy and physiology of Public Administration as a science, taking into account this field of study’s inimitable, pluralistic ontological nature, towards theory building that distinguishes exactly that which will be called Public Administration’s own. Recalling the visual resemblance of a topographical landscape that reflects P[p]ublic A[a]dministration in Chapter 1, Figure 1.1, scholars are reminded of the deadly sin to reduce this field of study to only one or two topographical quadrants. However, based on the fact that only a handful of scholars have ventured into Quadrant 1 of Figure 1.1, this study spends particular time inside Quadrant 1, without rejecting the other three quadrants. The afore-described decision to pursue an uncharted track, reverberates in an

excerpt from Oren Harari as follows: “The electric light did not come from the continuous improvement of candles” (Scheninger & Murray, 2017:23). Chapter 2 furthermore extends the respective primary research questions and research objectives, relevant to Chapter 2, as outlined below.

### **2.1.1 Public Administration and the structure of a science: primary research questions**

The primary research questions that direct Chapter 2 are listed as follows:

- What are the relevant theories and scientific explications that would guide this study towards the compilation of a meta-theoretical framework, in which the latter directs the systematic construction of the structure of a science?
  - Which properties would a meta-theoretical framework include that guide the systematic construction of the structure of a science?
- What are the meta-theoretical and theoretical resultants as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework of a science that represents Public Administration as a science?

The fundamental aim of the research questions outlined above are to obtain distinct research objectives that individually and collectively direct the research inquiry to address the phenomena highlighted in this study. These research objectives are outlined in paragraph 2.1.2 below.

### **2.1.2 Public Administration and the structure of a science: primary research objectives**

- Identified, presented, described and interpreted theories and scientific explications that guided this study towards the compilation of a meta-theoretical framework that resulted in an explication of the structure of a science.
  - A constructed and presented meta-theoretical framework, in which the latter guided the systematic construction of the structure of a science.
- A presented and analysed interpretation of meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework that represents Public Administration as a science.

Within the boundaries and scope of this setting, Chapter 2 is presented as a distinct study in which the anatomy (corporeal morphology or bodily form and structure), and physiology (function) of Public Administration as science are systematically constructed.

Three unambiguous statements that delineate the intention of this study and chapter are recorded as follows:

- Firstly, this study and chapter consider Public Administration as that in the ontological expression of itself, this field of study displays an ontic plurality and subsequently includes the nature of a science, an art and a craft (Rhodes, 2016:638 - 647). Recognising P[public] A[administration]'s plurality, Chapter 2 focusses on Public Administration as a science, and thus explores the potential of applying anatomical and physiological expositions of a science as angles of incidence and as mechanisms to establish or deepen the potential for theory advancement that represent and strengthen the unique ambit of Public Administration as field of study. What will evidently become clear, is that even through the study reflects a primary focus on the science of this field of study, it cannot be done in isolation from continuously included reflections on the art and craft of this discipline as well, since these three ontic expressions are found to be present in every substance of the discipline's being. They exist as intertwined properties of the deoxyribonucleic acid or DNA of Public Administration;
- Secondly, the intention of this study and chapter is simultaneously not to artificially superimpose Public Administration onto a scientific understanding of the natural sciences, as these two distinct fields of study reflect indubitably atypical philosophical descriptions in its teleological, ontological, epistemological, methodological, axiological, ikanological and deontological explications (thus a variation in purpose, nature of being, theory of knowledge and truth, principles, methods, rules and postulates, norms and values, skills and competence), within a meta-physical, meta-theoretical and empirical reality, as well as a unique discipline specific historical trajectory of basic values, varying worldviews, scientific approaches, and methods, profundity of statements, technological profundity and phenomenal and *noumenal* foci of differing schools of thought that becomes illuminated during a spatio-temporal display of the scientific philosophy of this distinct discipline; and
- Thirdly, the intention of this study and chapter is furthermore not to create a single unified theory that directs Public Administration in the same manner as that which a single unified theory would do, and, as such single unified theories are referred to by Critical theorists. In fact, quite the opposite may be true when this study refers to 'pluri-versalism' and 'pluri-formity' as opposed to universalism and uniformity. The intention is rather a

study and an investigation into the scarcely explored and unemployed meta-physical properties of Public Administration, referred to as *noumena* (objects in themselves), that exist beyond phenomena or intelligible objects, in combination with the latter. The subsequent recognition of such phenomenal objects' *noumenal* properties, as it is explored in Kantian philosophy, may potentially yield scientifically grounded theory in its coalescence. In contrast to the meta-physical substance of Public Administration, Yolles (2006:99) clarifies the phenomenal (*phainómenon*) properties as that there is "an immediate object of awareness" that truly exists, and that are detectable through sense observation. Yolles' (2006:99) clarification finds evidential substance in the scholarly legacies of Edmund Husserl (1859 – 1938); Martin Heidegger (1889 – 1976); Jean-Paul Satre (1905 – 1980); and Maurice Merleau-Ponty (1908 - 1961).

As prologue to this chapter, Shanks (2002:24) and Shanks and Greek (2009:40), propounds that "[t]he metaphors we use to understand new aspects of the world around us, typically reflect prior experience with other, more familiar features of the world". Ireni-Saban & Berdugo (2017:26 – 51) affirm that Shanks' (2002:24) supposition is not an unfamiliar custom to the discipline of Public Administration. Typical to the latter two statements, this chapter depends largely on fundamental terminology and analogies, extrapolated from the anatomical and physiological domains, in order to explicate a vastly unfamiliar territory, complex *noumena* and phenomena, extant in the corporeal morphology and the physiology of Public Administration as a science.

There is to this study but one provocative philosophical perplex in the realm of science, whether social or natural. The perplexity lies in the fact that science has, since the earliest forms of philosophical thought, reasoning, logic, knowledge, sense observation and experiment, intrigued the human mind incalculably for specifically that which can be discovered or invented, unerringly against observed and/or reasoned truth. But, rarely did human beings consciously consider the structure of a science's anatomy, its aggregate physiology and the contributions that such knowledge may have on a discipline's theory advancement.

The context of the aforementioned phenomena naturally coerces a linguistic explication to follow, that in itself provides fundamental clarity to the knowledge of convoluted environments such as Public Administration in its ontological expression as a science, and the corporeal morphology and physiology thereof, from which conceptualisations are constructed.



## 2.2 A LINGUISTIC AND CONCEPTUAL PREFACE

Prior to an in-depth investigation into both the corporeal morphology and physiology of a science, and in particular the science of Public Administration, a linguistic and conceptual preface to the application of terminology propound explications to the following lexes as it will be applied in this chapter and study as follows:

- Gauch's (2003:44) classic-post-modern linguistic analogy of science;
- Merton's (1973:47 – 69) operative conceptualisation of a science;
- the anatomy of a science which includes properties such as - the developmental anatomy of a science, which contains gross anatomy of a science and microscopic anatomy of a science, regional anatomy of a science, and the systemic anatomy of a science;
- a nodal entity in a science;
- the physiology of a science; and
- vertices, edges and edge-directions in the nucleus triads of a science.

Having outlined the nine primary and five secondary most prominent concepts applied in Chapter 2, Section 2.2.1 proceeds by considering Gauch's classic-post-modern linguistic analogy of science as part of the conceptual foundation upon which theories and scientific explications are included in this chapter, which direct towards the construction of a meta-theoretical framework that explicates the structure of a science.

### 2.2.1 Gauch's classic-post-modern linguistic analogy of science

Canguilhem (1968:11), (cited by Brenner, 2014:729), aptly reminds academic scholars that "... without recourse to philosophy of science (*épistémologie*), a theory of knowledge would be a meditation on emptiness, and that without any relation to history of science would be an entirely superfluous double of the science of which it claims to speak." During the act of reflecting upon contemporary intelligence that conjures the ability to shed light on the conceptualisation of science, Gauch's (2003:44) explication of a classic-post modern linguistic analogy of science attests not only of etymological merit, but similarly illuminates a differentiation between a classic (Aristotelian) and a contemporary comprehension of the term science. Commensing with the classic or Aristotelian intelligence related to the term science, Gauch (2003:44) introduces the concept of *Scientia* as a natural linguistic reference to the classic archetypal discernment of science as follows: *Scientia* has its fundamental roots in the term 'knowledge', but to be more specific, *Scientia* reflects an insight into the cognition of two

distinct properties of knowledge, depicted as: “demonstrative knowledge about reality, [and,] having absolute certainty of truth”. Gauch (2003:44) thus argues *Scientia*’s classic, prominent relation to, and embeddedness in knowledge and an undoubted certainty of truth. The methodology from which such classic knowledge was considered, advocated “valid deductive logic, applied to axioms and unassailable first principles” (Gauch, 2003:44). The fundamental premise of classic knowledge pivoted on three conceptions noted as: valid deductive logic; axioms; and first principles, to which Barmpalias and Downey (2013:108) and the Internet Encyclopedia of Philosophy (2017) offers a linguistic explication of ‘valid deductive logic’ as that it reflects suppositions that carry such sound substantiation in favour of the inference that if the suppositions are true, it would be inconceivable for the inference to be false. ‘Valid deductive logic’ simultaneously encompasses two distinct properties namely validity and soundness, which are linguistically explained as follows: A deductive argument is valid, provided that the argument has adopted an appearance that renders it inconceivable for the ground principles to be factually accurate, in combination with a deduction that is consequentially false; and, a deductive argument reflects soundness, provided that the argument is both valid and its collection of ground principles are factually accurate (Internet Encyclopedia of Philosophy, 2017). The Cambridge English Dictionary (2017) respectively explicates ‘axioms’ as statements that are accepted as obvious truths, which shape the root of a claim or supposition, and ‘first principles’ as the fundamental and supreme rationale that initially incited an action. These three distinct methodological characteristics of *Scientia* are further explored and sequentially conceptualised by means of the following scholars’ explications thereto: Houser, Roberts and Van Evra (1997:264 - 270) illustrated deductive logic as that it’s scope comprises three prominent, dynamic features, listed as follows: progressing “from propositional to predicate logic; [proceeding] from symbolic to diagrammatic systems; and, [advancing] from two-valued to three-valued logic”; Eves (2012:32) and The English Oxford Living Dictionaries (2017: online) explain axioms as that an axiom represents “[a] statement or proposition, which is regarded as being established, accepted, or self-evidently true”; and, Irwin (1989:3) explains Aristotelian first principles as that it has its linguistic roots in the term *archai* or ‘origin’. First principles therefore imply: to obtain an irreducible teleological understanding of an object’s be-causes and properties, or its purpose, by means of a methodical (*methodos*) investigation that results in knowledge and science of the object (Irwin, 1989:3). Hereto, Chapter 3 of this study offers a detailed investigation into the teleological intent of Public Administration as a science; *Scientia* was therefore in its nature, a character trait, or a distinct property of knowledge, or an offshoot of philosophy that enabled an investigation and subsequent knowledge of the natural world; Evidently so, every field of study, extant in the classic period, was investigated to unearth the *Scientia* in it; and, the most descriptive post-modern linguistic rendition of *Scientia* would not be science, but

would more accurately be distinguished as certitude (an absolute conviction of knowledge and truth).

With respect to Table 2.1 that follows, Gauch (2003:44) clarifies that an Aristotelian denotation to *Scientia* encompasses two idiosyncratic rudiments that are explicated in the following manner: *Scientia*'s unique intention and manifestation hinges on concrete realism and not merely on the ostensive materialisation of an object; and, its tenacity reflects unambiguous certitude or absolute conviction, and not merely a share viewpoint or a modest likelihood. *Scientia* is therefore intelligence that is accurate, *bona fide*, irreducible in its first principles and of absolute conviction in terms of the natural world and realism in it. Figure 2.1 therefore presents Gauch's (2003:44) matrix options with supplement explications included from the Oxford Dictionary of English (2017), as a set of six resultant conditions that are deduced from the system of a science, which considers the following properties: appearance as the manner in which an object is perceived against opinion as 'a view or judgement formed about something that is not necessarily based on fact or knowledge', which result in a viewpoint or finding related to an object that is not based on fact or knowledge; appearance as the manner in which an object is perceived against probability as the extent to which something is likely to occur or be the case, which result in the method and degree to which a perception exists in terms of the likelihood of occurrence or the existence of an object; appearance as the manner in which an object is perceived against certainty, as a 'firm conviction that something is the case or that there exists a quality of being reliably true', which result in an unyielding perceived certitude about the existence of an object that displays a characteristic of being reliably true. Figure 2.1, in addition offers resultant matrix options incited by reality against opinion, probability and certainty as follows: reality is a state or quality of things as they actually exist, as opposed to an idealistic or notional idea of them against opinion as 'a view or judgement formed about something that is not necessarily based on fact or knowledge' that result in a viewpoint or finding about the state or quality of an object as it actually exists, which is not based on fact or knowledge; reality is a state or quality of things as it actually exists, as opposed to an idealistic or notional idea of reality against probability, denoted as the extent to which something is likely to occur or be the case that result in the method and degree to which a perception exists in terms of the likelihood of occurrence (state), or existence (quality) of an object as it actually subsists; and, reality is a state or quality of things as it actually exists, as opposed to an idealistic or notional idea of it, against certainty as a 'firm conviction that something is the case or that there exists a quality of being that is reliably true', which result in 'true and certain knowledge about reality that is justified on the basis of compelling reasons,

arguments and evidence, supplied by a rational method of inquiry' in which the latter is recognised as *Scientia*.

Figure 2.1 follows by providing a visual, tabular matrix display of Gauch's (2003:44) set of six resultant conditions in the system of science, together with conceptual explications of each of the six matrix conditions of science as it is propounded by the Oxford Dictionary of English (2016: online). Figure 2.1 instantaneously makes it possible to determine the classic understanding's locale of science (*Scientia*), against a post-modern understanding of science, which includes all six of the displayed matrix options.

**Table 2.1: A set of six matrix resultant conditions in the system of science**

| The First Principles of Knowledge (Rickaby, 1901:1 - 396)                                           |                                                                                                                                    |                                                                                                                  |                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                     | 'Opinion'                                                                                                                          | 'Probability'                                                                                                    | 'Certainty'                                                                                                                                                                                               |
|                                                                                                     | (A view or judgement formed about something not necessarily based on fact or knowledge')                                           | (The extent to which something is likely to happen or be the case')                                              | 'A firm conviction that something is the case. The quality of being reliably true')                                                                                                                       |
| 'Appearance'<br>(The manner in which an object is perceived')                                       | A viewpoint or ruling, related to the manner in which an object is perceived that is not based on fact or knowledge.               | A perception of the possibility of occurrence or the potential existence of an object.                           | An unyielding perceived certitude about the existence of an object that displays the characteristics of being reliably true.                                                                              |
| 'Reality'<br>(The state or quality of things as they actually exist, as opposed to an idealistic or | A viewpoint or ruling, related to the state or quality of an object as it actually exists, that is not based on fact or knowledge. | The possibility of occurrence or potential existence of the state or quality of an object as it actually exists. | ' <b>Scientia</b> '<br>(True and certain knowledge about reality that is justified on the basis of compelling reasons, arguments and evidence, supplied by rational method of inquiry), (Gauch, 2003:44). |

**Source:** Irwin (1989:3); Houser, Roberts and Van Evra (1997:264 - 270); Gauch, 2003:44; Eves (2012:32); The Cambridge English Dictionary (2017); The English Oxford Living Dictionaries (2017); and The Internet Encyclopedia of Philosophy (2017)

Contrasted against the afore described classic interpretation of science, Gauch (2003:44) illuminates a post-modern linguistic appreciation of science as that such a science refers to an entire field of knowledge concerning the physical world; whereas science, considered in a classic context, is denoted as *filosofia naturale* or "natural philosophy", a sub-field of philosophy that enabled an investigation of the physical world; in comparison, a post-modern linguistic appreciation of science denotes science as an autonomous branch of learning, instead of it being a sub-entity of philosophy; therefore, science within a post-modern ambit

includes a set of conditions that represents all the possible matrix-combinations reflected in Figure 2.1; post-modern science will also pose 'probable' and 'certain' knowledge; and, post-modern science appreciates the fact that mere 'opinions' or hypotheses have the ability to augment scientific investigations and scientific development.

What is of considerable importance at the basis of linguistic explication to the terminology that is applied in Chapter 2, is the fact that reference to 'science', as opposed to 'a science, or the science of', carries within it a critical linguistic nuance, as the linguistic explication transfers a conceptual understanding of science from an autonomous branch of learning ('science'), often recognised as natural, social or management science *per se*, to a distinct method of inquiry ('a science', or 'the science of'), extant to, or applied in the field of study. Science, as method of enquiry may be one of the ways in which a field of study's ontological expressions are realised. An example hereof is illustrated in the fact that Public Administration as academic discipline expresses itself by means of a science, an art and a craft, in which each of these expressions honour a different teleological end or purpose within the discipline. Such a configuration therefore occurs merely by the application of "a" as determinant, in which "a" reflects the significant implication that reference is made to science in its particular ontological expression, through which a field of study such as Public Administration articulates itself.

Public Administration as academic discipline, responding to both the Social and Management sciences, offers a pellucid explication to the statements made above. Public Administration as field of study's relation to both the Social and Management type of sciences, implies that this discipline's scope in its scientific expression resembles the following properties: a scientific model; and general laws that permit the ability to investigate societies, in particular, human needs in such societies and the immediate affected domains, identified in the National Development Plan (NDP, 2011) such as: poverty and unemployment; inequality; education; infrastructure; an unsustainable resource-intensive growth path; spatial challenges; health; as well as the organisation of public institutions and corruption within; uneven performance in public institutions; complex public problem solving; and decision-making. A factor that intensifies the complexity within the domain of Public Administration significantly, is that human needs and the public institutional challenges vary significantly from state to state. Human needs and public institutions vary significantly in presentation between developing nations and developed nations. Transferability thus in theoretically-based scientific solutions from nation to nation becomes highly improbable, since the circumstances that incited such dilemmas in the first instance, vary appreciably in nature.

Based on Public Administration's relation to the Social and Management sciences, Public Administration, in its scientific expression, displays characteristics similar to that of the latter two sciences, rather than to that of Natural science. Figure 2.2 that follows will offer a condensed, comparative synopsis of a model that resonates across most sciences, as well as the unescapable variance in laws of scientific application in the respective sciences. Rossi (2013:192) points out that in 1603, Sir Francis Bacon introduced the first concepts of the scientific method in *The Valerius Terminus* of the Interpretation of Nature. In 1620, Bacon concretised the fundamental ideas of scientific method in empirical approach in *Novum Organum sive interpretatione naturae*, as follows (Rossi, 2013:192): i) a scientist commences the scientific process by collecting "first vantage data" that is devoid of any prior explanations or presuppositions; ii) from the collected "first vantage data", which is now recognised as evidence provided through sense experience, existing theories can be iteratively tested and refined against the empirical evidence; iii) The primary teleological intent behind the scientific method is to reach, confirm or deny a general truth; and iv) scientists have to be meticulous in averting "cognitive bias", or as Francis Bacon called it "idols of the mind". Two aspects of particular interest to note at this point is documented as follows: the first note considers the manner in which Sir Karl Popper's 'principle of falsifiability' is in agreement with Sir Bacon's description of the scientific method; and the second note relates to the different research approach followed in Public Administration, where theory is first and foremost identified, followed by a statutory, legislative and regulatory framework related to the phenomenon under investigation, which is then followed by an empirical investigation. The question in the latter instance is: why is Bacon and Popper's principle of falsifiability notably absent in Public Administration theory? Could it be that the method of scientific investigation in Public Administration has adopted a nature of its own over time?

Kirchgässner (2008:249) informs that both the Natural and Social sciences apply the same deductive-nomological model of explanation, which in essence represents a prescribed interpretation of a scientific response to the question 'why?' The deductive-nomological model of explanation postulates scientific elucidation as a deductive arrangement in which truth of its suppositions lead to truth of its inference that is entirely dependent upon exact prognostication or retro-diction (the construction of historical conditions by depending on the contemporary), related to the phenomena or anomaly that requires an explanation (Woodward, 2011). Walton (2014:1) propounds that logic reasoning presents itself by means of three distinct types of argument, which are: deductive reasoning; inductive reasoning; and the diversely named abductive reasoning, in which the latter is also recognised as "presumptive, defeasible or plausibilistic" reasoning. Hurley (2000:33), (cited in Walton, 2014:2) conceptualises deductive reasoning as "an argument in which the premises are claimed to support the conclusion in

such a way that it is impossible for the premises to be true and the conclusion false.” Walton (2014:3) confirms these statements that inductive reasoning implies that “it is improbable (to some degree) that the conclusion is false, given that the premises are true”, or, abductive reasoning refers to the fact that “it is implausible that the premises are true and the conclusion is false.” In addition to the generally applied model of logic reasoning, Bradford (2015) explains scientific law as that it provides a narrative of the observed phenomenon. Scientific law neither explicates the phenomenon’s existence nor that which has caused it. The latter two elements of clarification (existence and causation) only becomes evident once a scientific theory has been formulated to explain the existence and the causation of the phenomenon in question. Hacking (2012:xxxi) presents the five distinct values of scientific theory in the manner that Thomas S. Kuhn evaluated scientific theory as follows: A scientific theory should be- a) exact in its prognostications; b) reliable, dependable and constant; c) wide-ranging in scope; d) exhibit phenomena in a systematic, organised and logical manner; and e) prolific in signifying new phenomena or associations between phenomena. A distinction between the Natural and Social sciences is thus not found in the applied model, but rather in the different general laws that only provide a particular framework within which the phenomena is narrated. The framework that shapes the ambit within which narratives of the Social or Management type sciences are modelled, are highlighted as follows: These types of scientists have no control over human behaviour, social structures or individual free will (McIntyre, 2013:374) and (Hunt & Colander, 2016:8). Both Biddell (1997) and Bowers Andrews (2006:68) reflect upon the free will versus determinism discourse, to which they remark that: social scientists value both free will and determinism, as human beings and the environment within which they subsist are indissolubly intertwined; Events that present phenomena appear to be spontaneous and cause barren (Woelfel & Fink, 1980:2), which perhaps in itself requires a whole different study, as knowledge of the fundamental deficiency and growth needs of human beings, illuminate their state of being and subsequent reactive behaviour to experienced circumstances, as Levy and Glimcher (2016:86) justly state: “If the instantiation of all behaviour rests in neutral activity, then understanding the underlying mechanisms of choice will help us build novel theories that are based not upon arbitrary axioms but natural axioms that are the result of the general and basic physiological principles governing neutral activity and hence behaviour”. A different study, in which the teleological explication reposes in behavioural predictability may therefore demonstrate that by having a prodigious understanding of the neurological and psychological state of human beings in search of satisfying deficiency needs (physiological or metabolic, safety and security, love and belonging) and growth needs (self-esteem, self-actualisation, and self-transcendence), (Maslow, 2019; Attfeld, 2017; and Carr, Arthur & Kristjánsson, 2016:224) within a particular environment, in other words, the human condition in its environment may prove not be unpredictable in its entirety (Levy and Glimcher, 2016:86);

Returning to this study, Rosenau (1991:21) claims that spontaneous phenomena brings forth variables that are unpredictable and uncontrollable. Behavioural, Social (Furco, 2014:19) and Management Sciences (Vickers, 2013:50) often encounter variables that are ambiguous, unpredictable and methodologically uncontrollable; Observation and experiment is merely one of these science's scientific methods of inquiry (Koch, 2013:5); The substitute of exponential data requires the application of alternative methods of observation and interaction with members of societies and institutions (Iphofen, 2011:77); and, These types of science present an open system (Bhaskar, 1978:14, 229 & 1986:133) and (Shipway, 2010:76, 77). Von Bertalanffy (2015:4) conceptualises open systems as structures that permit interactions between their *milieu interieur*, internal rudiments and the environment, therefore "an open system is a system in exchange of matter with its environment, presenting import and export, building-up and breaking-down of its material components." Bhaskar (1978:14, 229 & 1986:133) and Shipway (2010:77) explicate that the majority of occurrences in the Social, Behavioural and Management Sciences, manifest themselves in open systems, in which the variety of mutually-regulating instruments, enhance the potential to extrapolate continued aggregations between cause and effect. Shipway (2010:77) contends that the only occurrences in which the social sciences will ever come into contact with 'objects of knowledge', will be in open systems. In light of Figure 1.1 in Chapter 1, the question is: is Shipway's (2010:77) statement still true for Public Administration or has it just been falsified considering the topography of Quadrant 1? The objects of knowledge that are held by Quadrant 1 has the potential, should it be investigated to deliver *noumenal* knowledge, in other words, knowledge of Public Administration in itself.

Juxtaposed against the Behavioural, Social or Management type sciences, Natural Science offers the following laws within which scientific research is conducted, and, which vary significantly in its character from that of the Behavioural, Social or Management type sciences: Gibson (2001:205) and Shi (2007:455) recognise that there is control over the research environment, subject to the prescribed strictures of natural laws; research in Natural Science necessitates exactness that dictates precision, accuracy, correctness and veracity (Hübsch, 2015:11); A high level of predictability (West & Deering, 1995:40); Observation and experiment is the scientific method, recognised in the Natural Sciences (Kockelmans, 2012:123); Repetitive and conventional experiments are performed in laboratories (Hacking, 2012:xii; Kuhn, 1962; 2012:126, 129, 134); and, the Natural sciences function in a closed system (Bhaskar, 1978:14, 229) and (Shipway, 2010:76, 77), which in essence remains remote and insulated during experimentation from its external environment. Shipway (2010:77) explains that experimentation in the Natural Sciences occur in meticulously engineered conditions that produce an environment in which that which is real, that which is actual and that which is

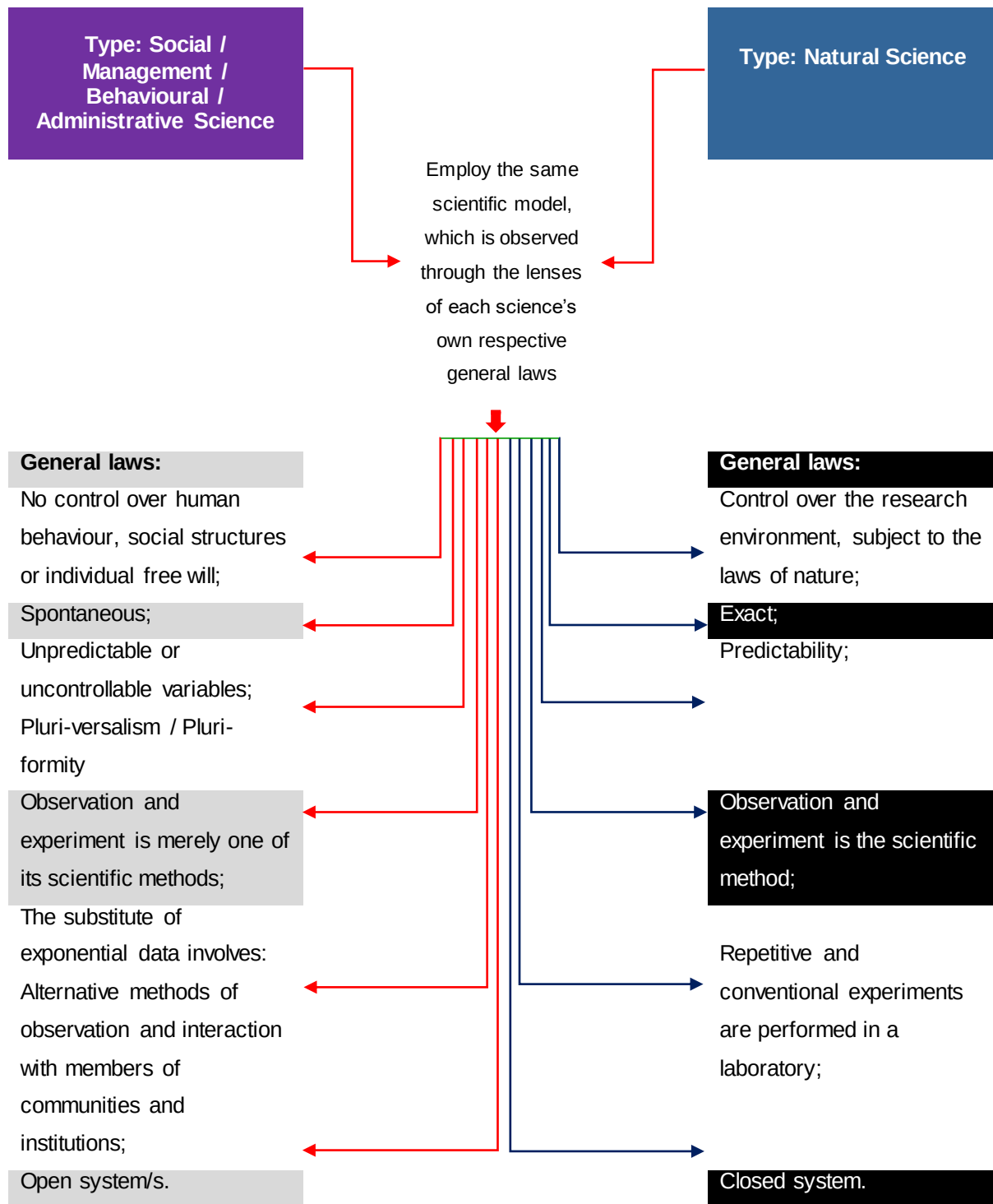


empirical form an intersection that: a) isolates the experiment from any obscuring effects; b) and the influence of any additional unknown operative apparatus', as the experiment represents a single causally effectual apparatus.

With reference to Bhaskar (1978:14, 229), Von Bertalanffy (2015:4) and Shipway's (2010:76, 77) explanation of the closed system, operative in Natural Science, it is noted that no reference is made to the fact that even though the *milieu interieur* is not affected in structure or theoretical conceptualisation by external influences, matter is still exchanged between the internal rudiments (nodal entities in the corporeal morphology or the anatomy of a science) within the *milieu interieur* of Natural Science. Brief examples are offered such as that whether a system in a science is in the state of closed or open systems, exchange in matter between a nodal entity such as quotidian science and a nodal entity such as the paradigm of a science, and quotidian science and a nodal entity such as the protective membrane continue to occur. Lucid advanced explanatory examples hereof that are reflected during a discussion of the systemic behavioural patterns of nodal entities within a science, later in this chapter.

Based on such an understanding, Figure 2.1 illustrates a comparative synopsis of a similar scientific model that resonates across all sciences, and a variation in the unescapable laws of scientific application between the Social, Behavioural, Administrative and Management Sciences, as contrasted against the Natural Sciences.

**Figure 2.1: A comparative synopsis of the unescapable laws of scientific application in varying sciences**



**Source:** Kuhn (1962; 2012:126, 129, 134); Bhaskar (1978:14, 229 & 1986:133); Woelfel and Fink (1980:2); Rosenau (1991:21); West and Deering (1995:40); Biddell (1997); Hurley (2000:33); Bowers Andrews (2006:68); Shi (2007:455); Kirchgässner (2008:249); Shipway (2010:76, 77); Iphofen (2011:33); Hacking (2012:xii, xxxi); Kockelmans (2012:123); Gibson (2013:205); Koch (2013:5);

McIntyre (2013:357); Vickers (2013:50); Furco (2014:19); Walton (2014:1); Bradford (2015); Hübsch (2015:11); Von Bertalanffy (2015:4); Carr, Arthur and Kristjánsson (2016:224); Hunt and Colander (2016:8); Levy and Glimcher (2016:86); Attfield (2017); and Maslow (2019)

Against the backdrop of a classic-post-modern linguistic appreciation of a set of resultant conditions within the continuously evolving system of a science, which are recognised by a scientific model and regulated by teleologically driven laws, this study resumes to probe deeper into the nature of a science by investigating the essence of a functional conceptualisation of a science. Section 2.2.2 thus follows with a critical analysis of an operant conceptualisation of a science that is primarily aimed at establishing linguistic clarity.

### **2.2.2 An operant conceptualisation of a science**

As preface to an operant conceptualisation of a science, it is imperative to draw attention to the fact that Chapter 2 investigates both the anatomy (bodily form and structure) and the physiology (functions of nodal entities within a science) of Public Administration as a science. Within such an investigation, this study recognises that whenever reference is made to a science, human activities and products, as well as nodal physiological activities and products will be present and omission or neglect to recognise either one of these two properties in a science, will lead to a minimalised, obscured or distorted representation of a science. Such obscured results will become visible, particularly when complex empirical phenomena and anomalies (that exist in an environment, external<sup>a</sup> to that of a science), as well as *noumena* (that exist in an environment, internal<sup>a</sup> to that of a science), in the philosophical and the philosophy of a science within a field of study are investigated. Based on the fact that Public Administration resides within the same ambit as the Social (Vermeulen, 2019:284-306), Management and Administrative Sciences, it is of critical significance to recollect a previously mentioned fact. The fact in reference advocates that Public Administration's ontological expression as science, display both a scientific model and laws, similar in nature to that of the Social and Administrative Sciences. During the linguistic explanation of this study, it is therefore essential to recognise that these types of sciences, inclusive of Public Administration, reflect an open system as one of the laws regulating the environment within which the science is effectively functional. Observations, in reference to an open system, made by Bhaskar (1978:14, 229 & 1986:133), Von Bertalanffy (2015:4), Shipway, (2010:76, 77) and Iphofen (2011:33), enable a linguistic clarity, highly relevant to this investigation as follows: a) there are structures (a variety of mutually regulating instruments that enhance the potential to extrapolate continued aggregations between cause and effect) in a science that

permits interactions between nodal entities within a science such as the manner in which a paradigm as nodal entity in a science affects for example quotidian science; b) activities amongst nodal entities (internal rudiments) within the internal milieu of a science occur with the purpose of exchanging matter (Shipway, 2010:67). At a later stage in this chapter, the nature and character of each nodal entity in a science will be illustrated and theorised upon in detail, as well as nodal entities' systemic physiological relations, which will clearly substantiate the 'exchange of matter' that is referred to here. In the interest of an immediate example, an exchange of internal 'matter' includes, amongst others, an extremely rigid framework, offered by a spatio-temporal paradigm or paradigms (as a nodal entity) in a science, to support the regular functioning of quotidian science, as Kuhn (1962; 2012: xlv, 5 - 7, 10, 24, 27 - 43, 46, 52, 57 - 58, 64 - 65, 67, 69, 75, 80, 87 - 88, 96 - 97, 100 - 101 - 110, 122, 144, 161 - 165, 199) and Hacking (2012:x, xv - xvii, xxi, xvi - xvii, xxxiii, xxxiv) referred to quotidian science as normal science, in the fulfilment of quotidian science's primary purpose, being that of a problem or puzzle solving entity; and c) an interactive exchange between the *milieu interieur* and *milieu exterieur* to that of the science, which in brief example occurs between an external environment that pose phenomena and anomalies to the science in exchange of solutions from either quotidian science (as nodal entity) or exceptional solutions (changes in the theory of a science) from extraordinary science (as nodal entity), the latter (extraordinary science) also being a term, devised by Kuhn, (1962; 2012:6, 83, 86 - 91, 101, 153, 165 - 166) to explicate extraordinary investigations that direct the field of study towards new knowledge. The significance of open systems and the interactive behaviour between the *milieu interieur* and *milieu exterieur*, to that of Social, Management or Administrative Sciences, find meaning in the fact that according to Shipway (2010:77), is the only contact which these sciences have with objects of knowledge. In the Social sciences, empirical phenomena and anomalies (that exist in an environment external<sup>b</sup> to that of a science) include examples such as socio-political, socio-economic, socio-cultural, political-economic, technological, environmental, legal, security and public administration afflictions that inhibit or inflict human being's natural existence and subsequent physiological or metabolic and growth needs. *Noumena* (that exist within an environment, internal<sup>a</sup> to that of a science in a field of study) includes incidences of anomalies that occur within the corporeal morphology, physiology, philosophical science, philosophy of a science, systemic expressions, and the spatio-temporal historical advancement of a science, such as that the aforementioned remain unrecognised, unexamined and unexplained, which result in the obstructed potential of a science in a field of study to progress naturally and to offer extraordinary theory advancement.

Before linguistic meaning is given to an operant conceptualisation of a science, it is similarly important to explicate that this study will progressively provide more detailed accounts of

scientific properties or nodal entities in the anatomy and physiology of a science, in addition to that which are displayed in this particular section, as this section of the study is devoted merely to establish a collective linguistic and conceptual underpinning.

Merton (1973:47 – 69), described an operative conceptualisation of a science or the ethos of a science as follows: A science's ethos comprises six basic elements, identified as the aim of a science; scientific activities; the product of a science; the method of a science; M-rules within a science; and the attitudes of scientists in a science. Paragraphs 2.2.2.1 to 2.2.2.6 follow in an attempt to deliberate upon a linguistic explication and the philosophical properties hosted by each of these respective elements as they appear in a science.

Merton (1973:47 – 69) conceptualises each of a science's basic six elements as follows:

- Scientific “aim” - scientific activity includes a collection of aims, innate to a science such as “knowledge, testability, prediction, and explanation”.
- Scientific “activity” – a science is an activity that is notable only amongst humans. Prior to significant investigation, it is evident that a science displays human activities such as observation, collection and classification of data, assembling and executing experiments, formulating hypotheses, theories, models, and establishing evidence are recognised, but a science tends to conversely display less noticeable activities in and amongst nodal entities inherent to a science as well. Considering Kuhn's (1962; 2012:43 - 173) thorough explication of a paradigm or paradigms as nodal entity or entities in a science, and the effect that it has on quotidian science as nodal entity in a science, unequivocally confirms the suggestion of activities in and amongst nodal entities. What is of much greater significance, is the phenomena of how it is possible for inorganic objects (abstract and concrete) and the entities, universals and particulars that shape such objects, to have internal and external causal relationships, which this chapter attempts to address later.
- Scientific “products” – science axiomatically refers to the concluding result that the activity will yield concrete artefacts such as books, dissertations, theses, and academic articles, reports of observed accounts, theories, models, and a *posteriori* knowledge. Similarly, to scientific activities, what is of much greater significance is the phenomena of products stemming from understanding the *noumena* in inorganic objects (abstract and concrete) and for such entities, universals and particulars that shape such objects, to present *noumenal* products, which this chapter attempts to address later.
- Scientific “method” – Additional to Merton's (1973:47 – 69) consideration of scientific method, Gauch (2003:124) suggests the ellipsis PEL, which represents the following:

(P) presuppositions; (E) evidence; and (L) logic which in combination support scientific deductions. As previously mentioned, Rossi's (2013:192) distinct element relevant to scientific method as inherited from Bacon and later Popper's scientific method.

- "M-rules" (Methodological rules) – Nola and Irzik (2006:195 – 199) – An exposition that has reference to M-rules immediately evokes a meta-methodological investigation of its own, which when considered under this research investigation's title, problem statement, research questions and objectives need to stand over for another research investigation that primarily focusses on the meta-methodological status of Public Administration as science. However, Nola and Irzik (2006:198) introduce these science relevant rules of Methodology as follows: M-rules are fundamentally considered in the science of a discipline to review, appraise or select hypotheses and theories; and there are similarly M-rules that need to be considered in the assembly or unearthing of laws, hypotheses, theories and model building. To give meaning to the afore-mentioned explication of M-rules, Nola and Irzik (2006:196 - 198) highlight four M-rules that stem from the natural sciences as follows: "Rule 1 – We are to admit no more causes of natural things than such as are both true and sufficient to explain their appearances; Rule 2 – Therefore, to the same natural effects we must, as far as possible, assign the same causes." The afore-described two M-rules have a strong relation to parsimony as mentioned in Chapter 1 of this study.; "Rule 3 – [states that]: The qualities in bodies within the reach of our experiments, are to be esteemed the universal qualities of all bodies whatsoever; and Rule 4 – In experimental philosophy, we are to look upon propositions inferred by general induction from phenomena as accurately or very nearly true, notwithstanding any contrary hypotheses that may be imagined." The latter two M-rules have a direct reference to the use of inductive inference in a science. These four M-rules stand as examples of M-rules and are by no means insinuated for direct use in Public Administration, as it merely serves as point of explication and consideration during an investigation and construction of M-rules in Public Administration as science.
- Scientific "attitudes" – the attitudes that scientists are expected to imitate are listed as follows: scientists need to engage in uninhibited critical discourse; scientists need to display an alacrity to alter their viewpoints when valid arguments are posed; scientists are required to display cerebral integrity; scientists are obligated to apply apposite scientific methods from which outcomes are derived; and scientists have to be unrestricted from political and religious bias in their selection of theory.

### 2.2.2.1 A linguistic explication of the aim of a science

Merton (1973:47 – 69), (cited by Nola & Irzik, 2005:202, 203) described an operative conceptualisation of a science, or the ethos of a science as that it includes distinct elements, of which a science's 'aim' is linguistically explicated in this section. A representation of the 'aim' of a science, as it will be understood in this study, and a normative description of the term 'aim' is included here as it is referred to in the English Oxford Living Dictionaries (2016). The English Oxford Living Dictionaries (2016) describe the term 'aim', in its noun format, as that it represents the purpose, intention, end, or primary objective of something. Such a description instantaneously reminds of a fundamental connection to a philosophical property appreciated as Teleology, as the latter represents a study (*logia*) and thus a theoretical explanation of occurrences and objects by means of the purpose or end (*telos* or *teleios*) that such objects fulfil and in this, give meaning to its own unique explanation of why an object is the way that it is. Reference needs to be made here to Chapters 1 and 3 of this study, in which detailed theoretical explications of the term Teleology and all its inherent properties and processes are offered. Merton's (1973:47 – 69) 'aim', as element of a science therefore has a direct relation to the teleological explication of an object such as a science, as Teleology implies an investigation into the purpose, intent or perfect end of an object, which in this investigation is a science as one of the ontological expressions within Public Administration. A fundamental theoretically sound differentiation in purpose, between the Natural Sciences and Social Sciences, can only be observed once a comprehensive teleological investigation and explication of these two objects in all their teleological properties and their inherent first principles have been conducted. Based on the fact that extensive explications are dedicated to an understanding of Teleology in Chapter 3, this paragraph only offers a minimalistic linguistic differentiation in purpose between the Natural and Social Sciences, namely that: the natural sciences, as a branch of science's highest aim or purpose lies embedded in an investigation towards cognition of the physical world, in which specific scientific methods of observation and experiment are employed (Buckley, 1992:10); As an opposing thought, the Social, Management and Administrative Sciences investigate society and social relationships as it is organised and progressed or prevented by distinct objects in a society, in which absolute, rule-bound scientific methods are merely one of the methodological devices of inquiry, through which an understanding of society, social relationships and objects in such a society are acquired (Rescher, 2009:75). The implications of such an understanding immediately evoke a recognition of the fact that a science, recognised as one of the ontological expressions extant in Public Administration's teleological aim, differs significantly in purpose or aim from a discipline such as Sociology, Political Science or Business Management, as Public Administration's focus is underpinned by the recognition and progressively addressed

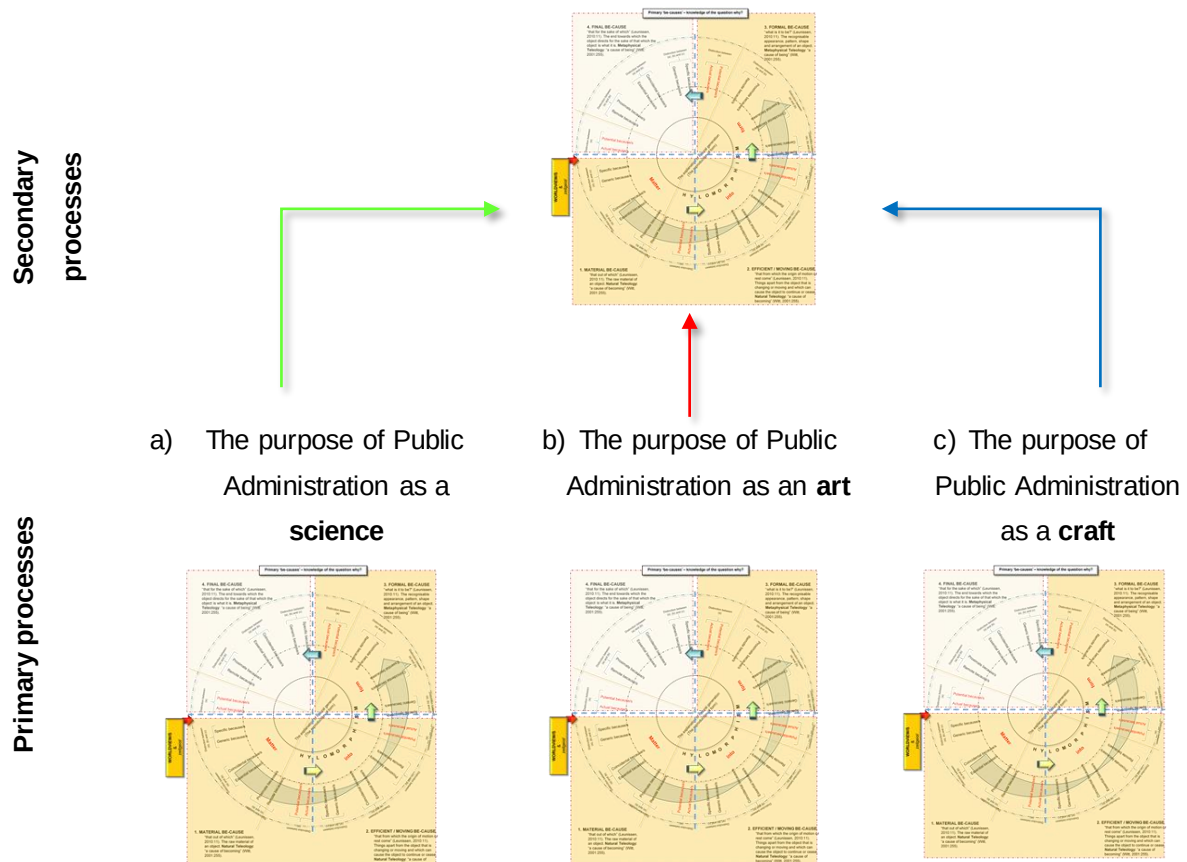
transformation of distinct societal needs within the ambit of a public administration institution's adeptness to provide in, or obstruct the deliverance from such needs within the strictures of a statutory, legislative and regulatory framework, within a particular political form of state and such a state's intent. In the case of the latter, inquiries that have the potential to raise attention in Public Administration is effortlessly formulated as to whether public institutions that reflect a hierarchical organisation in a contemporary democracy, are truthfully the finest institutional arrangement in a post-modern era to address citizens' needs, or, to what extent does the potential persist to manipulate such public administrative institutions' hierarchical structures into serving the needs of a political leadership? Such an example of an inquiry would however be typical to an outward focus of the academic discipline, which in the case of this study adopts a secondary position as the study primarily focusses on the *noumenal* physiognomies of Public Administration as science from within the science as object.

Figure 2.2 follows by presenting a visual depiction of the primary and secondary processes that has the capacity to determine the Teleology or purpose of Public Administration as academic discipline in its ontological plurality. The teleological meta-theoretical framework (presented four times in Figure 2.2, as it emanated from an in-depth study on Aristotelian reverse causation and hylemorphism in Chapter 3 of this study), highlights the primary processes of determining the purpose of Public Administration as: a) a science; b) an art; and c) a craft, each in its unique teleological expression. The primary processes of determining the purpose of each of these three expressions of Public Administration as field of study then individually feeds into the collective Teleology or purpose of the discipline as a whole, similarly by means of the teleological meta-theoretical framework, which reflects reverse causation and hylomorphism (Manning, 2013:173 - 187) as the fundamental processes. The afore described processes then result in constructing a segment of Public Administration's philosophical theory, namely the teleology of Public Administration as a science, contained in Apex I, and as referred to in Chapter 1. Chapter 2 will furthermore, during the investigation of the corporeal morphology of a science, position Teleology in its regional space, recognised as nodal entity 6, the nucleus triads within a science. Post recognition of these secondary and primary processes, it is possible to comprehend Public Administration in its all-inclusive purpose that encapsulates the final, material, efficient or moving and formal 'be-causes' that motivate the purpose of this discipline as a whole. The meta-theoretical frameworks were minimised in Figure 2.2, but for the purpose of visibility, a large scale depiction of the teleological meta-theoretical framework and all its inherent properties appear in Chapter 3 of this study.



**Figure 2.2 A visual depiction of the processes that determines the Teleology (purpose) of Public Administration as academic discipline in its ontological plurality**

**The purpose of Public Administration as academic discipline in its ontological plurality**



**Source:** Author's perspective

Though this chapter focusses primarily on Public Administration as a science, the inclusion of the following paragraphs is motivated by both the facts: that it is only in comparison that a variance in purpose between objects is recognised (Melas, 1994:40); and Public Administration as art and as craft are inseparable parts of Public Administration as a science. As mentioned on a number of occasions in Chapter 2, P(p)ublic A(a)ministration as academic discipline and as practice carries within itself, three exceedingly powerful ontological expressions that each serves a unique teleological end, towards the fulfilment of Public Administration as science in its purpose. Mintzberg (2005:93; 2009:10, 127) and Gram (2010) illustrated the basis from which each of these coercive expressions are firstly understood, and secondly transformed to address the discipline of Public Administration as follows: a) Science,

as an ontological expression in Public Administration's teleological end has reference to a logic and systematic analysis that aims specifically towards knowledge acquisition in the application of extraordinary science, phenomenal problem solving and the theoretical advancement of a paradigm or simultaneously active paradigms, in the application of quotidian science; b) In contrast, art, as an ontological expression in Public Administration's teleological end determines visionary novelty in terms of a government's intent to organise public institutions in such a manner that it is able to address a citizenry's human needs, a coinciding strategy, resource allocation (human and finances) and inherent public institutional organisation within the strictures of a statutory, legislative, regulatory and mandatory body of knowledge with the specific aim of manifesting efficiency, effectiveness and economy. The physiognomies and distinguishable power of art, for example is recognised in scripts dating back to the 6<sup>th</sup> Century BC (The axial or pivotal age), (Jaspers, 2021), when a classic strategist and tactician's philosophy such as Sun Tzu (544 – 496 BC), as well as a classic philosopher such as Plato's thoughts in terms of the power of art becomes known. An example thereof is considered as follows: During a historical investigation into the ancient world of Plato (428/427 BC, Athens, Greece – 348/347 BC, Athens, Greece), (Reeve, 2006:xi), Aristotle (384 BC, Stagira, Chalcidice, Northern Greece - 322 BC, Euboea, Greece, Macedonian Empire), (Natali, 2013:8), Sun Tzu (544 BC, Qi State, China – 496 BC, Wu State, China), (McNeilly, 2015:1) and Confucius (551 BC, Lu State, China – 479 BC, Lu State, China), (Kaizuka, 2002:42) and their respective philosophies on science, art and craft, documented evidence divulges meaningful factual data for consideration in this study. Plato (Book X, *The Republic*) recognised the formidable esoteric character traits, extant in art as that: "art has within itself a power, unlike any other human endeavours – it has the power to produce human emotions that no other enterprise can."; and, no matter which form art adopts, the power remains (Daichendt, 2011:105, 152; Lewis & Lewis, 2013:vii, xv, xvi, 2, 15, 19, 32, 72, 243). Plato was so unsettled by the emotional power that art evoked and the threat that such power (art) posed to political power, where law and reason (the philosophy of science) strictly reigns, that in his version of the ideal State, depicted in Book X of *The Republic*, Sophists (poets) were banned (Plato, Book X, *The Republic*). The centre of Plato's fear in such a power dichotomy pivots on epistemological grounds as Greek citizens opted to believe that truth and knowledge originated from Sophists and reciters of such poetry, whereas Plato believed that truth and knowledge stemmed from philosophers only. Tsar Nicolas I (1796 – 1855) perhaps shared Plato's sentiments when his path crossed that of Alexander Sergeyevich Pushkin (1799 – 1837). In addition, the recently discovered 13 *Henqueshan Han Slips* or bamboo strips (1972) that hold Sun Tzu's philosophy to the art of war (circa 544 – 496 BC) carries within it a significant resemblance to the properties that are of critical importance to Public Administration as art. Even though Sun Tzu's 13 scripts pivot on the art of warfare, a resilient relation to

Public Administration as art can be made, both in phenomenal and *noumenal* substance, particularly in Public Administration's two manifested objects namely, Public Administration as academic discipline and public administration as practice, which are outlined in Table 2.2 that follows.

**Table 2.2: A recognition of the phenomenal and *noumenal* physiognomies of Public Administration as art in comparative relation to Sun Tzu's art of war**

| Sun Tzu and the art of war                                                                              | Public Administration as art                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                         | Phenomenal<br>(the art of Public Administration)                                                                                                                                                                                                                                                                                                                                                                                                                                            | <i>Noumenal</i><br>(the art of Public Administration in itself)                                                                                                                                                                                                                                                               |
| Sun Tzu (771 – 476 BC; 2006:5): "It is of vital importance to the state."                               | The phenomenal disposition of Public Administration in its ontological expression as art is of vital importance to the sustained, visionary advancement of the political, economic, social, technological, environmental and legal intent of a state, without which these properties inherent to a state remains disengaged and devoid of empirical visionary novelty and intelligence. This phenomenal disposition is often visible through protest marches and industrial protest action. | The <i>noumenal</i> disposition of Public Administration as art reveals a power so strong that in itself, has the capacity to evoke irrepressible human emotions, a power thus that in its philosophical physiognomies reflects as a force of continued consideration as it reveals an expressed, emotive status of a nation. |
| Sun Tzu (771 – 476 BC; 2006:5): "It is a matter of life and death, a road to either safety or to ruin." | The phenomenal disposition of Public Administration as art inherently contains the power to life or death, safety or ruin if its offering to citizens is inoperative or inept and devoid of visionary novelty in finding solutions to extraordinary complex empirical phenomena such as poverty alleviation,                                                                                                                                                                                | The <i>noumenal</i> disposition of Public Administration as art offers a power so strong that in itself, has the capacity to evoke life or death, safety or ruin. The teleological, ontological, epistemological, methodological, axiological and ikanological explications of such a form of power reveals a                 |

| Sun Tzu and the art of war                                                                                                                                                                  | Public Administration as art                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                             | Phenomenal<br>(the art of Public Administration)                                                                                                                                                                                                                                                                                                                        | <i>Noumenal</i><br>(the art of Public Administration in itself)                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                             | health, education and inequality and as such, concurrently remains bereft of effectiveness, efficiency and economy as outputs.                                                                                                                                                                                                                                          | significant dissimilarity in purpose, source, state, expression, condition, theory of knowledge and truth, principles, methods, rules, postulates, norms and values, and skills and competence required, as opposed to that which is required in Social, Political and Management sciences.                                                                                       |
| Sun Tzu (771 – 476 BC; 2006:5): “It is a subject of inquiry, which can on no account be neglected.”                                                                                         | The effects of neglecting Public Administration as art in its phenomenal disposition result in a discipline and practice that are devoid of visionary novelty towards efficiency, effectiveness and economy and intelligent foresight in a state, which in turn has far reaching consequences such as a public institution that lacks visionary, innovative foresight.  | The effects of neglecting Public Administration as art in its <i>noumenal</i> disposition, results in a discipline and practice that are devoid of an intelligent philosophical and historical trajectory the purpose, nature of being, theory of knowledge and truth, methodology, norms and values, and skills and competence that this form of power contains and simulates.   |
| Sun Tzu (771 – 476 BC; 2006:5): “It is governed by five constant factors to be taken into account in one’s deliberations, when seeking to determine the conditions obtaining in the field.” | The phenomenal disposition of Public Administration as art is governed by two primary factors namely human needs and public institution organisation, and the following secondary factors namely moral law, a statutory, legislative and regulative body of knowledge, the cognition, awareness and implementation of reform, transformation, continuous monitoring and | The <i>noumenal</i> disposition of Public Administration as art is governed by six primary philosophical factors noted as: the teleology, ontology, epistemology, methodology, axiology and ikanology that explicate such a form of power as well as the philosophy of Public Administration as art, which carries within itself systemic expressions, worldviews and the spatio- |

| Sun Tzu and the art of war                                                                                                                                                                                       | Public Administration as art                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                  | Phenomenal<br>(the art of Public Administration)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Noumenal<br>(the art of Public Administration in itself)                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                  | evaluation, zeitgeist, the cognition, awareness and implementation of geographical and demographical investigation as well as risk management.                                                                                                                                                                                                                                                                                                                                                                                               | temporal historical advancements of Public Administration as art.                                                                                                                                                                                                                                    |
| 1. Sun Tzu (771 – 476 BC; 2006:5): “The moral law, which causes the people to be in complete accord with their ruler, is that they will follow him [/ her] regardless of their lives, undismayed by any danger.” | <p>“[A]n absolute principle defining the criteria of [positively contributing] action[s] (whether conceived as a divine ordinance or a truth of reason)” Oxford English Dictionaries, 2017).</p> <p>Recognisable properties of empirical phenomenal objects in Public Administration as art thus includes the consideration of <i>trias politica</i> and a state specific statutory, legislative and regulatory framework, which shape the moral strictures within which the art of Public Administration is investigated and practiced.</p> | The axiological investigation of morality as unequivocal rule that conceptualises the principles of positively contributing actions is exhibited as philosophical element in the art of Public Administration.                                                                                       |
| 2. Sun Tzu (771 – 476 BC; 2006:6): “Heaven signifies night and day, cold and heat, times and seasons.”                                                                                                           | Phenomenal anomalies that arise in the cognition, awareness and implementation of reform, transformation, continuous monitoring and evaluation, and zeitgeist during the investigation and implementation of Public Administration as art.                                                                                                                                                                                                                                                                                                   | Cognition and awareness of reform, transformation, and zeitgeist during an investigation of Public Administration as art in its ontology, as well as the philosophy of Public Administration that distinctly focusses on systemic expressions, varying worldviews and the spatio-temporal historical |

| Sun Tzu and the art of war                                                                                                                                                                                                                                             | Public Administration as art                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                        | Phenomenal<br>(the art of Public Administration)                                                                                                                                                                                                                                                                         | <i>Noumenal</i><br>(the art of Public Administration in itself)                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                          | advancements of Public Administration as art.                                                                                                                                                                                                                                                                           |
| 3. Sun Tzu (771 – 476 BC; 2006:6): “Earth comprises distances, great and small; danger and security; open ground and narrow passes; the chances of life and death.”                                                                                                    | Phenomenal anomalies that arise in the cognition, awareness and implementation of geographical and demographical investigations and that such properties cause varying risks management depending on the nation or demographics of the nation or cultural grouping that are investigated.                                | An investigation of the <i>noumenal</i> properties of Public Administration as art with the cognition that such properties will potentially be the only universally recognised stable elements as the investigation of phenomenal properties simulate variances as posed by the plurality extant in varying nations.    |
| 4. Sun Tzu (771 – 476 BC; 2006:5): “The Commander stands for virtues of wisdom, sincerely, benevolence, courage and strictness.”                                                                                                                                       | Phenomenal properties that arise in the cognition, awareness and implementation of leadership and management, and their respective properties.                                                                                                                                                                           | An investigation of <i>noumenal</i> properties that have a particular relation to the skills and competence required by scholars and practitioners during the execution of discipline and praxis related activities, which are referred to during an ikanological vertex investigation of Public Administration as art. |
| 5. Sun Tzu (771 – 476 BC; 2006:5): “Method and discipline ... the marshalling of the army in its proper subdivisions, the graduations of rank among officers, the maintenance of roads by which supplies may reach the army, and the control of military expenditure.” | Methodology and discipline have a relation to both the field of study and the praxis of Public Administration and are particularly recognisable in properties such as: Planning; Organising; Staffing; Directing; Co-ordination; Reporting and Budgeting (POSDCORB), (Gulick & Urwick, 1937); and, Planning-Programming- | Methodology and discipline similarly has a relation to the philosophical <i>noumenal</i> investigation of Public Administration as art or as the object in itself and its relation to teleological, ontological and epistemological methodology.                                                                        |

| Sun Tzu and the art of war | Public Administration as art                        |                                                                    |
|----------------------------|-----------------------------------------------------|--------------------------------------------------------------------|
|                            | Phenomenal<br>(the art of Public<br>Administration) | <i>Noumenal</i><br>(the art of Public Administration<br>in itself) |

Budgeting System (PPBS),  
and as such, system analysis.  
Method and discipline similarly  
includes the phenomenal  
investigation and  
implementation of Fayol's 14  
principles (Fayol, 1949).

**Source:** Gulick and Urwick (1937); and Sun Tzu (2006:5 – 8)

c) In addition to the science and art of Public Administration, this field of study and its practice similarly holds a third ontological expression recognised as Public Administration as craft. The craft as an ontological expression in Public Administration's teleological end is to ultimately act as the inciter of measurable transformation and change with specific reference to transformation and change in both an academic and an empirical environment. Rhodes (2016:641) states that the *erstwhile* craft-skills, originally determined in classic-traditional Public Administration remain to be of primary prominence, even in the era of networking governance as wave of reform. Rhodes (2016:639) furthermore notes that "we have turned our backs on traditional Public Administration; it is seen as the problem, not the solution. I believe politicians, staffers and even some public servants hold many important misconceptions about the past of our public services. Traditional public administration refers to classic bureaucrats, working in a hierarchy of authority and conserving the state tradition". In the context of his statement, Rhodes (2016:639) articulates the fundamental ontological physiognomies to three occupational groupings that are required to master the craft of public administration, whether political administrators, service delivery managers or front office staff, public servants have to display the following competencies: a) grasp ideational detail with rapidity (James, 1992:26); b) promptly analyse unexpected, novel phenomena at short notice; c) elucidate and provide an abridged version in explication to the substance of such novel phenomena; d) propose a variety of alternatives and related corollaries, logically and intelligibly; e) offer rigorous counsel by means of exact and well-defined official submissions; and f) manage mutual relationships (Heclo, 1997:3).

Rhodes (2016:641 - 644) explains Public Administration as craft as follows: a) the craft of Public Administration holds an appreciation for the significance of both heuristic and academic

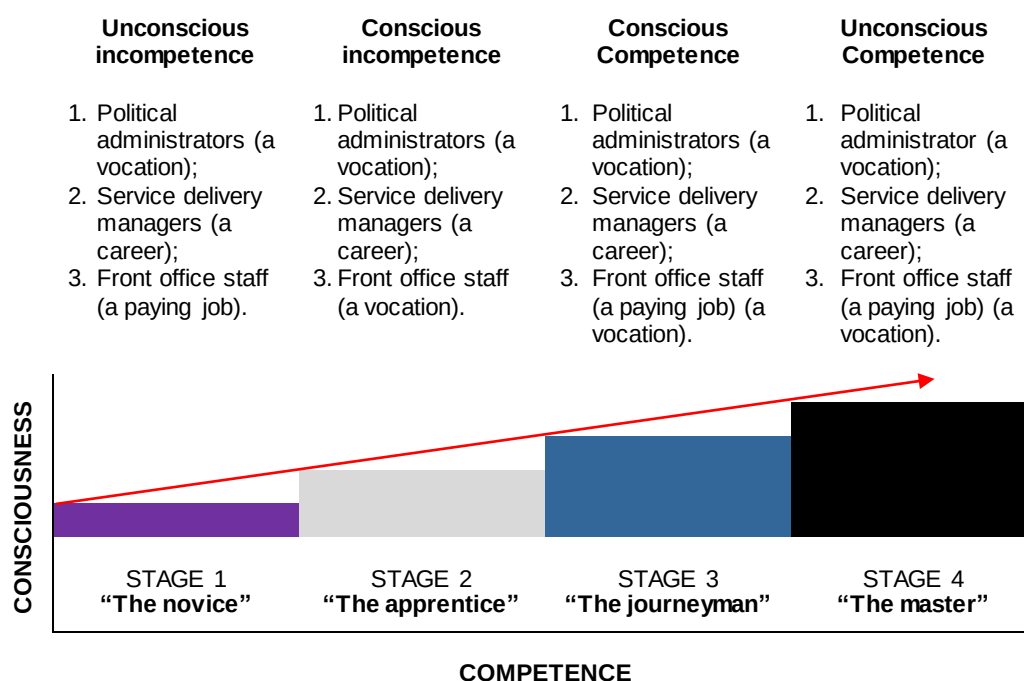
knowledge; b) the craft of Public Administration is mostly acquired through internships and, whilst performing the duties and tasks required for the administrative position; c) The craft of Public Administration encompasses a transference of practical skills and knowledge from master to novice, apprentice and journeyman alike, generation after generation; d) The journey to a master craftsman commences by being a novice, followed by an apprentice, then journeyman until the stage of master of the craft is reached, in which transcendence proves to be a prominent competence in the latter's portfolio of competences, as it is understood in Maslow's Theory of Human Motivation (Vaccaro, 2017:269); e) a craft is generally recognised by a professional body that regulates knowledge and practices, and simultaneously controls membership; f) most of the regulated knowledge and practical requirements of Public Administration as craft are tacit, unsystematised, complex and often covert. To this effect, Rhodes (2016:641 - 644) identifies seven competencies that political administrators will display with unconscious incompetence at a novice level, conscious incompetence at an apprentice level, conscious competence at the journeyman level and with unconscious competence at masters' level (Grinnell, 2012) as follows: a) "Counselling"; b) "Stewardship"; c) "Prudence"; d) "Probity"; e) "Judgement"; f) "Diplomacy"; and g) "Political nous". However, having deliberated upon Public Administration as craft in its phenomenal disposition, the craft of Public Administration in its *noumenal* disposition hinges on teleology as a manifestation of hyle or hylomorphism, in other words, matter is turned into form to serve the object's final teleological intent (Manning, 2013:173 - 187). The craft of Public Administration therefore includes a distinct type of 'chemistry', as the study of matter and its properties relevant to the academic discipline, its accompanying practice, as well as the *locus standi* and foci of Public Administration. The craft of Public Administration similarly includes ikanology as the study of skills and competence required to incite transformation and change, or as Aristotle referred to the efficient or moving 'be-cause' as that which incites motion or rest (the skills and competence of craftswomen and men). The craft of Public Administration correspondingly reflects a manifestation of the formal 'be-cause', reflected as the recognisable appearance, pattern, shape, arrangement of an object or, according to Witt (2001:255), "a cause of becoming", which in the case of Public Administration imply that the substance of matter and its inherent properties, its chemistry, is both scientifically substantiated by means of a universally accepted meta-theory and theory, and is similarly universally understood and implemented by means of hylomorphism. In essence, the ultimate teleological end to the science, the art, and the craft itself, is founded on the fact that the first principles embedded in *noumenal* knowledge (*epistêmê*; ἐπιστήμη), intelligence and intellect (*noesis*) of the following: lucid reasoning, rationality and methodical scientific organisation of the science in itself and its relation to the art and craft of the discipline and its practice, of rationality and methodical scientific organisation of the science in itself; a methodical organisation of



*noumena* and phenomena that present itself to the science; a historical trajectory of the natural evolution of a science, its schools of thought, influencers (both human and inorganic), and varying worldviews, extant during different spatio-temporal contexts; the science's distinct teleological, ontological, epistemological, methodological, axiological and ikanological substances; as well as the bodily form, structure (anatomy) and functions (physiology) of such a science, which necessitate a deep seated cognitive understanding of both objects and causal potency in inorganic substances; the power of the art in itself and in its relation to the science and the craft of the discipline and its practice as intelligent foresight that incites a value driven ardency towards proactive visionary insight; and, the active transformation and change, extant in the craft itself and in its relation to the science and the art of the discipline and its practice, which necessitate a deep seated cognitive understanding of teleology, hylomorphism (Manning, 2013:173 - 187), the chemistry as study of matter and its properties, and ikanology, which manifest in its theoretical form by means of the science of such a discipline and its accompanying practice. Hence, the craft's appreciation to both heuristic and academic knowledge.

Diagram 2.1 that follows presents a visual image of the four stages of ascending in the craft of public administration, which in its noumenal manifestation is represented firstly in teleology as: the efficient or moving 'because'; and secondly, in ikanology as the study of skills and competence required to incite hyle or hylomorphism (matter into form).

**Diagram 2.1: The four stages of ascending in the craft of public administration, which in its *noumenal* manifestation is represented in both teleology as the efficient or moving ‘because’, and in ikanology as the study of skills and competence required to incite hyle or hylomorphism**



**Source:** Grinnell (2012); Manning (2013:173 – 187); and Rhodes (2016:642)

Rhodes (2016:642) identifies three professional clusters as follows: political administrators as individuals that follow their inherent “vocation”; service delivery managers that follow a “career”; and front office staff that observe their positions in a public institution as a “paying job”. With reference to Figure 2.4, Grinnell (2012) describes the four stages of ascending in a craft, which this study interprets in the ambit of Public Administration as follows: Stage 1 or the novice stage is recognised by a student or novice practitioner’s unconscious incompetence, and that it requires decades of gathering and investigating *epistêmê* and practice in which many errors, disappointments and defeats will be experienced. The novice scholar and practitioner of Public Administration thus reflect as individual human beings that are unaware of their ineptitude to recognise and conceptualise the *noumenal* and phenomenal substance that permits the manifestation of Public Administration as craft, and as such in recognising the intertwined pluralistic-ontological nature of this distinct academic discipline and its practice; Stage 2 or the apprentice stage is identifiable by a student or apprentice practitioner’s conscious incompetence. As the student or apprentice practitioner increasingly becomes exposed to the craft’s required *epistêmê* and practice, a high level of dedication and perseverance will transcend her/him to a conscious state in terms of her/his own

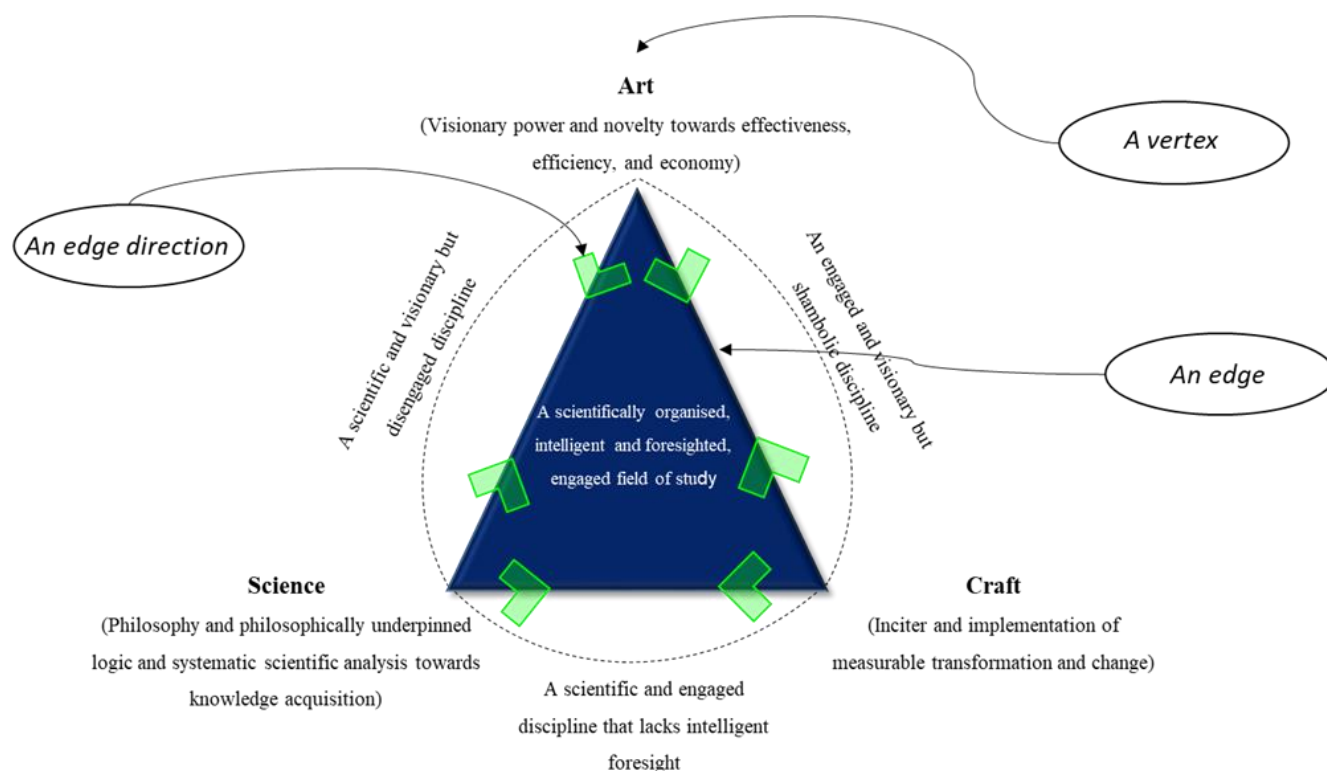
incompetence. The apprentice scholar and practitioner of Public Administration become aware of their own ineptitude to recognise and conceptualise the *noumenal* and phenomenal substance that permit the manifestation of Public Administration, and as such in recognising the intertwined pluralistic-ontological nature of this distinct academic discipline and its practice; Stage 3, or the journeyman stage, is appreciated in the student or journeyman practitioner's conscious competence and that it requires an extraordinary endeavour of intense tenacity towards reaching a foothold to the stage of mastery. The journeyman stage is similarly recognised by recurring repetitions of defeat and victory. The journeyman scholar and practitioner of Public Administration have an awareness of their inherent aptitude to recognise, conceptualise and interpret a body of knowledge (*epistêmê*) and apply such knowledge in practice. Stage 4 is recognisable by the student or master practitioner's unconscious competence. The student or practitioner is able to display a perpetual competence and through such a sustained competence bring about transformation and change. The master student or practitioner of Public Administration is therefore not only able to recognise and conceptualise the *noumenal* and phenomenal substance that permit the manifestation of Public Administration, but are similarly equipped with sustained competence to bring about novel knowledge, transformation and change. The master student and practitioner will similarly have a deep awareness of recurring repetitions of defeat and victory.

Based on the scholarly contributions of Mintzberg (2005:93; 2009:10, 127) and Gram (2010), it is firstly understood that if Public Administration as academic discipline and as practice only focussed on philosophy and philosophically underpinned logic and systematic scientific analysis towards knowledge acquisition and problem solving, as well as effective, efficient and economic visionary novelty as ontological expressions, and as such neglected both the inciter and activities of measurable transformation and change, the discipline would appear as entirely disengaged and that no measurable transformation or change would follow from either the philosophy and philosophically underpinned logic and systematic scientific analysis of contemporary knowledge acquisition, or from effective, efficient and economic visionary originality. Secondly, if Public Administration only focussed on effective, efficient and economic visionary novelty as well as incited and actioned, measurable transformation and change, the discipline and practice would appear as shambolic, devoid of a philosophy and philosophically underpinned logic and systematic analysis in novel knowledge acquisition and problem solving efforts. Thirdly, if Public Administration as academic discipline only focussed on measurable transformation and change, and the philosophy and philosophically underpinned logic and systematic scientific analysis towards knowledge acquisition and problem solving, the discipline would appear as devoid of any empirically intelligent effective, efficient and economic foresight. Immediate inferences therefore, emanating from the above

described intent or aim of Public Administration, firstly highlight the substantial importance of observing Public Administration in its holistic ontological plurality. Secondly, denotes an understanding of the complementary role that each ontological expression of this discipline contribute towards the holistic fulfilment of Public Administration's teleological end. Considering the very nature and inquiry of this particular study against the arguments that were illustrated here, the possibility persists that Public Administration reveals itself as shambolic, devoid of: a) a philosophy that reflects spatio-temporal descriptions of a historical trajectory of basic values, varying worldviews, scientific approaches, methodology, profundity of statements, technological profundity and phenomenal and *noumenal* foci of the science extant in this discipline; b) a philosophically reasoned description of the teleological, ontological, epistemological, methodological, axiological and ikanological vertices, edges and edge-directions; and c) a science that underpins logic and systematic analysis in novel knowledge acquisition (extraordinary science) and complex problem-solving (quotidian science).

Figure 2.3 below reminds of Abraham Maslow's wisdom as follows: "If the only tool you have is a hammer, you tend to see every problem as a nail" (Kimball, 2005:352; McKnight & Modica, 2013:211). Figure 2.4 is thus a powerful reminder as it provides a visual explication of the dynamic and critically important interrelationships between science, art and craft as the pluralistic-ontological expressions of Public Administration and similarly incites scholars and practitioners of this discipline, to strive towards an equilibrium in investigation of phenomena and *noumena* in the consideration and application of all three inherent ontological expressions towards a holistic teleological end, aim or purpose, relevant to this field of study and its practice.

**Figure 2.3: The dynamic interrelationships between a science, an art and a craft in the ontological expression of Public Administration**



**Source:** Author's perspective as adopted from Mintzberg (2005:93; 2009:10, 127); and Gram (2010)

In a quest to determine the teleological end to a science in the discipline of Public Administration, the researcher considered Mintzberg (2005:93; 2009:10, 127) and Gram's (2010) foundational inquiries into the physiognomies of a science an art and a craft, which the researcher subsequently adapted to suit the ambit of Public Administration. Mintzberg (2005:93; 2009:10, 127) and Gram's (2010) foundational inquiries that explicate a variation in the character of each of these three ontological expressions are outlined as follows: a) On what does the ontological expression depend? b) What is the primary rationale behind the ontological expression's reason for existence? c) As what does each of these ontological expressions reveal their decision making methodology? d) What is the primary strategy of each of these ontological expressions? and e) What is the primary contribution of each of the ontological expressions? Considering Public Administration in its ontological plurality, Table 2.3 that follows highlight the variance in responses to these five basic inquiries as follows: dependency; minimalistic purpose; decision making methodology; primary strategy; and contribution of Public Administration as science, as art and as craft, to which both the academic discipline and practice are highly dependent upon to come to fruition.

**Table 2.3: Public Administration in its ontological plurality seeks an equally strong subsistence in the ontological expressions of the academic discipline's science, art and craft: differentiation in physiognomies**

|                                 | Science as ontological expression                                                                                                                                      | Art as ontological expression                                                                                                                                                                                                       | Craft as ontological expression                                                                                   |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Physiognomies                   | Logic and analysis applicable to Public Administration                                                                                                                 | Visionary innovation applicable to Public Administration                                                                                                                                                                            | Practise towards measurable transformation and change applicable to Public Administration                         |
| Depends upon:                   | Scientific facts that address human needs and public institution organisation                                                                                          | Innovative insight in human needs and the organisation of public institutions                                                                                                                                                       | Practical implementation and experiences with human needs and public institution organisation                     |
| Reason for existence / purpose: | Acquiring replicable knowledge through observation and experiment as one of the methods of inquiry                                                                     | Effective, efficient and economic visionary novelty                                                                                                                                                                                 | Incited and implemented utility in measurable transformation and change                                           |
| Decision making methodology:    | Deductive                                                                                                                                                              | Inductive                                                                                                                                                                                                                           | Iterative                                                                                                         |
| Primary strategy:               | Systematic, scientific analysis<br><i>Stepin's (2009:56 - 65) 14 principles as defining strategies for scientific quest as highlighted in Chapter 1 of this study.</i> | Planning and visioning                                                                                                                                                                                                              | To bring about transformation and change;<br>Hyle- or Hylomorphism, (matter into form) (Manning, 2013:173 - 187). |
| Contribution:                   | Science: Philosophy and philosophically underpinned theory advancement in addressing human needs and public institutional organisation.                                | Art: visionary effectiveness, efficiency and economy with reference to the articulation of addressing human needs and institutional organisation within the strictures of a statutory, legislative, regulatory and mandatory ambit. | Craft: measurable transformation and change in addressing human needs and public institutional organisation.      |

**Source:** Author's perspective as adopted from Mintzberg (2005:93); Mintzberg (2009:10, 127); Stepin (2009:56 - 65); Gram (2010); and Manning (2013:173 - 187)

Considering the afore-described, the teleological intent of a science as ontological expression of Public Administration, first and foremost needs to be investigated as *noumena*, in other words as that which determines the object in itself. Secondly, it will become clear in Chapter 3 of this study that the teleological-*noumenal* cognition of an academic discipline's science as the object under investigation, reveals a distinct selection of properties inherent to the final, material, efficient or moving and formal 'be-causes' that differentiates a science's ontological object description from other science's ontological object descriptions. Thirdly, what becomes observable later in this chapter, is that by investigating the *noumena* of a science in an academic discipline, such a science reveals its corporeal morphology and inherent physiology that enables the object's unique teleological intent to come to fruition. In light of the teleological end of the science in an academic discipline, this chapter continues by providing a linguistic explication to the concept of scientific activities in the section that follows.

#### 2.2.2.2 A linguistic explication of scientific activities

Merton (1973:47) clarifies that science is an activity that is notable only amongst humans. This factual statement is evidently true as it is possible to observe scientific activities by means of human senses, Nominalists would argue. However, for Platonists, perhaps the statement only shares the truth in part. If scientists, no matter which field of study they represent, only consider the physical or concrete manifestation of a science as their object of study, scientific activity will only be recognised as human incited. By delving significantly deeper into a science's *noumenal* or ontological manifestation, it similarly becomes apparent that there may be scientific activities present within and amongst nodal entities in a science as object. An archetypal example of the latter becomes evident in Kuhn's (1962; 2012:43 – 173) scholarly contributions, as for example that a paradigm displays *noumenal* activities such as the potential 'to drift', which subsequently evokes crises in a science. In extreme cases, a paradigm has the *noumenal* ability to conjure a whole scientific revolution, emanating from "a paradigm that no longer functions adequately" (Kuhn, 1962; 2012:92 – 93). In addition, a paradigm presents the highly rigid strictures that are reflective of a whole *Weltanschauung*, which in itself, reflects as the meta-paradigm of a science (Masterman, 1970:65), from which quotidian science is practiced.

To the notion of function, the English Oxford Living Dictionaries (2017) describe a function as an activity that is "natural to a thing or person". Without much investigation, it is evident that a science displays human activities such as observation, collection and classification of data, assembling and executing experiments, formulating hypotheses, meta-theories, theories, models, and establishing evidence. The question however is: do nodal entities in a science,

based on an innate ability, tend to conversely display *noumenal* activities that are less noticeable in and amongst themselves as well? Perhaps plagued by the same dilemma, Latour (1999:120) writes of Louis Pasteur: “[B]ut how can he increase the ontological status of this entity, how can he transform these fragile, uncertain boundaries into a sturdy envelope, how can he move from ‘this name of action’ to ‘the name of a thing’?” In the case of this study, how can it move from the name of a nodal entity to the name of an action? “If it acts so much, must the entity be an actor? Not necessarily. “*Something more*” is needed to turn this fragile candidate into a full-blown actor, which will be designated as the origin of those actions; another act is necessary to conjure up the substrate of these predicates, to define a competence that will then be ‘expressed’ or manifested through so many performances in laboratory trials. Pasteur did not hesitate. He uses everything at hand to stabilize the *noumenal* substrate of this entity”.

Within the afore-described context, this study re-considers Kuhn’s (1962; 2012:43 - 173) thorough explication of amongst others, a paradigm or paradigms as nodal entity or simultaneously active nodal entities in a science, to determine the ontological origins of functions and the effect of causal potency, that for example a paradigm has on quotidian science as another nodal entity within the corporeal morphology of a science. An additional example is the recognition of innate and causal activities in the nucleus and nucleus triads in a science and the effect thereof on every nodal entity in a science. Kuhn’s (1962; 2012:43 - 173) research unequivocally suggests *noumenal* activities of some sort, both within and amongst nodal entities, which simultaneously evoke reference to intra and inter-activities. What is of much greater significance, is the phenomena as Latour (1999:120) described it, “how can he move from ‘this name of action’ to ‘the name of a thing’?”, how is it possible for inorganic objects (abstract and concrete) and the entities, universals and particulars that shape the substance of *noumenal* objects (Lowe, 1995:518 – 521), to have internal and external activities, causal relationships and products? It is evident that “[S]omething more is needed, a deeper understanding of” the potential that lies embedded in concrete and abstract objects, entities, universals and particulars, “to turn [these] fragile candidate[s] into full-blown actor[s], which will be designated as the origin of those actions”. Later in this chapter, the study investigates four Fregean principles (1948) and the properties that Lowe (1995:509 - 54) and Rosen (2017) distilled from such properties in order to direct these principles, which may prove to be the “[s]omething more”.

Moini (2015:4) and Marieb (2015:xxvi) both confirm an intimate relationship between Anatomy and Physiology, respectively as the form, structure and function of a corpus (human or object). From a nominalist point of view, it has been determined that a science certainly displays



human activities that are observable in the physical ambit, which result in scientific products. The major question however is, what are the *noumenal* products that stem from *noumenal* activities? This study therefore extends a linguistic explication to the notion of scientific products, both human and *noumenally* induced.

#### 2.2.2.3 A linguistic explication of scientific products

With a primary focus on the linguistic explication of scientific products, as it is understood in this study, firstly reveals such scientific products as human incited artefacts or substances, emanating respectively from either human activity such as textbooks, dissertations, theses, academic articles, reports of observed accounts, meta-theories, theories, models and finally *a posteriori epistêmê*. Secondly, to consider scientific products that emanate from *noumenal* substances and *a priori epistêmê*, it is required to contemplate and examine these substances in themselves or their ontological statuses. In other words, to determine the *noumenally* abstract substances of nodal entities extant in a science's corporeal morphology, as they present intra and inter *noumenally* abstract activities such as hylemorphism (abstract matter into abstract form) and associated *noumenal* products such as the meta-teleological, meta-ontological, meta-epistemological, meta-methodological, meta-ikanological and meta-axiological statuses of the nodal entities in themselves and in the science as inorganic object. A recollection of Latour's (1999:120) description to Pasteur's challenge further intensifies the significance of including an investigation to ascertain the potential of inorganic objects (abstract and concrete) entities, universals and particulars to present *noumenal* products.

#### 2.2.2.4 A linguistic explication of scientific method

In pursuit of providing a linguistic explication to scientific method, the point of departure falls upon scientists in a field of study's theoretical intelligence in appreciation of scientific truth, as the attainment of scientific truth reflects as the premier teleological end of scientific method. On a phenomenal-methodological plane, scientific truth reflects as varied and disparate manifestations that occur through the application of an array of varying resources to produce a firm conviction that something is the case, as the inherent quality of being reliably true (certainties), (Rickaby, 1901; The Internet Encyclopedia of Philosophy, 2017), or else only the extent to which something is likely to be true (probabilities), (Rickaby, 1901; The Internet Encyclopedia of Philosophy, 2017), (Gauch, 2003:29). The impetus behind a science's varied strategies and methods in the pursuit of knowledge is therefore embedded in the science's fundamental theoretical description of truth, as varied manifestations of kinds, universals or sets of data varies from scientific investigation to scientific investigation, however the

denotation of truth remains as a constant (Gauch, 2003:29). To this effect, Gauch (2003:29) urges scientists to honour a continued recognition of the variance in distinctness of denotation between an abstract and functional conceptualisation of truth, since the abstract manifestation of truth fulfils the critical purpose of establishing meaningful, scientific hypotheses, which occurs prior to the functional manifestation of truth as the scientific methods that incite data collection and the unsheathing of inferences. Gauch (2003:xiii, 2) furthermore advises that Scientific Method is a philosophically grounded body of knowledge in its own right, which encompasses two distinctive areas, highlighted as follows: a) the universal principles of scientific method that permeate the whole notion of scientific endeavours as this study outlined in Chapter 1; and b) the dedicated techniques that are distinct to particular fields of study and their sub-disciplines. Gauch (2003:24) emphasises the critical role that philosophy perform in the ambit of science and that philosophy features in Scientific Method by means of terminology such as “law, theory, model, explanation, cause, truth, knowledge, hypothesis, confirmation, observation, evidence, time and space”. From the afore-explicated, this study will henceforth observe the truth-value of scientific method as philosophically grounded and theoretical intelligence that display: a) a firm conviction that something is the case, as the inherent quality of being reliably true; or b) the extent to which something is likely to be true, which in both instances serves the critical purpose of establishing meaningful scientific hypotheses. Similarly, this study will henceforth observe the phenomenal-methodological value of scientific method as varied and disparate manifestations that occur through the application of an array of varying resources (typical to the field of study), as the foundational manifestations of truth by means of the application of scientific methods that incite data collection and the unsheathing of inferences.

In the context of a science’s linguistic explications, the foci of sections 2.2.3 and 2.2.4 thus turn to linguistic explications of the anatomy and physiology of a science. The point of departure sheds light on the anatomy of a science.

### **2.2.3 The anatomy of a science**

Jones (2017:5, 6) informs that the term anatomy has its origins in the Greek term *anatemnō* (ἀνατέμνω), which literally implies “to cut up” (Moini, 2015:4). The Online Oxford Dictionaries: Language matters’ (2016) explanation is not atypical to Jones’ (2017:5, 6) clarification, considering the fact that anatomy is defined as a field of study that is related to the bodily form and structure of human beings (Atkinson, 2013:4), particularly as exposed by segmentation and analysis of the corporeal (bodily) parts. Anatomy is similarly understood as the study of morphology (form and structure) of an organism and the manner in which the parts of such an

organism relate to each other (Patton & Thibodeau, 2015:5; and The Medical Dictionary, 2016: online). Morphing such biological descriptions then into a contextual relevant abstract and linguistic explication that support this particular study, a fundamental interpretation of the anatomy of a science is therefore included as follows: the anatomy of a science conceptually comprises of the corporeal (bodily), morphology (form and structure), (Patton & Thibodeau, 2015:5; and The Medical Dictionary, 2016) of a science that retains nodal entities (Hacking, 2012:x) (corporeal parts), in which such nodal entities display unique characteristics and purposes, as each nodal entity purposefully participate in distinct nodal activities within a science.

Of significance to this study, is the following sub-structures of Anatomy as field of study that will prove, during the course of this chapter, to contribute to a meta-theoretical understanding and arrangement of the form, structure and regional positioning of nodal entities in a science, as the phenomena under discussion.

#### 2.2.3.1 Developmental anatomy

Martini (2005:3), Moore and Roy (2010:102), Seikel, Drumright and King (2015:843), as well as Patton and Thibodeau (2015:5) conceptualise developmental anatomy as that it is largely concerned with “the study of human growth and development” and associated structural vicissitudes. In transmuting developmental anatomy from its biological denotation into a contextual value that is relevant to this study, an understanding thus is created that the developmental anatomy of a science implies a study of the evolution and structural changes that occur during a science’s growth and development. The importance of recognising the corporeal morphological (bodily, form and structure) evolution of a science’s growth and development, or a science’s developmental anatomy, proves to be significant in an appreciation of both the distinct phases of evolution and the evolution of nodal entities’ character embedded in a science, and subsequently, the evolution of a science as a whole object.

Kuhn (1962; 2012:4, 5) shares the following developmental observations concerning a science: i) Notably visible during the pre-science and early developmental phases of a science are varying views and rivalry thoughts that emanate from different scientific schools of thought regarding scientific observation and method; ii) Varying scientific methods did not differentiate these schools of thought, it was their “incommensurability” that separated the one from the other. Merriam-Webster (2018) conceptualises “incommensurability” as “lacking a basis of comparison, in respect to a quality, normally subject to comparison; iii) The similarity in

scientists' worldviews is determinative of the scientific philosophy advocated by a scientific community within a spatio-temporal context; iv) Only in the event that a scientific community has established answers to the questions that follows, will effective research commence. These questions have been adopted in the context of this study and are noted as follows: Identify and conceptualise the primary elements of which P[public A]dministration comprise; How do these elements interact with each other and with the human senses? What are the lawfully justifiable inquiries that exist about P[public A]dministration's elements; and, what would the methods and practices be that would deliver scientific solutions to such inquiries? v) In well-developed and established sciences, solutions to inquiries such as these identified above are included in the curriculum that primes and authorises students for professional practice. Relevant education is both rigorous and rigid, and solutions to the above-mentioned inquiries deeply affect and direct the scientific intellect and psyche.

An explication of the following distinctive phases of evolution in a science and evinced character illuminations of the nodal entities extant in a science, in their respective evolutionary states, are elucidated as follows: Prior to a pre-science phase – the identification of an external environment and its inherent dimensions as ever present, interactive dynamic strata and intrinsic stratum, with or without the existence of a particular science is observed. The discipline is in existence too, but there is no factual evidence that the ontic nature of the discipline expresses itself as a fully-fledged science. In context of the latter, the discipline similarly does not yet recognise a paradigm or paradigms that direct the science; A pre-science phase is recognised. Hereto, the environment is already presenting recognised anomalies and phenomena, however, the field of study does not yet offer a philosophically grounded science to address and bring solutions to such anomalies and phenomena. At this point, Peters' (2003:8) argument that in the classical-traditional era of Public Administration, and similarly within the spatio-temporal context of Thomas Woodrow Wilson (1887 - 1921), the field of study had almost reached a near scientific status. Is this declaration a case of the fallacy, Appeal to Authority? The rationale behind the author's question is: if Lakatos (1978:102) pointed towards the critical role that history and philosophy plays across the entire lifespan of a science, why is it that contemporary scholars of Public Administration can see no remnants of the evidence of at least the initiation of the documented history of science, or of the philosophy of science that underpins P[public A]dministration as a science? The *naissance* (birth) of a science is documented. It is possible to make a distinct reference to the difference between a *milieu extérieur* as opposed to a *milieu intérieur* of the science in an academic discipline. In other words, there is a vast disparity between that which is identified as the *milieu extérieur* and that which is identified as the *milieu intérieur* of the science. A

critical reminder to Lakatos' (1978:102) statement "that a science without a philosophy is wondering visionless in this world; on route to nowhere". It is therefore obvious that philosophy and in particular, the philosophy of a science will play a pivotal role at the birth of a science. The discipline will display a crystal clear illumination of the purpose, nature of being and theory of knowledge amongst others, of that particular field of study. Similarly, such an event will be documented in the historic annals of the academic discipline and its science. Historical evidence will become evident through the artefacts delivered by scholars of the discipline. Of significant relevance to the philosophy of P[ublic A[dm]nistration as a science, would be fundamental answers to questions such as: i) What are the fundamental principles, methods and implications of P[ublic A[dm]nistration as a science? ii) How could P[ublic A[dm]nistration qualify as a science? iii) What is the status of varying schools of thought in P[ublic A[dm]nistration and as what would the dominant worldviews of scholars in these schools be identified? From Kuhn's (1962; 2012:xxx – xxxiii, 4, 147 – 149, 156, 175, 197 – 199) perspective, what is the 'incommensurability' factor in P[ublic A[dm]nistration's schools of thought? iv) What is the reliability factor of scientific theories in P[ublic A[dm]nistration and from Popper's (2002a:xx, xxiii – xxiv, 10, 13, 20, 56, 61, 63, 194 – 195; Popper, 2002:48, 77, 81, 154 – 155, 157, 294, 297, 309, 313, 327, 336, 345 – 346, 385, 388, 393) perspective, are theories of P[ublic A[dm]nistration continuously subject to 'falsification'? v) What is the understanding and description of P[ublic A[dm]nistration's Teleology (purpose), Ontology (nature of being and existence) and Epistemology (theory of knowledge and truth). Important to note that by investigating Public Administration as a science, recognition of an ontic plural expression in P[ublic A[dm]nistration as academic discipline and as practice, and as science, art and craft, is not denied. However, the focus of this study is specifically directed at Public Administration as a science. By investigating Public Administration as a science, a primary understanding of the discipline and its practice were illustrated in Figure 1.1, Chapter 1; A young developing science – (*milieu extérieur* and *milieu intérieur*). To recognise a young developing science, is to take meticulous note of both the history (Kuhn, 1962; 2012:2) and the philosophy (Kuhn, 1962; 2012:136) of science. In the case of the history of P[ublic A[dm]nistration as a science, the historian that investigates scientific development has to determine the exact spatio-temporal context of modern scientific fact, law and theory that was discovered, and by whom was such a discovery made? The historian of science furthermore has to conceptualise and explicate the disorderly collection of "error, myth and superstition" (Kuhn, 1962; 2012:2), that have hindered a swift collection of the science as a body of knowledge. Hereto, it is noted that the P[ublic A[dm]nistration historian of science has to give account of discipline and practice discoveries that need to be positioned in a distinct spatio-temporal context. In addition, record needs to be kept of the individual that presented such discovery. Particularly pertaining to P[ublic A[dm]nistration,

the historian may note that the greater part of documented P[p]ublic A[a]dministration theory originated from research conducted by Western males, outside of both the academic discipline and its practice. The oddity that this fact conjures determines the responsibility of P[p]ublic A[a]dministration historians of science in South Africa and Africa to be so much larger, since human behaviour, social structures and free will may not be the only scientific variables that scholars and practitioners have to deal with. Geographic prefix coerces the historian of P[p]ublic A[a]dministration as a science to deal with plurality as constant ontic expression of this field of study. In addition to the historian of science in P[p]ublic A[a]dministration, another critical role needs to be fulfilled by the philosopher of science in P[p]ublic A[a]dministration. In a young developing science, scholars are reminded by Lakatos (1978:102) of the critical role that philosophy plays in a science and as such determines the bedrock against which all future scholars and practitioners of the field of study will be taught. To this effect, studies such as Teleology, Ontology, Epistemology, Methodology, amongst others, are significant for students and scholars equally to understand the character of P[p]ublic A[a]dministration in its purpose, nature of being, theory of knowledge and truth amongst others; and, a mature science – (*milieu extérieur* and *milieu intérieur*), a mature science is recognised when the science in itself display a clear distinction between that which is internal to the science in itself and that which is external to the science. Hereto, a mature science displays quotidian science as a frequent activity, paradigm/s as director/s of the most important strictures and direction of development for the science. a mature science similarly displays all the other nodal entities such as extraordinary science, the protective membrane, the nucleus of a science and the nucleus triads of a science. According to Kuhn (1962; 2012:43), even though a mature science may sometimes display ambivalence, it is a fairly simple act to detect the paradigm/s of a mature scientific community. Kuhn (1962; 2012:12) recognises the conversion from old paradigms into contemporary paradigms as scientific revolutions, even though Popper (1970:51 - 58) did not agree, Kuhn (1962; 2012:12) recognised this process of transformation is the natural developmental pattern of mature sciences.

In addition to the developmental stages of a science, such a science similarly displays a regional anatomy. Section 2.2.3.2 follows by documenting a brief understanding of regional anatomy as it will be understood in this study.

### 2.2.3.2 Regional anatomy

Moore, Dalley and Agur (2013:2) describe regional anatomy or “topographical anatomy” as that it is concerned with: the arrangement of main components or portions of the human body; a subdivision of the main parts or components into “areas and regions”; the methodology of

examining a bodily structure, centring on a particular part, area or region of the human body in which the composition and associations of diverse systemic structures are observed. An explication of the regional or topographical anatomy of a science therefore includes: a composition of the primary components or nodal entities within a science; a subdivision of the main nodal entities of a science into regions; and that the regional anatomy of a science is underpinned by a methodology of investigating a corporeal structure with a distinct focus on a particular nodal entity, part or region, as it is included in a science, in which the configuration and alliances of diverse systemic structures are observed.

#### 2.2.3.3 Systemic anatomy

Chung and Chung (2011:1), Moore, Dalley and Agur (2013:3) and Singh (2018:2) illuminate systemic anatomy as follows: Systemic anatomy is a distinct methodology in which a collection of bodily structures are observed that collectively incite a unique general system; that such a system comprises of related organs that contribute to a primary bodily function; and thus, that systemic anatomy presents all-inclusive knowledge of a specific system throughout the human body. The systemic anatomy of a science will thus henceforth, in this study, be understood as that it includes a distinct methodology that enables observation of a collection of nodal entities in its strata, that collectively motivate a unique general system in a science, and that such a system comprises of related nodal entities that realise a primary function in a science of which the resultant is all-inclusive knowledge of a distinct active system operating within a science.

On various occasions during the linguistic explications of anatomy and the sub-structures of anatomy, the term nodal entity were included to illuminate the aforementioned conceptualisations. A justification of the term nodal entity's inclusion into the linguistic explications of this chapter is therefore vindicated.

#### 2.2.4 A nodal entity in a science

The Oxford Dictionaries: Language matters (2016) define a node or a nodal entity in its anatomical description as a corpus within an organism that consists of discerned matter. A nodal entity will therefore in this study include distinct strata that comprises of a discerned stratum in the corporeal morphology of a science.

### 2.2.5 The physiology of a science

Moini (2015:4) illuminates a critical link between anatomy and physiology when a human body is investigated as that there exists an undisputed inter-connectedness in a living organism between the bodily form and structure, and its functioning. If a science is understood as an object in which scholars such as Kuhn (1962; 2012), Masterman (1970), Cohen (1985), Couclelis (2009) and Hacking (2012) recognised nodal entities within the anatomy of an object named a science, this study investigates such nodal entities potential to display physiological activity.

### 2.2.6 Vertices, edges and edge directions

The English Oxford Living Dictionaries (2017) and Horton (2016:217) clarify a vertex as that it represents a distinct graphical position or the angular positions in a figure, and as such reflects the assembly point between two lines or edges that shape an angle in a figure. In contrast, an edge represents the line along which the surface of a solid object ends or begins, or the course along which something moves (The English Oxford Living Dictionaries, 2017). The explication of an edge however requires further clarity. Canny (1983:43, 51, 81) provides a scientifically infused linguistic exposition to the concept edge as follows: The concept edge represents itself as a sophisticated arrangement of three concurrent features, identified as follows: a) a succinct (the meaning of the concept is clear and unequivocal) feature; b) an ambiguous (indistinctness) feature; and c) an “amorphous” (shapeless) feature. Firstly, to both an edge’s succinct feature, and an inquiry of such a succinct feature’s descriptive status, Canny (1983:43, 51, 81) attaches physiognomies such as that an edge is the concise and indisputable verge of an object. Secondly, with reference to the ambiguous (indistinctness) feature of an edge, Canny (1983:43, 51, 81) asserts that an edge’s ambiguous feature pivots on such an edge’s indistinct, collective affiliation and responsibility or task at the verge of an object, in which the challenge arises to specify and conceptualise the collective affiliation and responsibility of the edge itself. Thirdly, an edge’s shapeless feature, is indistinct and does not specify how its affiliation to the object and its own denotation could be optimally expressed other than the fact that an edge is an ambiguous notion in which its collective affiliation and responsibility or task at the verge of an object reflects as a “pseudo-function” of which causality is an example. Considering edge-directions, the Cambridge Dictionary (2017) conceptualises direction as the location towards which an object progresses through which an act or motion is implied. This study therefore advances a presupposition of an edge-direction as follows: an edge-direction is indicative of the progression either as motion or as causation (pseudo-functions) between two or more distinct graphical positions. The significance of such an



understanding is three-fold in this study. Firstly, a linguistic common-ground on vertices, edges and edge directions are of critical importance during the graphical interpretation of the nucleus triads as nodal entity 6 in the corporeal morphology of a science. Secondly, even though causation as pseudo-function of an edge-direction between vertices and nodal entities is not elaborated upon in-depth here, a whole section is dedicated later in this study to explicate the potential of causality in both concrete and abstract objects, which play a significant role in determining the intra and inter causal effects between such vertices and nodal entities in the corporeal morphology of Public Administration as science. Thirdly, by establishing such a linguistic understanding of the afore-described terminology that will be applied in this study provides philosophical and scientific impetus to the building blocks that ultimately lead to theory advancement in Public Administration as science.

The aforementioned adapted and constructed lexes furthermore provide substance to the distinct terminology as it will be applied during a systematic construction of the anatomy and physiology of a science. This study subsequently proceeds by introducing the corporeal morphology (anatomy) of a science.

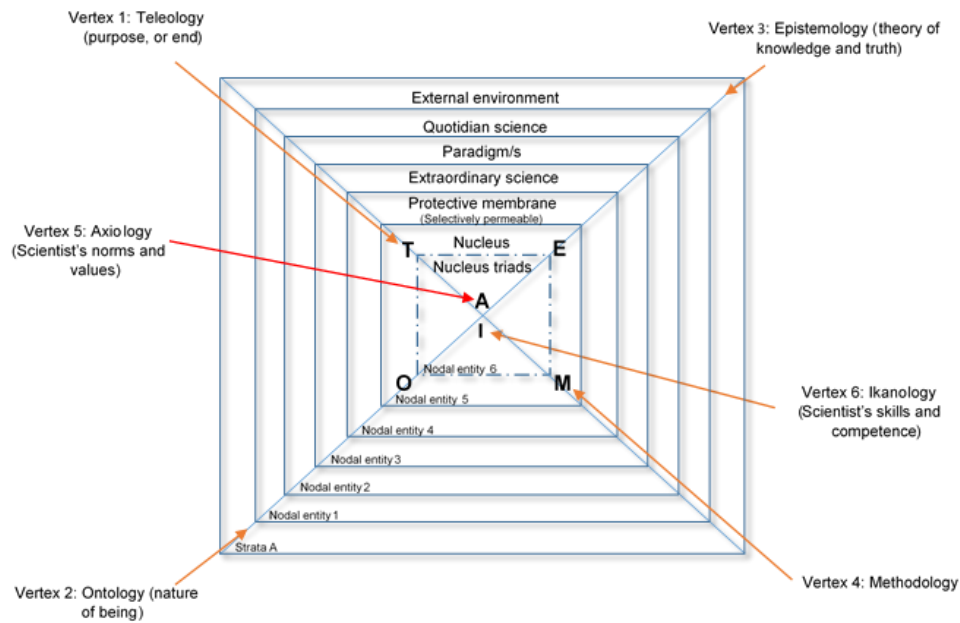
## **2.3 THE CORPOREAL MORPHOLOGY OF A SCIENCE**

As precursor to an in-depth discussion on the corporeal morphology of a science, Section 2.3 commences by offering an example of a visual image to the bodily form and structure of a science. The substance and context of Strata A and nodal entities 1 - 6 are further expanded upon, as Section 2.3 progresses. Reference is therefore merely made here to Strata A and all the nodal entities extant in a science, as depicted in Figures 2.6 and 2.7 below, to provide an initiating overview to the sub-sections and content that follows. Considering the bodily form and structure of a science, Figures 2.6 and 2.7 include an external environment as the context within which P[p]ublic A[a]dministration subsists, with particular reference to the scholarly contributions made by Aguilar (1967), as well as Fahey and Naryanan (1986). The external environment is subsequently followed by a depiction of the internal environment of a science that is in essence founded on the academic contributions of Thomas S. Kuhn (1962; 2012), Margaret Masterman (1970), Elise Boulding (1979), T.R. Young (1994), Ian Hacking (2012) and Helen Couclelis (2009), which display and explicate the inherent six nodal entities within the bodily form and structure of a science, as well as each nodal entity's intrinsic anatomy. Nodal entity 1 is recognised as quotidian science, which Kuhn (1962; 2012:6) refers to as the "tradition bound" or paradigm affixed problem-solving scientific activity that never aims at inciting any innovative originality. Quotidian science is a scientific activity that cannot exist

without a paradigm or simultaneously active paradigms thus multiple paradigms, to which most scientists dedicate their careers in an attempt to establish solutions to phenomenal anomalies (Kuhn, 1962; 2012:5) and the debris cleansing activities evoked in the aftermath of a paradigmatic transition, in particular those anomalies that are evoked by a potential new paradigm. Kuhn (1962; 2012:25) advises that quotidian science possesses an inherent device or instrument that severs this nodal entity from the limitations that direct scientific research, once the paradigm from which such limitations originate, no longer serves its teleological intent. Nodal entity 2 is included in Figures 2.6 and 2.7 as a paradigm. A paradigm is briefly described as a universally recognised, spatio-temporal philosophy, a whole tradition, a typical scientific prototype or “exemplum” (Kuhn, 1962; 2012:23; Hacking, 2012:x) and the basis of mechanisms to a science, as it governs perception itself, through which scientists view the world and practice science in it. With reference to Chapter 1, Kuhn (1962; 2012) described a paradigm in 22 distinct manners, which Masterman (1970:65) categorised into three senses, namely that a paradigm reflects: i) a meta-physical sense; ii) a sociological sense; and iii) an artefact or construct sense. In the context of a postmodern era and perhaps now a post postmodern era, Young (1994:1) advises that there are any number of simultaneously existing paradigms, “none of which can encompass all of the data for several reasons” that are highlighted as follows: i) nature and society are vastly intricate, multifaceted and interrelated, and as such deliver wicked problems, anomalies and phenomena; and ii) determining the border posts and edges of the exact location of relevant theory therefore largely depend on research interest, ‘human imagination’ and research capacity, more so than what the relevant theory relates to its inherent nature of being. Nodal entity 3 refers to extraordinary science as “the tradition-shattering complements to the tradition-bound activity” of quotidian science (Kuhn, 1962; 2012:6). Nodal entity 4 represents the protective membrane, which partly acts in a similar manner to the rheostat system in the human brain, and, whose ultimate purpose it is to enable homeostasis or equilibrium in the human body. Similarly, the protective membrane, extant in the corporeal morphology of a science, provides an inherent faculty through which the body of a science continuously thrusts towards a maintained state of homeostasis. The protective membrane simultaneously houses both the science’s senses, through which external stimuli is received into the body of a science, and offers the constructs by means of which logic and reasoning is approached in the science. It is thus appropriate to recognise properties such as the negative heuristic, the positive heuristic, the *modus tollens* or ‘the method of denying by denying’, (Encyclopædia Britannica, 2018) and *modus ponens*, ‘the method of affirming by affirming’, (Encyclopædia Britannica, 2018) in the protective membrane of a science as propounded by Lakatos (1978:48), and reiterated by Nola and Sankey (2014:26) and Musgrave and Pigden (2016: online). Bechtel (1998:60-63) explain Lakatos’ observation with reference to the protective belt as Nodal entity in a science, as that

it similarly in part reflect the following activities: i) A field of study that expresses itself by means of a science will present numerous rivalling research programmes; ii) Each field of study's science presents a "hard core" (Lakatos. 1978:48), that envelops the science's theories that are unreceptive to modification or adjustments; iii) the "hard core" of unreceptive scientific theories are in turn enclosed by a protective membrane of acquiescent theories; iv) Research programmes' theories that are expanded into novel research territories are recognised as "theoretical progress"; and v) Research programmes that are perceived to engage in experimentally corroborating research programmes' theories are recognised as "empirical progress". Nodal entity 5, identified as the nucleus of a science contains the whole philosophy of such a science, and as such, equip all novel scholars and scientists with a similar epistemological pathway to obtain a body of knowledge and truth in terms of the science's historical trajectory of basic values, varying worldviews, varying *zeitgeists* that influenced the science, scientific approaches, methods, profundity of statements, technological profundity, as well as the phenomenal and *noumenal* foci of the science, in the varying spatio-temporal eras of the science's advancement. Nodal entity 6, noted as the nucleus triads hold the philosophical, meta-theoretical substances that distinguish a particular science from other sciences as it upholds the science, similar to the spine in a human body, by means of logically reasoned teleological, ontological, epistemological, methodological, axiological and ikanological meta-theories. The nucleus triads present the fundamentals of a science from which the paradigm or simultaneously active paradigms present a spatio-temporal view of the world and the science's approach to that world. A critical aspect that is not visible in Figure 2.4 is that the nucleus triads, similar to a spinal cord, runs throughout the bodily form and structure of a science and is therefore represented in each of the remaining five nodal entities. Figure 2.4 provides a clear visual image of this expressed phenomena.

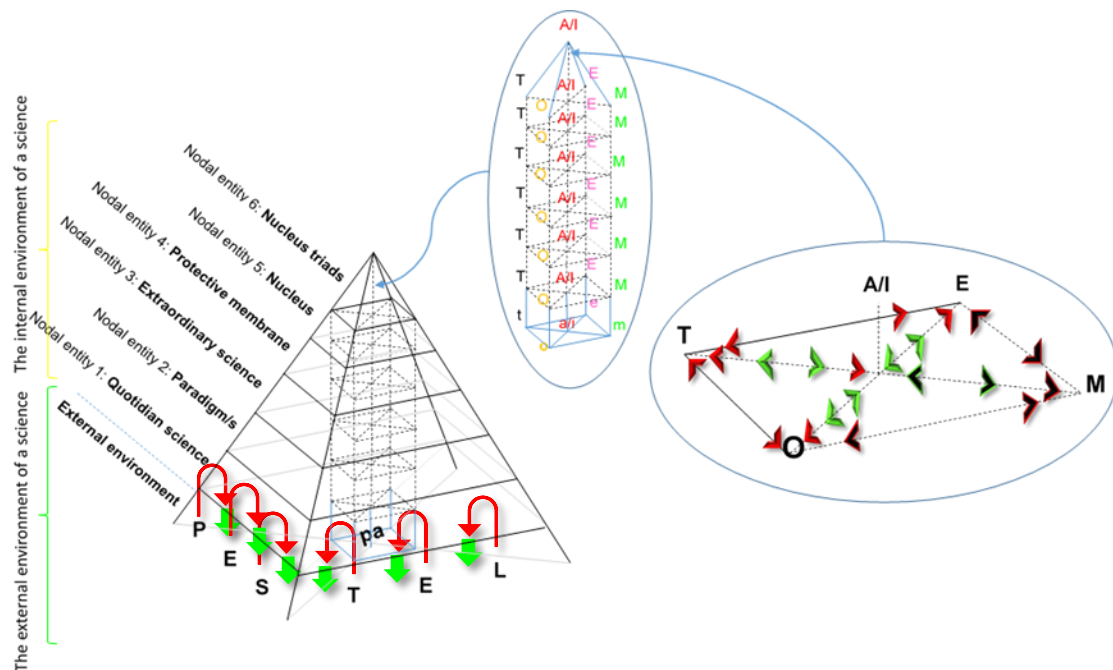
**Figure 2.4: A top view of the corporeal morphology of a science**



**Source:** Author's perspective as adopted from Kuhn (1962; 2012)

As mentioned before, Figure 2.4 as a one dimensional visual image of the anatomy of a science is unable to display the details offered in Figure 2.5. Chapter 2 therefore offers a 3 dimensional image of the corporeal morphology of a science, inclusive of a 3 dimensional view of the nucleus triads that shape the spinal cord (the philosophical substance of a science), and a magnified view of the nucleus triads, vertices and edge-directions.

**Figure 2.5: A three dimensional (3D) view of the corporeal morphology of a science**



**Source:** Author's perspective as adopted from Aguilar (1967); Fahey and Naryanan (1986); Kuhn (1962; 2012)

In view of Figure 2.5, the 3 dimensional images firstly, to the left, display the anatomy of a science located in the context of an external environment. Secondly, in the centre of the illustration, the image provides an extract of the 'spinal cord' of a science that has its origin in the nucleus triads. Thirdly, to the right, the image displays the internal activities within the nucleus triads. Commencing with the image to the left, a distinct cognitive separation needs to be made between the science's external environment and the substances present in the bodily form and structure of a science. The significance of such a separation lies in the fact that by investigating the science as object in itself, a plethora of theoretical advancements in Public Administration as science lays awaiting to be discovered. In light of the brief conceptual explications of each of the six nodal entities present in a science, visible in Figures 2.4 and 2.5, a clarification of Figure 2.5 draws attention firstly to the spinal cord or nucleus triads that subsist in each of the nodal entities of a science, which runs throughout the science to ground each nodal entity in the philosophical substances of the discipline and its science. Secondly, attention is drawn to the vertices, edges and edge directions as substances in the nucleus triads. Based on the fact that detailed explanations are offered to illuminate the purpose and substances within the nucleus triads of a science, the attention at this stage is only drawn to the fact that each of the six vertices represented in the nucleus triads of a science, represents a meta-theory, for example, 'T' embodies a meta-theory as a theory of a number of theories

that collectively determine the teleological intent or purpose of an object. Chapter 3 of this study provides a detailed argument and construction of Teleology as meta-theory, based on Aristotelian philosophy, from which the purpose of an object such as Public Administration as science is inferred. 'O' represents Ontology as a meta-theory, expanded upon in Chapter 4 that contemplates and explicates the nature of being. Chapter 4 of this study therefore postulates the meta-theory of Ontology and from such a meta-theory, determines the nature of Public Administration as science. 'E' denotes Epistemology or the theory of knowledge and truth as meta-theory. Chapter 5 similarly delivers a meta-theory on Epistemology, from which the theory of knowledge and truth in Public Administration as science is argued. 'M' is indicative of Methodology as meta-theory from which elements such as the principles, rules, methods and postulates applied in a discipline and its science may be derived. 'A' signifies Axiology as meta-theory, which is indicative of a study of norms and values as it for example is accepted in a discipline and its related science. 'I' exemplifies Ikanology as the study of skills and competence required by scholars and similarly scientists in a field of study. In and of itself, each of these individual meta-theories shape the philosophical substances of a discipline and similarly provides the foundational theories that construct the uniqueness of a discipline. Interesting to note is Couclelis' (2009:4) research in Geographic Information Systems (GIS), and her inquiry on the potential for knowledge advancement in this discipline if the meta-theories of Teleology, Ontology and Epistemology, represented as the three Aristotelian pillars, were assimilated in a triad of meta-theories, and what the potential of theory advancement such an arrangement would incite. The researcher adopted Couclelis' (2009) suggestion by assimilating the afore-described knowledge triad of meta-theories, only to establish that there are four nucleus triads extant in the nucleus of a discipline's science as displayed in Figure 2.6. Not only are there four nucleus triads that display six vertices as outlined above, but these vertices are connected by means of virtual edges, and these edges display varying edge-directions that in each instance alter the angle of incidence to further theoretical investigation with the distinct purpose of knowledge advancement in a particular discipline. The critical theoretical advancements that Couclelis' (2009) initial suggestion prompted, particularly to Public Administration as science, revealed itself as that these nucleus triads not only represent the philosophical fundamentals of an academic discipline, and in the instance of this study, a discipline's science, it similarly provides the meta-physical and meta-theoretical essence required at the core of the corporeal morphological structure of a discipline. Emanating from this discussion is an inquiry, perhaps not primarily relevant to this study, but certainly has a protuberant primary value to Public Administration as a whole, which is recognised as follows: Public Administration in its ontological description displays a pluralistic expression in which the science, the art and the craft perform an equally significant role within the discipline. If quotidian science is existence-inept without a scientifically validated

paradigm, or simultaneously active paradigms, is it conceivable for the art and the craft, as equally important ontological expressions of Public Administration, to incite vision, innovation, transformation and change in the midst of an abyss where no scientifically validated paradigm subsists?

Considering the 6 meta-theories that exist in the nucleus triads of a science and the physiognomies embedded in each of the other nodal entities in the anatomy of a science, the potential for theory advancement is vast as will become evident throughout this study. The process of ruminating the corporeal morphology of Public Administration as science thus commences with an explication of an external environment that shapes the context within which Public Administration as science subsists.

### **2.3.1 A perpetual extant entity: the *milieu extérieur* to Public Administration as a science**

During the late 1960s and early 1970s, the very same spatio-temporal period that Sir Karl Popper, Thomas S. Kuhn, Paul Feyerabend, Imre Lakatos, Alan Musgrave, Margaret Masterman, Stephen Toulmin, John W. N. Watkins and L. Pearce Williams delivered significant philosophical contributions to human beings' understanding of science on various levels of scientific inquiry, Aguilar (1967) introduced the PEST, or, as he referred to it as the ETPS (economic, technological, political and socio-cultural dimensions) that are distinctly applied to study an entity or an object's macro external environment (Macintosh & McLean, 2014:58). Fahey and Naryanan (1986), during a later period, expanded on the PEST acronym to include legal and ecological factors, in addition to those factors already identified by Aguilar (1967), which then birthed the acronym PESTEL. With reference to the external environment of Public Administration as a science, Chapter 1, Figure 1.1 clearly delineates and refers to all the external elements that need to be considered in a study of this nature, where the focus is particularly on one of an academic discipline's ontic expressions. It is thus not only the PESTEL that requires acknowledgement as part of the external environment, but similarly all the elements of Figure 1.1, Quadrants 1 – 4, other than Public Administration as a science. This study argues the importance of recognising an academic discipline, and by nature its science within the ambit of its macro external environment that presents all the dimensions mentioned above, and, which largely influences the origins and later the existence and behaviour (meta-physical, sociological, construct or inherent paradigmatic evolution) of any social science (Falk, 1968:50). With particular reference to this study that investigates Public Administration as a science, it is critical to add public administration as practice at the centre

of these empirical dimensions, as reflective of the locus of Public Administration as field of study, revealing both public institutional organisation and public provision of human needs as the foci of the academic discipline.

In the Western world, Public Administration as field of study has its academic geneses in the mid to late 1600s through the scholarly thoughts of Veit Ludwig von Seckendorff, a German statesman and academic scholar (1626 – 1692), (Sakli, 2013:153), and officially in 1887 through the academic contributions of Thomas Woodrow Wilson (Cox, Buck & Morgan, 2016:5). Public administration as practice however dates back to ancient civilisation (Farazmand, 2007:3). The inclusion therefore of a public administrative dimension as part of the macro external environment to Public Administration as a field of study has a three-pronged significance to this study. Firstly, public administration is the pivotal *locus standi* or empirical 'place of standing' (English Oxford Living Dictionaries, 2017) from which all phenomenal occurrences, meritorious and relevant for academic investigation in this field of study are incited, as it is influenced by socio-political, socio-economic, socio-cultural, political economic, technological, ecological and legal human needs. Secondly, the deliberate inclusion and recognition of public administration as part of an environment external to Public Administration the academic discipline, causes the likelihood of a particular 'communication system' between the field of study and its practice, as not so inconceivable. Thirdly, in this study's quest to deliver upon and theoretically justify the corporeal morphology and physiology of a science, it is critical to observe Public Administration as science within the context of an external environment against which this ontological expression of the field of study subsists. If the focus of this study is strictly Public Administration as a science, it needs to be noted that Public Administration as an art and Public Administration as a craft then naturally falls within the ambit of the external environment to Public Administration as a science.

Considering only the seven depicted, interactive dimensions within a state, as part of the external environment to Public Administration as a science, the first phenomenon that arises is the fact that the only normative, universal agreement is that every empirical depiction of a state and its dimensions acutely differs from the next (Weisband & Thomas, 2016:258). Public Administration as a science's external environment, its *locus standi* and foci therefore present itself as volatile, highly dynamic and pluralistic, pluriversal with inherent pluriformity, without the reassurance of a present potential to realise universality. In contrast, the *noumenal* explication of Public Administration as a science in itself, present the antithesis and thus a major opportunity for universality in its generic format that has the capacity to lead to accepted



theory advancement. An example of generic elements in the body of Public Administration as a science affirms that the science in this field of study will incite theory advancement with academic qualities that will establish an inherent order within the discipline.

Against the context of Public Administration as a science's external environment, it is necessary for the field of study's science to include a nodal entity that: a) has a receptor (*recipere*- a region within the science that responds specifically to particular phenomenal substances), which in this instance needs to be both susceptible to anomalies and phenomena that are incited by the given external environment and that have relevance to the field of study, and, that is similarly impervious to phenomena that are incited by the external environment, but that have no relevance to the discipline itself; b) spurs the capacity to scientifically investigate such phenomena; and c) causes 'communicative' solutions to external phenomenal challenges. The foci of this chapter are therefore largely directed at "analysis by deconstruction" and the reduction of Public Administration as a science into its constituent parts (Cambridge English Dictionary, 2017), with the particular aim of establishing the probability of theory advancement. As point of departure to the deconstruction of Public Administration as a science, it is of significance to note: where in the corporeal morphology of a science does the receptor present itself as receiver of both phenomena from an external environment and *noumena* from an internal environment of the discipline's science? What spurs the capacity to investigate such phenomena? And, what causes 'communicative' solutions to external phenomenal challenges? Chapter 2 therefore introduces quotidian science as point of departure in deconstructing the corporeal morphology of Public Administration as a science.

Preceding an investigation of Public Administration as science's corporeal morphology, it is noteworthy to be reminded of the inherent pluralistic-ontic status of this academic discipline and its practice. Public Administration as science is an inseparable part of both Public Administration as art and Public Administration as craft, and *vice versa* (Johnston Miller & McTavish, 2014:6; Rhodes, 2016:639). These ontological expressions of Public Administration are consequently intertwined, but cognitively separable. Though acts of cognitive separation are attainable, the omission of any one of the three ontologically interactive expressions of Public Administration deliver atomistic or fragmented results to the discipline and its practice as a whole. During the consideration therefore of any of these three ontological expressions of Public Administration, and in this particular chapter, the corporeal morphology and physiology of Public Administration as science (i.e., an element in the science of a science), it remains imperative to recognise both the art and the craft of a science. Every molecule or particle of Public Administration thus carries the evidence of this pluralistic

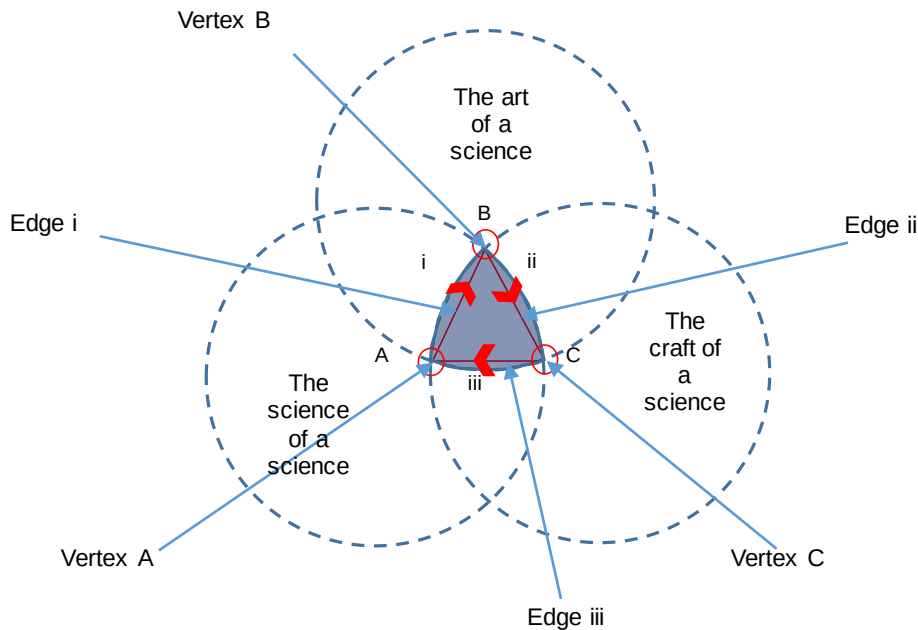
ontological expression as its deoxyribonucleic acid (DNA). What moves beyond the predetermined scope's parameters of this investigation, is further research to determine the theoretical conceptualisation, corporeal morphology, physiology and physiognomies of the science of an art, the art of an art, the craft of an art, as well as the science of a craft, the art of a craft and the craft of a craft of Public Administration. In addition to the scholarly contributions of De Grazia (1961:561), related to the art of a science, and Masterman's (1970:67, 72) "characteristic scientificness of a science" and "creative thinking in a science", respectively related to the science and the art of a science, the potential for foundational theory advancement becomes visible through initial inquiries that have relevance to Figure 2.10 as follows: Figure 2.10 below makes reference to particular sets (Venn, 1880), overlapping regions (Venn, 1880) and Reuleaux triangles (Pickover, 2009:266), in which the sets are highlighted respectively by alphabetical upper case notation cyphers or codes such as: A, B, C, D, E, F, G, H, and I; the overlapping regions or "trading zones", as Hacking (2012:xxxii) referred to these regions, are pointed out by means of roman numeral notation cyphers recognised as: i, ii, iii, v, vi, vii, ix, x, and xi; and the Reuleaux triangles that are indicated by means of alphabetical lower case notation cyphers or codes noted as: a, b, and c. A comprehensive cognition of Public Administration as academic discipline and as practice need to consider the substance of all the aforementioned alphabetical (upper and lower case), and roman numeral notation codes in order to give *noumenal* and phenomenal meaning and substance to the following: a) the T[t]eleological, O[o]ntological E[e]pistemological, M[m]ethodological, A[a]xiological, and I[i]kanological philosophical and empirical meaning and substance of the sets recognised respectively in A – I; b) an identification of similarities and complementary elements', between the T[t]eleological, O[o]ntological E[e]pistemological, M[m]ethodological, A[a]xiological, and I[i]kanological philosophical (*noumenal*) and empirical (phenomenal) meaning and substance of two sets that are detected in the overlapping region between two such sets. The "trading zone" (Hacking, 2012:xxxii) in its linguistic and symbolic denotation thus reflect as follows: the intersection ( $\cap$ ) between the set of A and the set of B equals i, as reflected in the whole overlapping region or "trading zone" (Hacking, 2012:xxxii) between set A and set B, and of which a symbolic denotation reflects as: e.g.,  $A \cap B = i$ ; and c) is reflective of the Reuleaux triangles, which in the case of Figure 2.10 are noted as  $A \cap B \cap C = a$ ,  $D \cap E \cap F = b$ , and  $G \cap H \cap I = c$ , as an identification of the similarities and complementary elements' or substances that denote the T[t]eleological, O[o]ntological E[e]pistemological, M[m]ethodological, A[a]xiological, and I[i]kanological philosophical (*noumenal*) and empirical (phenomenal) meaning and substance, emanating from three sets that are detected in the overlapping regions between these three sets. Interesting to note, is that the mathematical area of a Reuleaux triangle is always determined by means of the following formula: e.g., 'a' = " $\frac{1}{2} (\pi - \sqrt{3}) r^2$ ", (Pickover, 2009:266) therefore, 'a' equals half of (the radius of a circle's

circumference to its diameter, minus 1.73205080757, which is the square root of three), multiplied by the circle's radius to the power of 2. For the purposes of this study however, such mathematical formula has no significance to Public Administration, neither in its academic discipline, nor in its practice, and even though both Public Administration and Mathematics refer to a Reuleaux triangle, there are no similarities between the meta-theory or theories that Public Administration extract from a Reuleaux triangle and the meta-theory or theories that Mathematics extract from the Reuleaux triangle. The magnitude of including such a reflective comparison between the meta-theory and theories that emanate from the Reuleaux triangle for Public Administration and the meta-theory and theories that emanate from the Reuleaux triangle for Mathematics lead scholars of a science to grasp what Kuhn (1962; 2012:320 - 339) meant by “incommensurability”, as “that there are significant limits to what the proponents of different theories can communicate to one another” within a science and amongst different disciplines’ sciences (Hacking, 2012:xxx – xxxiii). Hacking (2012:xxxii) further clarifies that “incommensurability” exists in both the transferral of non-value-adding knowledge between different academic disciplines, and often between advocates of varying worldviews and paradigms within one field of study, hence the reference a “trading zone”.

In maintaining the research topic, research scope and problem statement of this investigation, attention is given only to the sets reflected in Figure 2.10 as A, B, C, D, and G, and the regions noted as i, ii, and iii, as well as one Reuleaux triangle noted as a, which stimulate further inquiries as follows: i) Which substances do set A (the science of a science), set B (the art of a science), set C (the craft of a science), set D (the science of an art), and set G (the science of a craft) comprise of? The aforementioned enquiry contributes to a semi-fragmented explication of what Public Administration as science is, as it only responds to that which reflects as the teleological, ontological, epistemological, methodological, axiological and ikanological substances of sets A, B, C, D and G but most importantly serves as the first building block towards establishing a holistic theoretical explication of Public Administration as science; ii) Which substances do set A (the science of a science) and set B (the art of a science) have in common, that may resort under i as the overlapping region or “trading zone”? In symbolic terms,  $A \cap B = i$ . Which substances do set B (the art of a science) and set C (the craft of a science) have in common, that may resort under i as the overlapping region or trading zone? In symbolic terms,  $B \cap C = i$ . Which substances do set C (the craft of a science) and set A (the science of a science) have in common, that may resort under i as the overlapping region or trading zone? In symbolic terms,  $A \cap C = i$ . The latter three enquiries continue to reflect a semi fragmented explication of what Public Administration as science is, as it only responds to that which reflects as the teleological, ontological, epistemological, methodological, axiological and ikanological similarities and complementary substances within overlapping

regions or “trading zones” in i, ii, and iii. Even though v, vi, vii, ix, x and xi fall into the same category as i, ii and iii, no reference in explication will be made to v, vi, vii, ix, x and xi, as they reflect a reduced relevance value to this study, as opposed to similarities and complementary substances within overlapping regions or “trading zones” in i, ii, and iii. What needs to be noted however, is the fact that in determining the similarities and complementary substances within overlapping regions or “trading zones” in i, ii, iii, v, vi, vii, ix, x and xi, serves as the second building block towards theory advancement in Public Administration, and determining the similarities and complementary substances within overlapping regions or “trading zones” in i, ii, and iii serves as the second building block towards theory advancement in Public Administration as science; iii) The third building block towards theory advancement in Public Administration as science considers the similarities and complementary substances within Public Administration as science’s Reuleaux triangle, referenced in Figure 2.6. A Reuleaux triangle comprises of three vertices noted in Figure 2.6 as Vertices A, B and C, which respectively reflect the theoretical substances that emulate the science of a science, the art of a science and the craft of a science. Similarly, a Reuleaux triangle comprises of three edges, noted in Figure 2.6 as i, ii, and iii that respectively represent those substances that by their very nature reflect a similarity or a complementary characteristic to both the science of a science and the art of a science, represented in i, and a similarity or a complementary characteristic to both the art of a science and the craft of a science, represented in ii, and a similarity or a complementary characteristic to both the science of a science and the craft of a science, represented in iii, which appropriates its inclusion into the edge’s properties and later as a substance and property of the Reuleaux triangle.

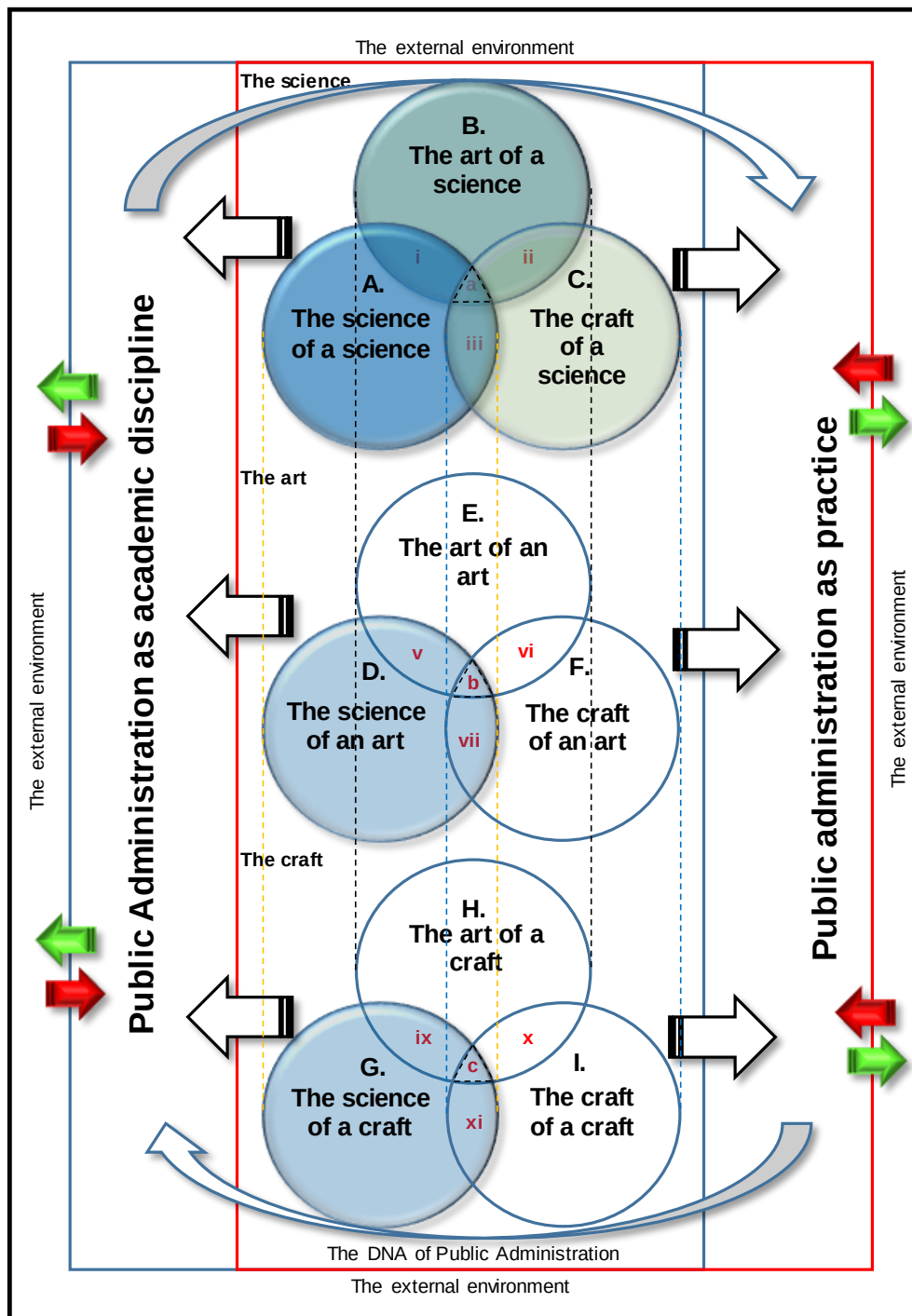
**Figure 2.6: The Reuleaux triangle**



**Source:** Author's perspective

The Reuleaux triangle displayed in Figure 2.6 therefore enables a display of those distinct substances that in itself has the capacity to reveal the pluralistic-ontology of Public Administration as a science in its source, in its state, in its expression and in its condition, however, still in a fragmented way. In order to comprehend a holistic representation of Public Administration as a science, it is required to consider Figure 2.7, which in itself provides a holistic overview of the intricate intertwined pluralistic substance in the DNA of Public Administration as academic discipline and as practice. Through deeper investigation, it becomes clear that Public Administration as a science is not only influenced by Public Administration's other two ontological expressions (the art and the craft of Public Administration), Public Administration as a science similarly influences the art and the craft of Public Administration. The subsequent truth is then that a holistic, un-fragmented understanding of Public Administration as a science, an art and as a craft is only possible through the consideration of reciprocal relationships and the manner in which such relationships construct Public Administration in its teleological, ontological, epistemological, methodological, axiological and ikanological or philosophical being. Figure 2.8 that follows therefore provides a visual, one dimensional image of the DNA of Public Administration as it is located in the context of an external environment.

Figure 2.7: A holistic view of the complex, pluralistic DNA of P[p]ublic A[a]dministration



Source: Author's perspective

In order to substantiate the afore-described arguments and its inherent potential for universally accepted theory, the following explications are offered to provide foundational, theoretical insight into Public Administration as a science.

- a) The science or the 'scienceness' of a science (a fragmented display of Public Administration as science, as academic discipline and as accompanying practice, reflected in Figure 2.10 as A).

The explication that follows is fragmented, based on two observations: only *noumenal* properties are considered; and, it is furthermore not a holistic display of all the *noumenal* manifestations of a science in an academic discipline and its accompanying practice as a holistic display includes the following: a) the science of a science; b) the art of a science; c) the craft of a science; d) the science of an art; and e) the science of a craft. Note that in a – c, the science in its ontic state as object comprises of, and is influenced by the science, the art and the craft, and, in the case of d, the art comprises of part science and is thus influenced by the science; and in the case of e, the craft comprises of part science and is thus influenced by the science. Such a holistic understanding of the science within an academic discipline and its accompanying practice illuminates the fact that the science as ontological expression of an academic discipline and its accompanying practice is both influenced and influencer. A similar deduction is made for both the art and the craft as ontological expressions in an academic discipline and its accompanying practice.

With reference to the science of a science, the most prominent inquiry is: What is the potential for epistemological contributions that stem from a logic and systematic scientific analysis and explication of the science in itself, its *noumena*, which considers substances in a science recognised as the historical, philosophical, philosophy, corporeal morphology (anatomy), physiology and chemistry of such a science, and when applicable, its causal relationships with other ontological expressions within the same science? In other words, the science as influencer of the science in its *noumenal* disposition. To this inquiry, properties of significance include the following: If scholars and practitioners of Public Administration as a science display the ability, across generations (Kuhn, 1962; 2012:1, 84, 195), to provide theoretically articulated and substantive elucidations to the following themes, the field of study would present credible evidence of moving towards a fully fledged science:

- Lucid reasoning, rationality and methodical scientific organisation of the science in itself;
- A methodical organisation of *noumena* and phenomena that present itself respectively within and to the science;
- A historical trajectory of the natural evolution of a science, its schools of thought, influencers (both human and inorganic), varying worldviews and *zeitgeists*, scientific

approaches, profundity of statements, technological profundity, and problem focus extant during dissimilar spatio-temporal contexts;

- A theoretically articulated elucidation to the science's distinct teleological, ontological, epistemological, methodological, axiological and ikanological substances;
- The bodily form, structure (anatomy) and functions (physiology) of such a science, which necessitate a deep-seated cognitive understanding of both objects and causal potency in inorganic substances;
- The science's reciprocal causal relationships with other ontological expressions within the same science;
- *Noumenal epistêmê* of the matter and its properties inherent to the science itself as it subsists within an academic discipline and its accompanying practice; and
- A science's final teleological intent, presented as an innate potential to display the physiognomies and properties of an orderly scientifically substantiated science within an academic discipline and accompanying practice, the potential for epistemological contributions that stem from *noumenal* knowledge (*epistêmê*; ἐπιστήμη), intelligence and intellect (*noesis*) of the science, then ranges from a bare minimum to nil.

In stark contrast, if scholars and practitioners of P[p]ublic A[a]dministration as a science cannot display the ability, across generations, to provide theoretically substantive elucidations to the afore-described substances in the science of a science, the potential for epistemological contributions that stem from *noumenal* knowledge (*epistêmê*; ἐπιστήμη), intelligence and intellect (*noesis*), will prove to be nothing and academically younger colleagues will feel obliged to seek the substance of properly formulated theories in other disciplines. The dilemma is always that such 'borrowed' theories have, to begin with, a different angle of incidence than what was necessarily required for P[p]ublic A[a]dministration as field of study or practice.

- b) The art or the 'artness' of a science (a fragmented display of Public Administration as science, as academic discipline and as accompanying practice, reflected in Figure 2.10 as B).

The explication that follows is fragmented, based on two observations: only *noumenal* properties are considered; and, it is furthermore not a holistic display of all the *noumenal* manifestations of a science in an academic discipline and its accompanying practice as a holistic display includes the following: a) the science of a science; b) the art of a science; c) the craft of a science; d) the science of an art; and e) the science of a craft. Note that in a – c, the science in its ontological state as object comprises of, and is influenced by the science,



the art and the craft, and, in the case of d, the art comprises of part science and is thus influenced by the science; and in the case of e, the craft comprises of part science and is thus influenced by the science. Such a holistic understanding of the science within an academic discipline and its accompanying practice illuminates the fact that the science as ontological expression of an academic discipline and its accompanying practice is both influenced and influencer. A similar deduction is made for both the art and the craft as ontological expressions in an academic discipline and its accompanying practice.

With reference to the art of a science, the most prominent inquiry is: What is the potential for epistemological contributions that stem from the power of an art as intelligent foresight within a science, and that incites such a science with value driven ardency towards proactive visionary insight in a logic and systematic scientific analysis and explication of the science in itself, its *noumena*, which considers substances in a science recognised as the historical, philosophical, philosophy, corporeal morphology (anatomy), physiology and chemistry of such a science, and when applicable, its causal relationships with other ontological expressions within the same science? In other words, the art as influencer of the science in its *noumenal* disposition. To this inquiry, properties of significance include the following, if scholars and practitioners of P[p]ublic A[a]dministration as a science display the ability, across generations (Kuhn, 1962; 2012:1, 84, 195), to provide theoretically articulated and substantive elucidations to the following themes, extant in the art of a science:

The power of an art as intelligent foresight within a science that incites such a science with value-driven ardency towards proactive visionary insight includes:

- lucid reasoning, rationality and methodical scientific organisation of the science in itself;
- the methodical organisation of *noumena* and phenomena that present itself respectively within and to the science;
- a historical trajectory of the natural evolution of a science, its schools of thought, influencers (both human and inorganic), varying worldviews and zeitgeists, scientific approaches, profundity of statements, technological profundity, and problem focus extant during dissimilar spatio-temporal contexts;
- theoretically articulated elucidations to the science's distinct teleological, ontological, epistemological, methodological, axiological and ikanological substances;
- investigating the bodily form, structure (anatomy) and functions (physiology) of such a science, which necessitate a deep-seated cognitive understanding of both objects and causal potency in inorganic substances;

- the science's reciprocal causal relationships with other ontological expressions within the same science;
- the *noumenal epistêmê* of matter and its properties (chemistry) inherent to the science itself as it subsists within an academic discipline and its accompanying practice; and
- a science's final teleological intent, presented as an innate potential to display intelligent foresight and value driven ardency towards proactive visionary insight in the physiognomies and properties of an orderly scientifically substantiated science within an academic discipline and accompanying practice, the potential for epistemological contributions that stem from *noumenal* knowledge (*epistêmê*; ἐπιστήμη), intelligence and intellect (*noesis*) of the science, then ranges from a bare minimum to nil.

On the other hand, if scholars and practitioners of P[p]ublic A[a]dministration as a science cannot display the ability, across generations, to provide theoretically substantive elucidations to the afore-described substances in the art of a science, the potential for visionary insight in epistemological contributions that stem from *noumenal* knowledge (*epistêmê*; ἐπιστήμη), intelligence and intellect (*noesis*), will prove to be a black abyss of nothing, and academically younger colleagues will feel obliged to seek the substance of properly formulated theories in other disciplines. The dilemma is always that such 'borrowed' visionary insights have, to begin with, a different angle of incidence than what was necessarily required for [p]Public A[a]dministration as field of study or practice.

- c) The craft or the 'craftness' of a science (a fragmented display of Public Administration as science, as academic discipline and as accompanying practice, reflected in Figure 2.10 as C).

The explication that follows is fragmented, based on two observations: only *noumenal* properties are considered; and, it is furthermore not a holistic display of all the *noumenal* manifestations of a science in an academic discipline and its accompanying practice as a holistic display includes the following: a) the science of a science; b) the art of a science; c) the craft of a science; d) the science of an art; and e) the science of a craft. Note that in a – c, the science in its ontological state as object comprises of, and is influenced by the science, the art and the craft, and, in the case of d, the art comprises of part science and is thus influenced by the science; and in the case of e, the craft comprises of part science and is thus influenced by the science. Such a holistic understanding of the science within an academic discipline and its accompanying practice illuminates the fact that the science as ontological expression of an academic discipline and its accompanying practice is both influenced and

influencer. A similar deduction is made for both the art and the craft as ontological expressions in an academic discipline and its accompanying practice.

With reference to the craft of a science, the most prominent inquiry is: What is the potential for epistemological contributions that stem from active transformation and change in a logic and systematic scientific analysis and explication of the science in itself, its *noumena*, which considers substances in a science recognised as the historical, philosophical, philosophy, corporeal morphology (anatomy), physiology and chemistry of such a science, and when applicable, its causal relationships with other ontological expressions within the same science? In other words, the craft as influencer of the science in its *noumenal* disposition. To this inquiry, properties of significance include the following:

If scholars and practitioners of a science display the ability, across generations (Kuhn, 1962; 2012:1, 84, 195), to provide theoretically articulated and substantive elucidations to the following themes, extant in the craft of a science:

Active transformation and change recognised in

- lucid reasoning, rationality and methodical scientific organisation of the science in itself;
- the methodical organisation of *noumena* and phenomena that present itself respectively within and to the science;
- a historical trajectory of the natural evolution of a science, its schools of thought, influencers (both human and inorganic), varying worldviews and zeitgeists, scientific approaches, profundity of statements, technological profundity, and problem focus extant during dissimilar spatio-temporal contexts;
- the theoretically articulated elucidations to the science's distinct teleological, ontological, epistemological, methodological, axiological and ikanological substances;
- the bodily form, structure (anatomy) and functions (physiology) of such a science, which necessitate a deep-seated cognitive understanding of both objects and causal potency in inorganic substances;
- the science's reciprocal causal relationships with other ontological expressions within the same science;
- the *noumenal epistêmê* of matter and its properties (chemistry) inherent to the science itself as it subsists within an academic discipline and its accompanying practice; and
- a science's final teleological intent, presented as an innate potential to display such active transformation and change in the physiognomies and properties of an orderly scientifically substantiated science within an academic discipline and accompanying

practice, the potential for epistemological contributions that stem from *noumenal* knowledge (*epistêmê*; ἐπιστήμη), intelligence and intellect (*noesis*) of the science, then ranges from a bare minimum to nil.

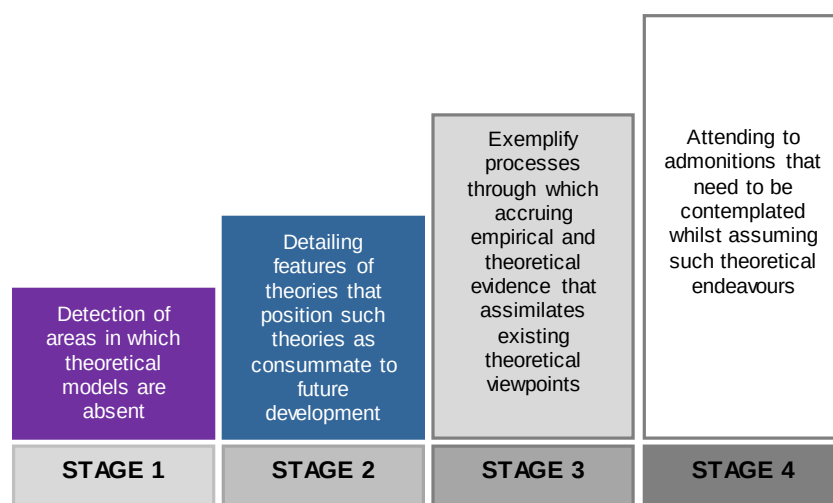
In comparison, if scholars and practitioners of P[p]ublic A[a]dministration as a science cannot display the ability, across generations, to provide theoretically substantive elucidations to the afore-described substances in the craft of a science, the potential for epistemological contributions that stem from *noumenal* knowledge (*epistêmê*; ἐπιστήμη), intelligence and intellect (*noesis*), will prove to be a void with zero substance that will coerce academically younger colleagues to seek the substance of properly formulated theories in other disciplines. The dilemma is always that such ‘borrowed’ theories of change and transformation, and the process of hylomorphism (matter into form), or the connectedness between the scientific elements (e.g. theory) and the artistic elements (e.g. visionary insight) and the academic field of study and its practice, have, to begin with, a different angle of incidence than what was necessarily required for [p]Public A[a]dministration as field of study or practice.

The aforementioned explication to the science of a science, the art of a science and the craft of a science elucidate the fundamental *noumenal epistêmê* and *noesis* to the science itself, form which the overlapping regions or “trading zones” (Hacking, 2012:xxxii) are determined and are recognised respectively as: the science and art of a science,  $A \cap B = i$ ; the art and craft of a science,  $B \cap C = ii$ ; and the science and craft of a science,  $A \cap C = iii$ .

Even though the context that an external environment shapes is critically important to comprehend an academic discipline, its practice and ontological expression/s within such a context, the focus of this particular study is directly aimed at investigating that which is internal to a science, recognised as the anatomy and physiology of a science towards the identification of the potential for theory advancement that will in particular enhance scholars and practitioners of Public Administration’s awareness and intellectual appreciation of Public Administration as science. This study is therefore compelled to pose two respective frameworks against which either meta-theory or theory construction will be considered as one approach to theory advancement. In order to ascribe meta-theoretical and theoretical value to the DNA of Public Administration in its similarities and complementary substances, Chapter 1, Sections 1.5.3 and 1.5.4 presented the respective conceptualisations and physiognomies to both a theory and a meta-theory that is considered here to shape the foundations of a meta-theory building framework as well as a theory building framework that is largely influenced by a pluralistic viewpoint that comprises of the capacity to inform such similarities and substances in the sets, in the overlapping regions or “trading zones” and in the Reuleaux triangle. In

addition to Chapter 1, Sections 1.5.3 and 1.5.4, Hacking (2012:xxxi) lists five values, which Kuhn ascribed to a theory and which this study propose as the measuring instruments against which a solid, meta-theory and theory are measured, as follows: a) Theories need to be exact in their prognostications; b) Theories are compelled to be reliable, sound and coherent; c) Theories have to be expansive in range; d) Theories are bound to exhibit phenomena and/or *noumena* in a logical, methodical and systematic manner; and e) Theories are required to be prolific in signifying novel *noumena* and phenomena or associations between such *noumena* and phenomena and as such, reflect as a generality, a construct removed from one singular *noumenon* or phenomenon. As noted in Chapter 1, sub-section 1.5.3.1, Luthar (1997:459) documented the four stages against which theory building occurs. Figure 2.8 provides a visual image in which these four progressive stages are portrayed.

**Figure 2.8: The four progressive stages of theory-building**



**Source:** Luthar (1997:459)

Bearing Figure 2.8 in mind, this particular research endeavour, identified the corporeal morphology and physiology of Public Administration as science, as an ontological expression of the discipline that requires theory advancement. Stage 1 of Luthar's (1997:459) four progressive stages of theory building has subsequently already occurred in Chapter 1 of this study. Stage 2 requires detailing of the features of theories that position such theories as consummate to future development. Stage 2 similarly occurred in Chapter 1 of this study, which reflects the contributions of scholars such as: Vineyard (1949); Friedman (1953:300); Sneed (1971:290); Laudan (1977:108 - 110); Fisher (1978:29); Maso (1995:1); Hettrema (2000:xxi); Joseph (2004:140); Hamminga (2005:129); Sober (2006:531); Bechmann (2009:103); Carr (2009:39); Witt (2010:118); Wood (2011:178); Brody (2012:73); Moser (2012:13); Amos and Boohan (2013:36); Baggott (2013); Dawid (2013:188); Mayer, Röder,

Hartwig and Quick (2014:173); Chinn and Kramer (2014:205); and Kelly (2020:110, 215, 353, 367), in determining 21 features of theories, inclusive of each feature's description, as well as Stepin's (2009:56) 14 principles of organisation in scientific theory. Both stages 3 and 4 are underway as this study firstly accumulates theoretical evidence that assimilates viewpoints on the corporeal morphology and physiology of a science to which this study in addition heeds meticulous attention to admonitions such as the philosophical variances between a natural and a social science and the variance that different worldviews impose to the angle of incidence on any object. Based on Reus-Smit's (2016:141) classification of three varying types of theories, noted as distinctive theory, conventional theory and meta-theory, a concise conceptualisation is offered to establish a clear delineation in meaning between these three types of theories as follows: a) a distinctive theory is explained as a hypothesis or an arrangement of ideas that explicate the physiognomies of a single object, particularly one founded on fundamental principles as primary truth, or a proposition that serves as the basis of a belief system or logical sequence of reasoning, independent of the object that requires explanation, and as such, aid to distinguish such an object from other objects (English Oxford Living Dictionaries, 2017) ; b) a conventional theory is conceptualised as a hypothesis or an arrangement of ideas that is founded on, or subsist in agreement with that which is commonly acknowledged to explicate an object, particularly one founded on fundamental principles as primary truth, or a proposition that serves as the basis of a belief system or logical sequence of reasoning, independent of the object that requires explanation (English Oxford Living Dictionaries, 2017); and c) a meta-theory is explicated as a theory of theories that engages in the study and examination or narrative of theory itself (Merriam-Webster, 2017).

The afore described theoretical details enable Section 2.3.2 to enter into an investigation of the interior environment of a science by commencing with the conceptualisation and physiognomies of quotidian science as first nodal entity in the corporeal morphology of a science.

### **2.3.2 The *milieu intérieur*: Nodal entity 1 – Quotidian science**

Quotidian, or normal science as Kuhn (1962; 2012:23 - 34) labelled this nodal entity in a science, is an entity that subsists in the structure of scientific revolutions or paradigmatic transitions (Hacking, 2012:x). However, quotidian science as nodal entity does not only exist during scientific revolutions, it similarly subsists in, and has a critically persistent role to play in the corporeal morphology of a science as the most prominent role player in day-to-day activities of scientific problem solving and delivering expanded expression to the paradigm/s of a science (Hacking, 2012:xv – xvii). Kuhn (1962; 2012:5) narrates quotidian science as a

type of science in which most scientists inevitably spend the majority of their time, and that this nodal entity is predicated on the assumption that the scientific community have an appreciation of what the world is like. Much of the success of quotidian science as enterprise derives from a scientific community's willingness to defend that assumption, if necessary at a substantial cost. Based on extensive research, Kuhn (1962; 2012:5, 10, 11, 23 - 34, 35, 37, 42, 43 52, 66, 79) determined that quotidian science inherently carries distinctive physiognomies such as that quotidian science is: a) primarily a paradigm directed, "problem solving" entity to phenomenal occurrences or anomalies (Kuhn, 1962; 2012:6, 24, 25, 26, 27; Hacking, 2012:xvii, xiv), in which such anomalies challenge the field of study and/or its practice. In the case of Public Administration, these anomalies imply afflictions that debilitate the attainment of the pluralistic-teleological intent of this discipline and its practice; b) a nodal entity in a science that will not advance the discipline theoretically; c) the predominantly recounted feature in a discipline's academic journals; d) never aiming at establishing innovation or originality; e) a critically important nodal entity in a science as it establishes solutions and a narrative to phenomenal occurrences; f) enabling the manifestation of that which is narrated and suggested in a paradigm or paradigms, by firstly advancing a paradigm/s theoretical and factual knowledge base, and secondly by offering an extended pronouncement of the paradigm itself; g) predominantly important in the aftermath of a scientific revolution or a paradigm shift as the prominent entity that cleanses a science from the 'debris' or unanswered segments of phenomena revealed by the new paradigm, and as such, supports the protective membrane by bringing a science closer to a state of homeostasis. Such debris cleansing activities that force a science back to homeostasis is what Kuhn (1962; 2012:24) identified as part of quotidian science's prevalent character; h) the investigation of microscopic parts of a phenomenon in the context of a highly delimited ambit, as suggested by a paradigm or simultaneously active paradigms; i) indispensable to the advancement of a science; j) directly connected to the protective membrane that provides quotidian science with a "built-in mechanism" that reduces the strictures suggested by paradigm/s to the extreme extent of severing itself from the paradigm whenever the latter no longer postulates the strictly confined meta-theoretical ambit that leads positive problem-solving and as such, paradigm-grounded investigations; k) in its essence encompassing three distinct problems to which the foci are noted as: challenges in assembling factual data (i.e., within the category of factual truths that a paradigm has illuminated as acutely edifying); challenges to equate facts directly to the prognostications suggested by a paradigm/s (i.e., an all-embracing correlation between a scientific theory and empirical phenomena is rarely found); and challenges in experiments and observation (i.e., empirical activities carried out to enunciate the paradigm/s theory, responding to parts of the enduring abstruse debris to which the paradigm/s had/have drawn attention to).

An interpretive and applied elucidation to quotidian science in Public Administration has to commence with an easily overlooked extract from Kuhn's (1962; 2012:5) denotation to quotidian science, noted as follows: that a society of scientists would "know what the world is like". A two pronged explication is offered here to the narrative meaning of Kuhn's denotation as follows: Not only should scientists from a disciplinary community have a deep-seated cognitive knowledge of the historical, philosophy and philosophical substance that explicate the science's natural trajectory of basic values, varying worldviews, zeitgeists and its impact, in different spatio-temporal eras of the science, the natural evolution and extraordinary moments of scientific paradigmatic advancement, varying spatio-temporal approaches and methods, profundity of statements, technological profundity, phenomenal and *noumenal* foci of the science in varying spatio-temporal eras, and the teleological, ontological, epistemological, methodological, axiological and ikanological meta-theoretical explications, such a community of scientists similarly need to have a deep-seated cognitive knowledge of the external environment as context within which the science subsist, and from which most of its phenomenal instances are derived. Such an initiating understanding of the anatomy of quotidian science instantaneously underscores the importance of recognising both the nucleus triads (the spinal cord of a science) and the nucleus as substance providers to quotidian science. To this effect, Gruening (2001:1 - 25) presented advanced evidence in terms of the origin and theoretical basis of New Public Management and the three paradigms that directed the spatio-temporal context of this wave of reform in Public Administration. What similarly became evident is that quotidian science is paradigm directed. Kuhn (1962; 2012) provides no less than 21 different descriptions of what a paradigm is, which Masterman (1970:75) categorised into three distinct classes or senses as follows: the first sense of a paradigm is a meta-physical sense, the second sense reflects as a sociological sense, and the third sense related to a paradigm represents an artefact or construct sense. A paradigm therefore directs quotidian science within the narrow strictures of a "different way of seeing the substance of the nucleus triads and nucleus as nodal entities in a science. Such a "different way of seeing" is perhaps more easily explicated by means of Ludwig Wittgenstein's 'duck-rabbit' enigmatic illusion (Hacking, 2012:xii), or the different outcomes related to investigating a phenomena from a strictly positivist worldview as opposed to pluralism in a post-modern realm. A paradigm, which will be explicated in greater detail later in Section 2.3 therefore provides quotidian science with a distinct way of approaching phenomena, which unequivocally affirms both the existence of a single or simultaneously active paradigms as nodal entity in a science, and the paradigm or simultaneously active paradigm's presence in quotidian science. With reference to Public Administration, a wave of reform is often effortlessly mistaken as a paradigm, based on the fact that both reflect a sociological and artefact sense, but in argument, a paradigm proper reflects a critically significant meta-physical



and a construct sense in addition to a sociological and artefact sense, to which a wave of reform in the first instance dedicates insignificant attention. Quotidian science is furthermore by nature the problem solving entity in a science, and subsequently do so within the firm pre-determined confines of paradigm. Evidence hereof subsists in the documented narratives of discipline related academic journals. At closer inspection, these documented narratives as one of the artefacts of quotidian science never delivers extraordinary advancements to the discipline's theoretical character and status, which is based on the fact that quotidian science in the first instance do not originate from novelty and inventiveness and subsequently do not produce ingenuity in theory advancement. Two of quotidian science's primary features are firstly to enable the manifestation of the paradigm's view of the world and secondly to provide an extended articulation of the paradigm. Quotidian science is similarly a cleansing agent that rids the science form debris or unanswered phenomena in the aftermath of a paradigmatic transition as it attempts to provide solutions to unrequited challenges prompted by the new paradigm. Quotidian science equates to the investigation of microscopically small parts of a phenomenon in the context of a limiting paradigm, which implies that such research investigations may last years before it offers significant solutions. However, quotidian science remains pivotal in the advancement of a science.

Based on the afore-explicated factual details, Figure 2.11 presents a visual image of quotidian science and its substance as follows: With reference to a) and b), quotidian science is anchored in the philosophical substance (represented in the nucleus triads) and the whole philosophy (represented in the nucleus) of a science as quotidian scientists have a shared understanding of the world; c) Quotidian science reflects a paradigm that offers the strictures within which scientific research is conducted, in which the paradigm reflects a different angle of incidence to the nucleus and nucleus triads extant in a science; d) Quotidian science has a "mechanism" (Kuhn, 25, 101, 191, 194) directed by the protective membrane to either reduce the strictures of a paradigm or, to sever itself from the paradigm when the latter ceases to positively lead quotidian science efforts; and e) The rest of the space left within the ambit of quotidian science is dedicated to phenomenal problem solving, advancing the paradigm's foundational intelligence, expanding an articulation of the paradigm and cleansing the science of unanswered new phenomena in the aftermath of a paradigm transition. Figure 2.9 below provides a visual explication of the substances extant in quotidian science as nodal entity in the corporeal morphology of a science.

[illegible]

Emanating from the physiognomies of quotidian science, meaning is invoked into an ontological understanding of this nodal entity as that the source of quotidian science is both transcendent and immanent. Quotidian science's transcendent source is determined, based on the fact that this nodal entity is incited by the nucleus triads, the nucleus and the protective membrane as well as a paradigm or simultaneous paradigms, whom all display meta-physical and meta-theoretical elements. Quotidian science's immanent source is determined, based on all of the aforementioned nodal entities as inciter of quotidian science. The state of quotidian science is explicated as both static and dynamic. Quotidian science reveals a static state when confined within the strictures of a paradigm and dynamic when its "built-in mechanism" reduces the strictures, or severs quotidian science as nodal entity from the strictures of a redundant paradigm, or, when quotidian science is in transition from a redundant to a new paradigm. In its expression, quotidian science reveals itself as whole rather than plural as it is a uniquely defined nodal entity within the corporeal morphology of a science. Quotidian science in its condition is revealed as differentiated, based on the fact that in its physiognomies, quotidian science appears to be fundamentally dissimilar to any of the other nodal entities extant in a science, with its own unique teleological intent. In its condition, quotidian science is furthermore both individualistic and relational. This nodal entity's individualistic condition is affirmed within the context of a science as it displays a quality and character of its own, whilst its relational condition is based on this nodal entity's distinct connection to other nodal entities with a science, such as the nucleus triads, the nucleus, the protective membrane, a paradigm or simultaneously active paradigms as well as an external environment. The condition therefore of quotidian science is both differentiated individualistic and differentiated relational.

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that in the 21<sup>st</sup> century, the term paradigm “is embarrassingly everywhere”. With this context in mind, section 2.3.3 investigates the linguistic and ontological meaning of a paradigm, inclusive of the physiognomies and properties that construct the substance of this nodal entity in the corporeal morphology of a science.

### **2.3.3 The physiognomies and properties that construct the substance of nodal entity**

#### **2: A paradigm**

The concept of paradigm can be followed by means of Greek etymology (Stansfield, 2001:1) to establish the root concepts as well as their fundamental denotations. The following paragraph briefly includes, translates and gives meaning to the Greek root concepts, as it eventually evolves into the term paradigm as follows: The two original Greek root concepts from which the term paradigm progresses is recognised in Figure 2.11 as *para* (παρά) and *deiknumi* (δεικνυμι) (Lexilogos, 2019), which in a merged concept recorded as *paradeiknumi* (παράδεικνυμι) that in later years evolved into *paradeigma* (παράδειγμα), (Lexilogos, 2019) or as it is known in the English language as paradigm (Lexilogos, 2019). Hereto, *para* (παρά) is explicated as “that which is beside or beyond” (Lexilogos, 2019); *deiknumi* (δεικνυμι) is clarified as “to show or to point out” (Lexilogos, 2019); *paradeiknumi* (παράδεικνυμι), which is expounded as “to exhibit, to represent, or to expose”, “that which is beside or beyond” (Lexilogos, 2019); the concept paradigm is elucidated as: “a philosophical and theoretical framework of a scientific school or discipline within which theories, laws and generali[s]ations and the experiments performed in support of them are formulated” (Merriam-Webster Online Dictionary, 2019) and “a model of something or a very clear and typical example of something” (Cambridge English Dictionary, 2019). Emanating from the briefly stated factual details above is the striking evidence of a relation that a paradigm has to have with the philosophical, with a theoretical framework and with a scientific school or discipline. The realisation for P[p]ublic A[a]dministration in pronouncing or declaring the existence of a paradigm/s within, is that both the discipline and its practice need to display sturdy evidence of relations with the philosophical, the theoretical and the scientific within, before there may be any mention of a paradigm/s. Figure 2.10 that follows, details an illustration of the natural evolution of the concept of paradigm.

**Figure 2.10 An etymological structure of the concept paradigm**



**Source:** Stansfield (2001:1); and Lexilogos (2019)

The chronicles of science will indefinitely revere Sir Karl Raimund Popper (1902 – 1994) for his grandiose contributions to human beings' understanding of science, "since Popper first said everything that is true about science" (Masterman, 1970:67). Popper was by far the most prominent adherent from a persistent collection of followers such as Margaret Masterman (1910 – 1986), Stephen E. Toulmin (1922 – 2009), Imre Lakatos (1922 – 1974), Paul K. Feyerabend (1924 – 1994), John W.N. Watkins (1924 – 1999), Thomas S. Kuhn (1922 – 1996), L. Pearce Williams (1927 – 2015), and Alan Musgrave (1940 - living), of the hypothetico-deductive viewpoint of science. Masterman (1970:68) conceptualises the hypothetico-deductive viewpoint of science as the factual substance of which a single, seemingly all-embracing, befitting, enunciated, absolute and strictly explained deductive arrangement comprise. Young (1994:6) however informs that, based on individuals' critical input in terms of the formation of paradigms, and such paradigms' natural or social expression, postmodern and post-postmodern science gradually veered away from the application of 'falsification' as presented by Popper (2002:6, 18 - 20, 28, 60 – 67). "The idea that one day the knowledge process will end as we fit the last piece into a grand unified theory, encompassing all realities and coherently translatable [theory] across domains by a propositional logical positivism is an authoritarian dream" (Young, 1994:8); as substitute, modern sciences are positioned to primarily lean towards an appraisal of the scale and intensity to which the psychological relation between human beings subsist, and ("human inter-subjectivity") the extent to which such human beings' inherent social being are effective or have failed in the construction process of paradigms. Since Kuhn (1962; 2012) released his tradition-shattering book in 1962, "The Structure of Scientific Revolutions", Kuhn (1962; 2012) ensured that the manner in which scientists' perceive science became forever altered, no matter which discipline they represented (Hesse, 1964:187). Considering a hypothetico-deductive view of science, Popper's 'falsifiable meta-physics' view of a science and Kuhn's 'paradigm view' of science, which all result in admirable science and assist human beings to understand the world better, in itself supports the notion that Pluralism as worldview, by the same token occurs in science. Correspondingly, a purist recognition of Pluralism as worldview

necessitates a recognition of the dissimilarities that subsist in comparison to approach, method, ambit, space-time and results, which is potentially a plight for additional investigations. What is clear on surface value, is the fact that a recognition of all these approaches to science delivers a deeper and richer insight into the world of science, and equally, the world itself. However, the primary scope of this chapter is to establish an understanding of the corporeal morphology and physiology of Public Administration as a science, and in that, the potential for theory advancement. Since these aspects of a science declare a focus on the scholars and artefacts that enable insight into the specified phenomena, the chapter continues with an investigation of the paradigm as nodal entity in the corporeal morphology of Public Administration as a science.

In his conceptualisation of a paradigm, Kuhn (1962:10; 2012:10) emphasises the following two physiognomies of a paradigm: a paradigm is a tangible and discernible set of scientific habits (“a concrete scientific achievement”), (Masterman, 1970:67, 69), that are: a) adequately unparalleled and extraordinary enough to draw a persistent collection of followers (in the case of P[p]ublic A[a]dministration, scientists and practitioners) away from rival methods of scientific activity; and b) is adequately open-ended to permit an array of phenomena for the redefined, persistent collection of supporters to unravel, resolve and present an increased explication of the paradigm itself (Masterman, 1970:64; Hacking, 2012:xxi, xxii). During the process of investigating Kuhn’s (1962; 2012) conceptualisation of a paradigm, significant facts are recognised as follows: i) such a persistent collection of followers are observed as ‘redefined’, which implies that such scientists and practitioners were once defined according to a particular ontological state (description in nature and scope), teleological purpose in their quest, a mutual understanding of a particular *epistêmê*, within the limitations of distinctly drawn methodological boundaries (English Oxford Living Dictionaries, 2017), axiology, ikanology, in which such exact state or description in purpose, nature, body of knowledge, methodology, norms and values, skills and competence, have now changed. Such a change in state and meaning was presented by the occurrence of a paradigm shift (Hacking, 2012:xix, xxiii; Kuhn, 1962; 2012:67, 84 – 91, 111 – 134), which in itself explicates the spatio-temporal nature of a paradigm; ii) Kuhn allots the highest status in a science to a concrete achievement (a tangible and discernible ‘set of scientific habits’), rather than to an abstract theory, and in doing so “dispel the [concerns], which so beset the working scientist, confronted for the first time with the professional philosophy-of-science. How can I be using a theory which isn’t there?”; iii) Masterman (1970:67) furthermore noted that a paradigm’s fundamental property is its “concreteness” (subsisting in a material or physical form), (English Oxford Living Dictionaries, 2017), or the paradigm’s “crudeness” (natural raw state), (English Oxford Living Dictionaries, 2017); iv) a fundamental appreciation of paradigm needs to be philosophical (Masterman,

1970:69); v) any conceptualisation of a paradigm is certain to be circular (Masterman, 1970:69); vi) a paradigm exists prior to theory, “for in a new science, not only is the formal theory almost sure to be missing”, majestic attempts are invested in the form of dynamic and ambitious scientific activity to ascertain the distinct moment when it will be worth the labour to construct such theory (Masterman, 1970:69); and vii) a nascent technique as the philosophy or philosophical and historical description of a science, is a substance that is extant in the science of a science, visionary insight is a substance that is extant in the art of a science, and transformation and change in experimental techniques, methods and instruments is a substance that is extant in the craft of a science, which jointly incite the *naissance* of a paradigm (Masterman, 1970:67 – 72). Based on Masterman’s (1970:66 - 69) findings, post a critical analysis of Kuhn’s work (1962), this study infers that the philosophy, philosophical and historical substance, emanating from the science of a science (a distinct field of study’s nascent technique), a substance emanating from the art of a science, (visionary insight), and a substance from the craft of a science (transformation and change in experimental techniques, methods and instruments), jointly occur as the vertices in a science’s Reuleaux triangle (Pickover, 2009:266), and as such incite the origin of a paradigm. The symbolic delineation of a paradigm in the science of a field of study, and with reference to Figure 2.10 earlier in this chapter, is represented as:  $A \cap B \cap C = a$ . It is thus in ‘a’ that the combination of a distinct field of study’s nascent technique, visionary insight and transformation and change in experimental techniques, methods and instruments, collectively produce the *naissance* of a paradigm. Masterman (1970:69) explains that, in combination, the explicit meta-physics (the philosophy, philosophical and historical, extant in the science of a science), the fuller innovation (extant in the art of a science), and advanced versions of experimental techniques, methods and instruments (the craft of a science) later become the ‘concrete established scientific achievement’. “The very effort of establishing a ‘concrete scientific achievement’ has to justify itself, [f]or the resultant theory (and/or the more exact and expensive technique) to be acceptable, it must enable results to be obtained, which could not be obtained otherwise” (Masterman, 1970:70). Therefore, the actual difficulty, in establishing the philosophy of a novel science, is to philosophically communicate the innovative nascent technique on which the sociological paradigm is founded (Masterman, 1970:70). Considering Public Administration’s philosophical explication of its own inherent, innovative nascent technique, visionary insight and transformation and change in experimental techniques, methods and instruments, located in the Reuleaux triangle of its science, and as the position of origin for a paradigm, the researcher is maintaining that the substance to Public Administration’s innovative nascent technique, visionary insight and transformation and change in experimental techniques, methods and instruments of its own are embedded in the fundamental substance of nodal entity 5, the nucleus of a science, and more so, nodal entity 6, the nucleus triads.

In light of the afore described insights, Kuhn's (1962; 2012) novel impression of science, which Masterman (1970:67) christened, "the paradigm view of science", presented 21 varying analogies of a paradigm as follows: Kuhn (1962:x, 2, 4 - 5, 10 - 11, 14, 17 - 18, 23, 37, 43, 59 - 60, 62 - 63, 76, 85, 92, 102, 112, 120, 121, 128; 2012:xlii, 2, 4 - 5, 10 - 11, 14, 17 - 18, 23, 37, 43, 59 - 60, 62 - 63, 76, 85, 92, 102, 112, 120, 121, 128), described a paradigm as that it is "a universally recognised scientific achievement", "a myth", "a philosophy, or constellation of questions", "a text book or classic work", "a whole tradition and in some sense, a model", "a scientific achievement", "an analogy", "a successful meta-physical speculation", "an accepted device in common law", "a source of tools", "a standard illustration", "a device, or type of instrumentation", "an anomalous pack of cards", "a machine-tool factory", "a gestalt figure, which can be seen in two ways", "a set of political institutions", "a standard applied to quasi-meta-physics", "an organising principle, which can govern perception itself", "a general epistemological viewpoint", "a new way of seeing", and "as something, which defines a broad sweep of reality". To Kuhn's explication of a paradigm, Masterman (1970:61) not only noted the extreme complexity that awaited novel scientists in novel sciences when becoming entangled in Kuhn's analogical description of a paradigm, she similarly unravelled, resolved and presented an intellectual appreciation of the concept paradigm within the ambit of a science as follows: there are three distinct sets of paradigm (a tangible and discernible set of scientific habits) recognisable in a science. Masterman's (1970:61) observation and description of three types of paradigms in Kuhn's (1962; 2012) contribution to science are recognised respectively as a "meta-physical or meta-paradigm (sense 1)", "a sociological paradigm (sense 2)", and "an artefact or construct paradigm (sense 3)". In its elucidation to the concept of paradigm, the paragraphs that follow are organised into three segments for the purpose of structure. The following factual representation of the three distinct types of a paradigm has a significant connection to what was implied earlier in this chapter, and thus has reference to the science of a science or, what Masterman (1970:67) termed as "characteristic of the 'scientificness' of a science". Based on the afore-mentioned fundamental properties of a paradigm, (its subsistence in material or physical form), (English Oxford Living Dictionaries, 2017), or the paradigm's "crudeness" (natural raw state), (English Oxford Living Dictionaries, 2017), Masterman (1970:67) deduced the physiognomies of each of the three types of paradigms. The elucidation to a paradigm therefore commences firstly, with a representation of the substance of a meta-physical paradigm, as the first of three types of paradigm, extant in Kuhn's (1962; 2012) work, and as explicated in one of Masterman's (1970:59 - 89) academic contributions, "The Nature of a Paradigm".

### 2.3.3.1 Physiognomies of the meta-physical or meta-paradigm (sense 1)

Kuhn's (1962:2, 4 17, 102, 108, 117 - 121; 2012:2, 4, 17, 102, 117 - 121) analogical reference to a paradigm as "a set of beliefs", "a myth", "a successful meta-physical speculation", "a standard", "a new way of seeing", "an organising principle governing perception itself", "a map", "something that determines a large area of reality", typically falls into the category of explaining the meta-physical character of a paradigm (Masterman, 1970:65). Considering Kuhn's (1962:2, 4 17, 102, 108, 117 - 121; 2012:2, 4, 17, 102, 117 - 121) aforementioned references to a meta-paradigm, the meta-paradigm represents something much larger than any of the other two types of paradigm, since the meta-paradigm presents "a whole *Weltanschauung*" (Masterman, 1970:67). "The primary sense of paradigm, clearly, has got to be a philosophic one;" (Masterman, 1970:69). Hereto, Van Inwagen and Sullivan's (2014) reference to Alexius Meinong Ritter von Handschuchsheim's (1853 – 1920) Theory of Objects, in which Meinong (1952) presents a "successful meta-physical speculation" when he imparts the following proposition: "Predication is independent of being". Van Inwagen and Sullivan (2014) regard the latter as a "paradigmatically meta-physical" hypothesis. Noteworthy is the fact that Meinong himself did not classify his Theory of Objects as meta-physical, but rather belonging to the concrete and tangible. In general terms the proposition "[p]redication is independent of being" is linguistically interpreted as that affirmation or denial, regarding the argument of a proposition, does not depend on the nature, essence or archetype of being for its subsistence. The value of the aforementioned "paradigmatically meta-physical" proposition to this study thus lies in the understanding that for example: affirmation or denial of the spatio-temporal existence of paradigm/s in P[p]ublic A[a]dministration, exists independent of the ontic nature, essence or archetype of P[p]ublic A[a]dministration as being. The latter thus, in itself, reflects as a paradigmatically meta-physical hypothesis in the discipline and practice of P[p]ublic A[a]dministration as a science.

In addition to the meta-physical sense of paradigm, Masterman (1970:65) similarly identified the sociological sense of paradigm. The following paragraphs will therefore reflect upon the essence of what the sociological sense of paradigm denotes.

### 2.3.3.2 Physiognomies of the sociological or socio-paradigm (sense 2)

Back (1962:82) described the primary activity of scientists as making discoveries. The manner in which such discoveries occur, happens when researchers set out to accumulate every piece of accessible data that verifies phenomenal research; Such work is then reviewed by scientists, after which their own findings and recommendations are affixed to "advance the



cause of knowledge” in their individual fields of study. In the same year that Back (1962) published an academic artefact about the behaviour of scientists, Thomas Kuhn (1962) informed researchers of the discernible disparity between quotidian and extraordinary scientists. Kuhn's (1962; 2012) discovery thus implies that there are at least two different types of scientists. In the context of Kuhn's (1962) revelation that quotidian and extraordinary scientists engage in differing socio-paradigmatic activities, this study briefly highlights such disparity as follows: The fundamental intent of a quotidian scientist is to establish scientific solutions to phenomena and anomalies, in other words, quotidian scientists engage in the normal day-to-day operations of scientific research; to do this, quotidian scientists are attached to and guided within the parameters of a paradigm, for example the field of study's philosophy and wisdom that emanate from the knowledge triads. In contrast, the fundamental intent of an extraordinary scientist is to discover or invent solutions that has the capacity to alter a field of study forever. To this effect, typical examples that will have a dramatic effect in P[p]ublic A[a]dministration may emanate from sub-fields that the Fourth Industrial Revolution will present. Based on the variance in intent between quotidian and extraordinary scientists, this study argues that the socio-paradigms that guide these two types of scientists, vary dramatically. A paradigm is similarly conceptualised as a tangible and perceptible set of scientific habits (Masterman, 1970:66); Such a set of scientific habits may be “intellectual, verbal, behavioural, mechanical, technological” and interactive, in which any or all are relevant, depending on the type of enigma that requires solutions (Masterman, 1970:66); the highest status in a science belongs to a concrete achievement (a tangible and discernible set of scientific habits), rather than an abstract theory (Masterman, 1970:66); The socio-paradigm, according to Kuhn (1962:11; 2012:11) subsists prior to the existence of theory (Masterman, 1970:66). Why are the paradigm or tangible and discernible set of scientific habits (concrete scientific achievement) “as a locus of professional commitment, prior to the various concepts, laws, theories and points of view that may be abstracted from it?” For Kuhn, something sociologically describable, and above all concrete exist in actual science, when the theory is not there (Kuhn, 1962:11; 2012:11; Masterman, 1970:66); Masterman (1970:67) notes that Kuhn never equates paradigm in any of its main senses to scientific theory. The sociological paradigm subsists prior to theory, and is something other than theory, since it is something concrete and observable, i.e. a set of scientific habits.

### 2.3.3.3 Physiognomies of the artefact or construct paradigm (sense 3)

Emanating from Kuhn's (1962; 2012) extensive research, Masterman (1970:70) deduces that the artefact or construct sense of paradigm is the primary sense of paradigm, “for only with an artefact can you solve puzzles”. The artefact or construct sense of paradigm cannot be

classified as that it sustains mature or independent theory, however, it may be “a single piece of apparatus” or “*theoretica*”, that is, “anything that can cause puzzle solving to occur (Masterman, 1970:70).

At closer linguistic inspection, there appears to be a number of disparate challenges embedded in Masterman’s (1970:69) designation of the artefact sense of paradigm and the construct sense of paradigm. True to the characteristics of a theory and as an element of the philosophy of a science, Friedman (1953:300) advocated that “the ultimate test of the validity of a theory is not conforming to the norms of formal logic, but the ability to deduce facts that have not yet been observed, that are capable of being contradicted by observation, and, that subsequent observation does not contradict”. To this statement, Forister and Blessing (2019:251) conceptualise ‘artefact’ as: “Something observed in a scientific investigation or experiment that is not naturally present but occurs as a result of the preparative or investigative procedure”. Hereto, The Oxford American College Dictionary (2002:297) explicate ‘construct’ as: “An idea or theory containing various conceptual elements, typically are considered to be subjective and not based on empirical evidence. Table 2.4 that follows presents a brief deconstructed comparative linguistic contrast between an artefact sense of paradigm and a construct sense of paradigm.

**Table 2.4      A Linguistic contrast in comparative analysis between an artefact sense of paradigm and a construct sense of paradigm**

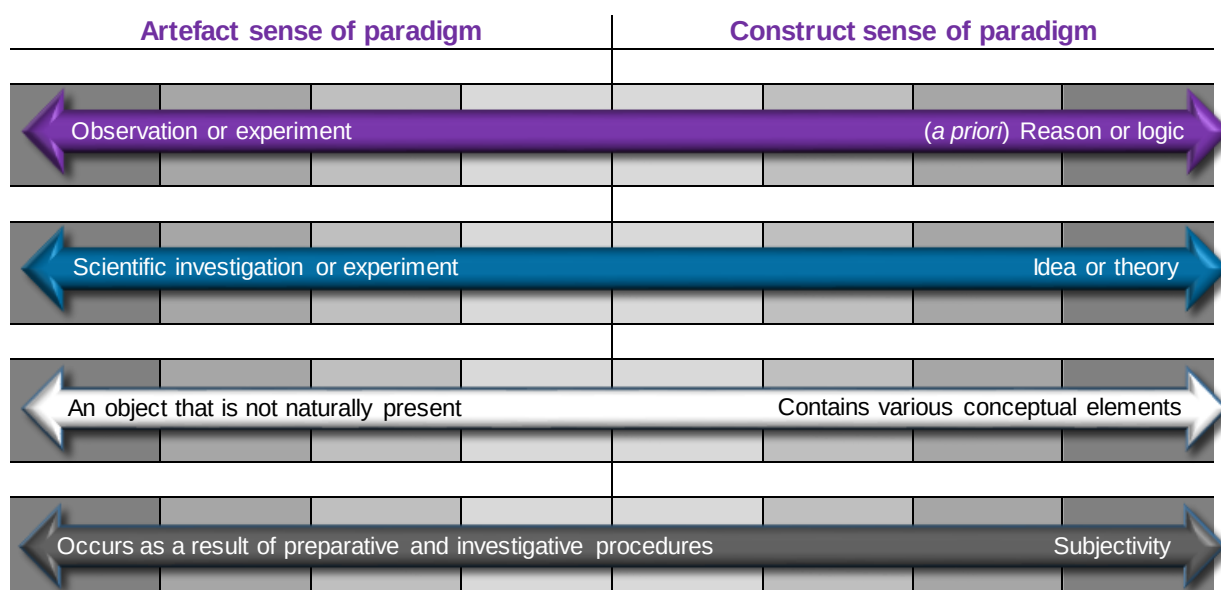
| Artefact sense of paradigm                                                                                         | Construct sense of paradigm                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>▪ (a posteriori) “Something observed”</li> <li>▪ Inductive logic</li> </ul> | <ul style="list-style-type: none"> <li>▪ (a priori) “Not based on empirical evidence”</li> <li>▪ Deductive logic</li> </ul>                 |
| <ul style="list-style-type: none"> <li>▪ “Scientific investigation / experiment”</li> </ul>                        | <ul style="list-style-type: none"> <li>▪ “An idea or theory”</li> </ul>                                                                     |
| <ul style="list-style-type: none"> <li>▪ “Not naturally present”</li> </ul>                                        | <ul style="list-style-type: none"> <li>▪ “Contains various conceptual elements”</li> </ul>                                                  |
| <ul style="list-style-type: none"> <li>▪ “Occurs as a result of: preparative / investigative procedure”</li> </ul> | <ul style="list-style-type: none"> <li>▪ “Typically subjective (based on/ influenced by personal feelings, tastes and opinions)”</li> </ul> |

**Source:** Masterman (1970:70); The Oxford American College Dictionary (2002:297); Merriam-Webster (2017); Forister and Blessing (2019:251)

From Table 2.4, the following inferences are made: i) The Artefact sense of paradigm refers to the observation of something, whilst the Construct sense of paradigm refers to cognitive reasoning or knowledge that in all instances advances “from theoretical deduction, rather than from observation or experience”; ii) The Artefact sense of paradigm refers to a scientific investigation or experiment, whilst the Construct sense of paradigm refers to an idea or theory; iii) The Artefact sense of paradigm refers to something that is not naturally present, whilst the

Construct sense of paradigm refers to the idea or theory that contains various conceptual elements; and iv) The Artefact sense of paradigm determines that the “something observed” occurs as a result of both preparative and investigative procedures, whilst the Construct sense of paradigm determines that the relevant idea or theory is typically subjective, which implies that it is “based on or influenced by personal feelings, tastes and opinions”. Since the primary teleological intent of the Artefact sense of paradigm, and the Construct sense of paradigm is ultimately to incite and support the process of scientific puzzle-solving or, to establish scientific solutions to anomalies and or phenomena, this study interprets Masterman’s (1970:70) rendition of both the Artefact sense of paradigm and the Construct sense of paradigm to consider a broad landscape when determining that which is necessary to present “anything that can cause puzzle solving to occur (Masterman, 1970:70). In each of the comparative descriptions and inferences made, following Table 2.4, it appears as if Masterman (1970:70) represents four distinct continuums that need to be considered in application to solve anomalies and phenomena: i) 1<sup>st</sup> continuum- from observation to reasoning or knowledge; ii) 2<sup>nd</sup> continuum- from a scientific investigation or experiment to an idea or theory; iii) 3<sup>rd</sup> continuum- from something that is not naturally present to the idea or theory that contains various conceptual elements; and iv) 4<sup>th</sup> continuum- to recognise the “something observed” that occurs as a result of both preparative and investigative procedures to the relevant idea or theory that is typically subjective, and which implies that it is “based on or influenced by personal feelings, tastes and opinions”.

**Figure 2.11 Four continuums in the Artefact sense of paradigm and the Construct sense of paradigm that enables scientists to establish solutions to anomalies and or phenomena**



**Source:** Author's perspective as adopted from Masterman (1970:69 - 70)

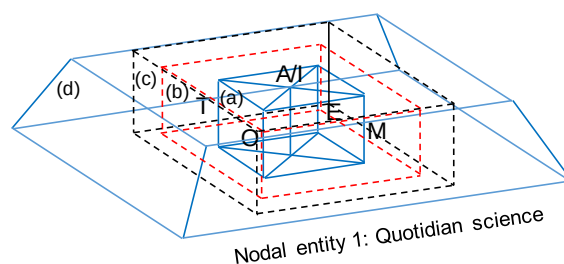
There are ever present relationships between the 1<sup>st</sup> nodal entity, recognised as quotidian science and the 2<sup>nd</sup> nodal entity in a science, recognised as the paradigm/s that are extant or recognised in the field of study. Herein, the three senses of paradigm play a critical role in the execution of quotidian science. In terms of the Meta-physical paradigm or sense 1, the relation between the latter and quotidian science is embedded in the fact that the meta-physical paradigm leads the quotidian scientist to consider extant worldviews as well as the academic discipline in questions' central philosophy. Such philosophy is again extant in the 6<sup>th</sup> nodal entity (the Knowledge triads) that is discussed later in this chapter and in Chapters 3, 4 and 5. The Sociological paradigm, sense 2 underpins the science in an academic field of study by outlining the various types of scientists, values, and scientific activities that are assigned to the various types of scientists. The Artefact sense of paradigm or Construct sense of paradigm's (sense 3) relation to quotidian science is to present the range of continuums that have to be considered by quotidian scientists in the process of solving scientific anomalies and phenomena. Evident from the afore-described paragraphs is the critical need for scholars of the discipline of Public Administration to: i) identify and develop the Meta-physical sense of paradigm within P[p]ublic A[a]dministration as a science; ii) discover and develop the Sociological sense of paradigm within P[p]ublic A[a]dministration as a science; and iii) detect and develop the Artefact sense of paradigm and the Construct sense of paradigm into the four continuums that it presents within Public Administration as a science. The recognition and

advancement of these three senses of paradigm are critical to the scientists of P[p]ublic A[a]dministration if this field of study's intent is to grow and mature the science within the discipline and practice as one of its inherent ontic expressions.

Progressing into a post-modern space-time, Young (1994: online) strongly disagrees with Kuhn's (1962; 2012:22) statement that when a paradigm can no longer support quotidian science with its problem solving objectives and endeavours, that such a paradigm will be substituted by a new paradigm that has the ability to continue to support quotidian science. Young (1994) is of the opinion that no single paradigm can retain all the data that is required by quotidian science to solve anomalies and phenomena, rather there are multiple paradigms that coexist at a given point in space-time. Hereto, Young (1994:) highlights the properties of a post-modern Paradigm Theory, as that it includes the following: i) Ramsey Theory; ii) Gestalt Theory; and iii) Chaos Theory, together with; iv) the Anthropology of knowledge; and v) the Sociology of knowledge.

Figure 2.12 below presents a visual depiction of the anatomy and structure of a paradigm as follows: i) 'a' represents the very core of nodal entity 2, which reflects as the knowledge triads. Even though the knowledge triads are a fully-fledged independent nodal entity (nodal entity 6), it runs as the core of the discipline's science through every nodal entity in the corporeal morphology of a science; ii) 'b' represents the Meta-physical paradigm (sense 1) within the paradigm as nodal entity 2 in the corporeal morphology of a science in an academic discipline; iii) 'c' represents the Sociological paradigm (sense 2) within the paradigm as nodal entity 2 in the corporeal morphology of a science; iv) 'd' represents the Artefact sense of paradigm or the Construct sense of paradigm and four distinct continuums against which quotidian scientists determine solutions to anomalies and phenomena.

**Figure 2.12: Nodal entity 2: The anatomy and structure of a paradigm**



**Source:** Author's perspective

Whether there is a single paradigm or multiple concurrently active paradigms in a field of study, the anatomy of each paradigm remains the same in that science as ontic expression to an academic discipline and in the case of P[p]ublic A[a]dministration, to the practice as well. A paradigm in all its senses contributes largely to the scientific credibility and corporeal morphology of a science in an academic discipline. In recognising science as one of P[p]ublic A[a]dministration's three ontic expressions, there is a dire need to investigate the substance of nodal entity 2 in the corporeal morphology of P[p]ublic A[a]dministration as a science.

Considering the larger anatomy of a science in an academic discipline, Section 2.3.4 that follows sheds light on nodal entity 4, recognised as Extraordinary science.

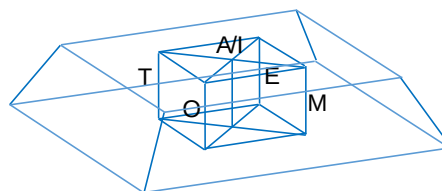
### **2.3.4 The physiognomies and properties that construct the substance of nodal entity 3: Extraordinary science**

Chapter 1 to this study pronounces the dissatisfaction of many scholars and practitioners of P[p]ublic A[a]dministration with the discipline's epistemological and ontological status. Hereto, both Kuhn (1962; 2012:91) and Hacking (2012:xxvii) identify such frustration and perhaps discontent as the opportune state for extraordinary science to come to fruition. Hacking (2012:xxvii) writes: "A crisis involves a period of extraordinary, rather than normal, research, with a 'proliferation of competing articulations, the willingness to try anything, the expression of explicit discontent, the recourse to philosophy and to debate over fundamentals. Out of that ferment, new ideas arise, new methods and finally ... new theory' (Kuhn, 1962; 2012:91)." Kuhn (1962; 2012:6) continues on the trajectory of that which extraordinary science is, by revealing "and when [normal/quotidian science] repeatedly goes astray, when, that is, the profession can no longer evade anomalies that subvert the existing tradition of scientific practice – then begin the extraordinary investigations that lead the profession at last to a new set of commitments, a new basis for the practice of science. The extraordinary episodes in which that shift of professional commitments occurs, are the ones known... as scientific revolutions. They are the tradition-shattering complements to the tradition-bound activity of normal science." Within this ambit, Kuhn (1962; 2012:34) also warns of the occurrence of extraordinary challenges that emerge unsolicited, "only on special occasions, prepared by the advance of" quotidian inquiry. Extraordinary scientists are at liberty to pursue an unconfined practice of science (Kuhn, 1962; 2012:153). Examples of such extraordinary challenges that emerged unsolicited, which now need to be dealt with in an extraordinary manner are certainly reflected in the National Development Plan: Vision for 2030 (NDP, 2011). The NDP reflects nine extraordinary challenges which citizens of the Republic of South Africa must endure. By implication, the scientists of P[p]ublic A[a]dministration have to perform extraordinary science

to discover extraordinary solutions to extraordinary post post-modern challenges such as poverty, inequality, corruption, divided communities, too few jobs, a crumbling infrastructure, a resource intensive economy, exclusive planning, poor education, high disease burden and an uneven public service (NDP, 2011). The aforementioned extraordinary socio-economic challenges that South Africa face are however one side of the proverbial coin. The other side of this very same coin demands extraordinary science to occur within the discipline of Public Administration to enable the discipline with a strong philosophical foundation that declares the teleological, ontological, epistemological, methodological character of this discipline.

Figure 2.13 that follows is indicative of the unconfined spaces within which extraordinary science occurs and in which innovation flourishes. The only fixture that the corporeal morphology of nodal entity 3 (extraordinary science) displays is the philosophical bedrock of the discipline that continuously reminds even extraordinary scientists of the purpose, nature, theory of knowledge methodology, axiology and ikanology that directs the discipline.

**Figure 2.13: Nodal entity 3: The anatomy and structure of extraordinary science**



**Source:** Author's perspective

Marcum (2005:68) describes the extraordinary scientist as an individual that searches and attempts experiments at random with the following particular aims in mind: i) just to “see what will happen”; and ii) “to look for an effect whose nature [s/he] cannot quite guess”; hereto, it needs to be stated that no experiment can ever be imagined when it is devoid of some sort of theory; therefore, the extraordinary scientist will incessantly construct hypothetical theories, which if positive, may direct the science and the scientific community to a novel paradigm. The collective factual details that construct the essence of extraordinary science makes the difference between quotidian and extraordinary science with different teleological intents quite obvious.

The next nodal entity in the corporeal morphology of a science is recognised as the protective membrane, which Imre Lakatos devised.

### 2.3.5 The physiognomies and properties that construct the substance of nodal entity 4: The protective membrane

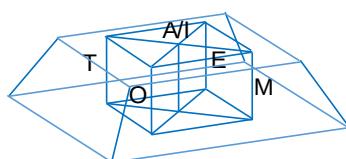
During a critique of Kuhn's (1962) discovery, Lakatos (1970:133, 134) introduced two philosophically defended examples of logical construction, that this study locates in the 4<sup>th</sup> nodal entity (protective membrane). These two examples of logical construction are recognised as "*modus tollens*" and "*modus ponens*". These two properties that are located in the 4<sup>th</sup> nodal entity (protective membrane), are imperative to the functioning of a science. Lakatos (1970:133 – 138), based on Sir Karl Popper's (1934) viewpoints, describe these examples of logical construction in structure and function as follows: i) the 'hard core' or 'negative heuristic' prohibits a paradigm to command the '*modus tollens*' ("the way that denies the denying") within the 'hard core' of a science, which Lakatos (1970:135) similarly explicates as follows: "[T]he negative heuristic" [a utility that provides support during learning, discovery or problem solving] "specifies the hard core of the research programme which is 'irrefutable' by the methodological decision of its protagonist". An example hereof is explicated as follows: "If A is true, then B is true. B is not true therefore A is not true. A typical example related to the application and recognition of "*modus tollens*" as logical construction of argument in public administration is: If a government institution received a disclaimer of opinion from the Auditor-General, (the Auditor-General is not giving any opinion regarding the public institution's financial statements), then it is true that the Auditor-General was either not allowed to complete the audit, or the institution gave a restriction in scope for the examination. The Auditor-General was allowed to complete the audit, without restriction of scope, therefore a is also not true, the government institution did not receive a disclaimer of opinion from the Auditor-General; ii) the 'protective belt' or 'positive heuristic' "*modus ponens*", ("the way that affirms by affirming"), which Lakatos (1970:135) describes as that: "the positive heuristic consists of a partially articulated set of suggestions or hints on how to change and develop the 'refutable variants' of the research-programme, how to modify, sophisticate, the 'refutable' protective belt". An example of the "*modus ponens*" within public administration therefore is: All the public projects in a public institution failed. All the public servant project managers in the public institution's Project Management Unit (PMU) are 'project managers by accident' (Caliste, 2012), therefore it is true to confirm that all the public projects in that institution failed; iii) the "progressive problem shift" (Lakatos, 1970:133); and iv) the "degenerating problem shift" (Lakatos, 1970:133). Lakatos' (1970) explication that the 'hard core' or 'protective belt' is included in this study as a stratum held in nodal entity 4, the protective membrane that is extant in the corporeal morphology of a science. As mentioned in Chapter 1 and included in the physiognomies of a theory, Fisher (1978:29) informs that the heuristic value of a theory reflects as the gauge that determines the formation of ideas in terms of a theory's potential to



permit human beings to uncover or acquire new knowledge. The central teleological intent of this study that is captured under the topic of Public Administration as a science, is to enable the acquisition of new knowledge. As outlined in Chapter 1, in the Orientation and Problem Statement to this study, Public Administration is in dire need of acquiring new scientifically grounded knowledge.

With a brief outline of the properties that are held in the protective membrane, Figure 2.14 provides a visual representation of nodal entity 4, the protective membrane within a science. Important to notice that nodal entity 4 also has the philosophical core that will be introduced in this study as nodal entity 6, the knowledge triads, as its core.

**Figure 2.14: Nodal entity 4: The anatomy and structure of the protective membrane**



**Source:** Author's perspective

Nodal entity 5 that follows the protective membrane in the corporeal morphology of a science is recognised in this study as the nucleus of a science. A brief discussion on the properties of the nucleus of a science follows in paragraph 2.3.6.

### **2.3.6 The physiognomies and properties that construct the substance of nodal entity 5: The nucleus of a science**

Briefly returning to both Chapter 1, Section 1.5.4.2, and earlier in Chapter 2, some of the properties that are extant in the nucleus of a science's corporeal morphology such as validity, rationality and parsimony already had their introductions earlier on in this study. Thus, affirmation that they are key properties in the fundamental structure of a science, and similarly in the science of P[p]ublic A[a]dministration becomes evident.

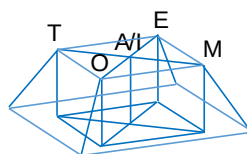
In addition to carrying the nucleus triads as the core of the nucleus as nodal entity in the corporeal morphology of a science, the nucleus of a science similarly holds the following elements as part of a post-modern philosophy of science: i) Quantification- Wilks (1961:5) directs the scientist to understand that the fundamental nature of quantification in science has first and foremost a reference to measurement. Herein, aspects such as an "operationally

definable process”, “reproducibility of the outcome”, “validity and accuracy” are of critical importance for consideration. Maat (2013:173) asserts that quantification or “numerical abstraction” requires the scientist to consider the law of large numbers. When perceived as a single case, the results may appear to be irregular and fluctuating but, when perceived within a much larger context, the same results may emerge as perpetual and incessant. Scientists and public servants alike make use of quantification; ii) Objectivity- has reference to the sociological sense of paradigm since objectivity “cultivates the virtues of scientific ethos” (Lacey, 2005:49), that includes morality and candour giving recognition where it is due, but similarly also exposing your own academic offerings to the judicious scrutiny examination of academic co-scholars; iii) Facticity- the feature and attributes or ontic description of being fact and Validity- as highlighted in Chapter 1, Friedman (1953:300) advocated that “the ultimate test of the validity of a theory is not conforming to the norms of formal logic, but the ability to deduce facts that have not yet been observed, that are capable of being contradicted by observation, and, that subsequent observation does not contradict”; iv) Falsification- Stegmüller (2012:96) states that the theoretical correspondent to falsification is “rational rejection.” Stegmüller (2012:103) further advises that falsification absolutely apply the deductive rule of *modus tollens* that is explained earlier on in this section of Chapter 2; v) Replicability- The National Academy of Sciences, Engineering, and Medicine (2016:47) conceptualise the replicability of results as follows: replicability is a feature held by a scientific result; replicability is affected by the entire life cycle that the experiment will be subjected to, from the identification of subjects all the way through to the construction of findings and recommendations, and as such requires a replication of the entire study; the teleological intent of replicability is to attain outcomes that are fundamentally similar to the outcomes that were achieved in the initial investigation; vi) Rationality- during the trajectory of global scientific revolutions, when the physiognomies embedded in the basis of a science are re-evaluated, a transformation in scientific rationality occurs. History revealed three fundamental forms of rationality as “classical science, non-classical science, and post-non-classical science; vii) Truth values- Grozdanoff (2014:45) alerts the scientist to three distinct kinds of truth-values that he introduces as “the proposition is true within a theory”, “the proposition is regarded as false within a theory” and, the proposition has an “indeterminate truth value” in a theory. The indeterminate truth value does not compete between true or false propositions but has not attributed to the proposition; viii) Parsimony- simplicity or Ockham’s razor. Sober (2006:531) asserts that parsimony, simplicity or Ockham’s razor, determines whether the theory is factually correct or circa factually correct, or if the theory displays the capacity to determine exact forecasts; ix) Cumulativity- “facts established by theories continues to be recognised as facts from the vantage point of future science, so that once a fact has been established, its status as a fact will continue to be inferable from future theories.” (Laudan, 1984:200); x)

Intersubjective methodology- Crossley (1996:173) maintains that inter-subjectivity has the capacity to enhance our cognitive appreciation for aspects such as power and citizenship and is simultaneously the framework of human beings' social development. Inter-subjectivity, according to Crossley (1996:173), is fundamental in grasping 'human life in both its personal and societal forms'; and xi) Deep structures- Boulding (1979:70) introduces deep structures as that it is closely related to Durkheim's (1893) collective representations, Jung's (1959) archetypes and Chomsky's (1969) linguistic deep structures. Hereto, Boulding (1979:70) explains the concept deep structures as that "which organise the way we construct and learn about relationships between human beings of all genders and ages, [which] comes uncomfortably close to the para-sociological and the mystifying. Yet I know of no other way to think about the fact that dominance patterns and institutionalised power relations shape our patterning of public life and the public face of private life, such as the family, in societies of all degrees and complexity, of all forms of politico-economic organisation; that through these patterns we reshape the forms of gender and age-based division of labour, and the relationships between social aggregates of every kind, in every generation. I also know of no other way to think about the fact that we afresh relegate nurturance relationships to the private sphere in all societies, and define them as inappropriate in the public arena. Power is public, nurturance is private." It would be inconceivable to replace power with nurturing in the public sphere and vice versa. In fact, to seek power in the private sphere has the potential to border on recognising domestic violence and to seek nurturing in the public domain has the potential to border on either corruption or sexual harassment. They are both, as Boulding (1979:70) pointed out, unfitting and misplaced. With the underlying conceptualisation of deep structures in mind, it is obvious what deep structures in both the political and social spheres are, and how such deep structures could never be confused with one another outside of the borderposts of the domain in which they belong. The question that arises, if deep structures that belong to the politico-sociological domain are so clear, what are the deep structures that underpin P[public] A[administration] as that "which organise the way we construct and learn about relationships between human beings" in South Africa and in the African context?

Figure 2.15, is a visual representation of nodal entity 5, recognised as a science's nucleus. The very core of a science's nucleus is occupied by the knowledge triads that are extant in every nodal entity in the corporeal morphology of a science, and similarly P[public] A[administration] as a science. The nucleus of a science furthermore similarly holds the philosophy of P[public] A[administration] as a science as well the historical trajectory.

**Figure 2.15: Nodal entity 5: The anatomy and structure of the science's nucleus**



**Source:** Author's perspective

Nodal entity 5, recognised as the nucleus of a science, presented a number of elements that need to be considered as part of the philosophy of a science. In the corporeal morphology of P[p]ublic A[a]dministration as a science, the philosophy of a social science plays a critical role in the organisation of social life. With the afore described facts in mind, this study continues to investigate the 6<sup>th</sup> nodal entity in the corporeal morphology of a science, recognised as the nucleus triads.

### **2.3.7 The physiognomies and properties that construct the substance of nodal entity 6: The nucleus triads of a science**

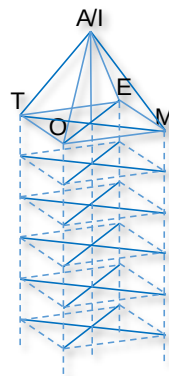
As stated in Chapter 1, Couclelis (2009:4) maintains that an immeasurable wealth of knowledge is embedded in the triangular complex of Teleology, Ontology and Epistemology. This study suggests that at the core of a science, lies its knowledge triads and since the properties of the apices in the knowledge triads are universal, the substances contained and maintained within those properties vary dramatically and are unique to the field of study that it is related to. An example hereto may be the concept of Teleology, which in its simplest explanation refers to the intent or purpose of an object. By investigating the teleological intent of Public Administration, by means of a meta-theory that this study will present in Chapter 3, it soon becomes visible that the teleological intent or purpose of Public Administration differs vividly from that of Politics, Sociology or Anthropology as fields of study. Hereto, the teleological intent of the pluralistic expression of Public Administration, recognised as the discipline's science, art and craft as mentioned before similarly varies in its *epistême*. In addition to the main focus of this study, which is to present meta-theories that explicate Teleology, Ontology and Epistemology, this study presents the philosophical bedrock or paragon of Public Administration as it is located in the 6<sup>th</sup> nodal entity of the corporeal morphology of a science.

Figure 2.16 that follows provides an illustration of the structure of the knowledge triads that are extant in the corporeal morphology of a science.

Figure 2.17 above elucidates a deconstructed version of the complex representation of the philosophical bedrock of a science's structure that is located in the nucleus triads. The edges and varying edge directions add to the complexity of the triads since every varying edge direction presents varying variables that presents different results. Figure 2.17 below display

a three dimensional image of the nucleus triads and how it shapes the 'spinal cord' within the anatomy of a science. The knowledge triads and its position in each nodal entity within the anatomy of a science clearly illustrates the critical role that the knowledge triads play in the point of departure to any scientific investigation within a field of study, since these triads dictate the philosophical point of departure from which logic and reasoning towards knowledge acquisition will follow.

**Figure 2.17: Nodal entity 6: The anatomy and structure of a science's nucleus triads**



**Source:** Author's perspective

Figure 2.17 thus provides a visual depiction of the manner in which Nodal entity 6, as the nucleus triads in a science, manifests as the backbone or spinal cord of the science within a field of study. Nodal entity 6 or the nucleus triads, as the core of every nodal entity in a science, expresses the concretised philosophy and philosophical truths of the field of study in question. Without the presence of this structure, scholars, scientists and practitioners of Public Administration are again reminded of Imre Lakatos' (1978:102) statement that: any science without a philosophy is wondering visionless in this world, on route to nowhere.

Hereto, Table 2.5 below initiates the mammoth structure that lies embedded beneath the surface of philosophically grounded *epistême* (knowledge and truth) that needs to be explored and proved by the scientists, applied by the academics in scholarly artefacts, and known by the young scholars in a distinct academic discipline, beyond the confines of this study. The structure of Table 2.5 explores one of the nucleus triads, Figure 2.18, as the equilateral depiction of the primary Axiological/Ikanological centred Teleological-Ontological-Epistemological triad within the nucleus of a science, as well as the science's related ultra-structure recognised below as: Figure 2.19, A right depiction of the secondary Teleological-Ontological-Axiological/Ikanological triad within the nucleus of a science; and Figure 2.20, A right depiction of the secondary Teleological-Epistemological-Axiological/Ikanological triad within the nucleus of a science.

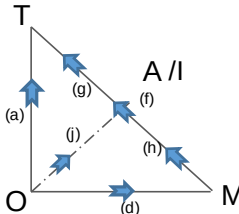
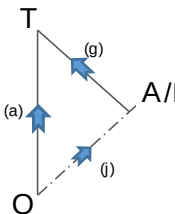
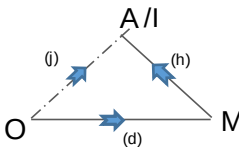
**Table 2.5: The Axiological/Ikanologically centred Teleological-Ontological-Epistemological Nucleus Triads**

| The Axiological / Ikanologically centred Teleological-Ontological-Epistemological triads                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                          |                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Figure 2.18: An Equilateral depiction of the primary Axiological/Ikanological centred Teleological-Ontological-Epistemological triad within the nucleus of a science. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | The ultra-structure of a science                                                                                                         |                                                                                                                                                                                                                                            |
|                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Figure 2.19: A Right depiction of the secondary Teleological-Ontological-Axiological/Ikanological triad within the nucleus of a science. | Figure 2.20: A Right depiction of the secondary Teleological-Epistemological-Axiological/Ikanological triad within the nucleus of a science.                                                                                               |
|                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                          |                                                                                                                                                                                                                                            |
| Source: Researcher's own based on scholarly contributions made by Couclelis (2009:4)                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                          |                                                                                                                                                                                                                                            |
| Reference:                                                                                                                                                            | The value of T represents the Teleology (a study of purpose);<br>The value of O represents the Ontology (a study of the nature of being and truth);<br>The value of E represents the Epistemology (a study of the theory of knowledge)<br>The value of A represents the Axiology (a study of the values and ethics); and<br>The value of I represents the Ikanology (a study of the skills and competence).<br>All the elements highlighted above are considered in this study in the ambit of Public Administration as a science. |                                                                                                                                          |                                                                                                                                                                                                                                            |
|                                                                                                                                                                       | Vertices as meta-theories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Edges                                                                                                                                    | Value description                                                                                                                                                                                                                          |
|                                                                                                                                                                       | T→O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | (a)                                                                                                                                      | The value of (a) represents the study of purpose of the study of the nature of being (and particularly relevant to this study, of Public Administration as a science);                                                                     |
|                                                                                                                                                                       | T→E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | (b)                                                                                                                                      | The value of (b) represents the study of purpose of a study of the theory of knowledge and truth (and particularly relevant to this study, of Public Administration as a science);                                                         |
|                                                                                                                                                                       | O→A/I→E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | (e)                                                                                                                                      | The value of (e) represents a study of the nature of being of the values & ethics, skills & competence of the study of the theory of knowledge and truth (and particularly relevant to this study, of Public Administration as a science); |
|                                                                                                                                                                       | O→A/I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (j)                                                                                                                                      | The value of (j) represents a study of the nature of being of the values & ethics and skills & competence (and particularly relevant to this study, of Public Administration as a science);                                                |
|                                                                                                                                                                       | A/I→E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (k)                                                                                                                                      | The value of (k) represents the values & ethics and skills & competence required by scientists in the theory of knowledge and truth (and particularly relevant to this study, of Public Administration as a science);                      |
|                                                                                                                                                                       | T→A/I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (g)                                                                                                                                      | The value of (g) represents the purpose of the values & ethics, skills & competence (and particularly relevant to this study, of Public Administration as a science).                                                                      |

Source: Author's perspective

Table 2.6 investigates one of the nucleus triads, Figure 2.21, as the equilateral depiction of the primary Axiological/Ikanological centred Ontological-Methodological-Teleological triad within the nucleus of a science as well as the science's related ultra-structure recognised below as: Figure 2.22, A right depiction of the secondary Ontological-Teleological-Axiological/Ikanological triad within the nucleus of a science; and Figure 2.23, A right depiction of the secondary Ontological-Methodological-Axiological/Ikanological triad within the nucleus of a science.

**Table 2.6: The Axiological/Ikanologically centred Ontological-Methodological-Teleological Nucleus Triads**

| The Axiological/Ikanological centred Ontological-Methodological-Teleological triads                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                          |                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Figure 2.21: An Equilateral depiction of the primary Axiological/Ikanological centred Ontological-Methodological-Teleological triad within the nucleus of a science. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The ultrastructure of a science                                                                                                          |                                                                                                                                                                                                                       |
|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Figure 2.22: A Right depiction of the secondary Ontological-Teleological-Axiological/Ikanological triad within the nucleus of a science. | Figure 2.23: A Right depiction of the secondary Ontological-Methodological-Axiological/Ikanological triad within the nucleus of a science.                                                                            |
|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                        |                                                                                                                                  |
| (Source: Researcher's own)                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                          |                                                                                                                                                                                                                       |
| <b>Reference:</b>                                                                                                                                                    | The value of O represents the Ontology (a study of the nature of being);<br>The value of M represents the Methodology (a study of method);<br>The value of T represents the Teleology (a study of purpose);<br>The value of A represents the Axiology (a study of values and ethics) of a science;<br>and<br>The value of I represents the Ikanology (a study of skills and competence) required in a science.<br>All the elements highlighted above are considered in this study in the ambit of Public Administration as a science. |                                                                                                                                          |                                                                                                                                                                                                                       |
|                                                                                                                                                                      | Vertices as meta-theories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Edges                                                                                                                                    | Value description                                                                                                                                                                                                     |
|                                                                                                                                                                      | O→T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (l)                                                                                                                                      | The value of (l) represents the study of the nature of being of the study of purpose (and particularly relevant to this study, of Public Administration as a science);                                                |
|                                                                                                                                                                      | O→M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (o)                                                                                                                                      | The value of (o) represents a study of the nature of being of a study of the method (and particularly relevant to this study, of Public Administration as a science);                                                 |
|                                                                                                                                                                      | M→A/I→T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | (q)                                                                                                                                      | The value of (q) represents a study of the methods of the values and ethics, skills and competence required in the study of purpose (and particularly relevant to this study, of Public Administration as a science); |
|                                                                                                                                                                      | A/I→T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (r)                                                                                                                                      | The value of (r) represents a study of the values & ethics, skills & competence included in the study of purpose (and                                                                                                 |

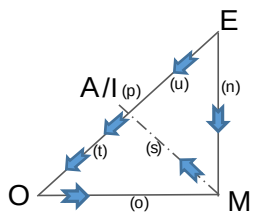
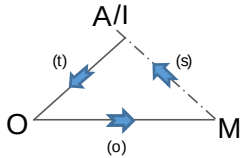
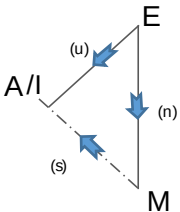


|  |              |     |                                                                                                                                                                                             |
|--|--------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |              |     | particularly relevant to this study, of Public Administration as a science);                                                                                                                |
|  | <b>M→A/I</b> | (s) | The value of (s) represents a study of the methods of a study of the values & ethics, skills & competence (and particularly relevant to this study, of Public Administration as a science); |
|  | <b>O→A/I</b> | (t) | The value of (t) represents a study of the nature of being of the values & ethics, skills & competence (and particularly relevant to this study, of Public Administration as a science).    |

**Source:** Author's perspective

Table 2.7 investigates one of the nucleus triads, Figure 2.24, as the equilateral depiction of the primary Axiological/Ikanological centred Methodological-Epistemological-Ontological triad within the nucleus of a science as well as the science's related ultra-structure recognised below as: Figure 2.25, A right depiction of the secondary Methodological-Ontological-Axiological/Ikanological triad within the nucleus of a science; and Figure 2.26, A right depiction of the secondary Methodological-Epistemological-Axiological/Ikanological triad within the nucleus of a science.

**Table 2.7: The Axiological/Ikanological centred Methodological-Epistemological-Ontological Nucleus Triads**

| The Axiological/Ikanologically centred Methodological-Epistemological-Ontological triads                                                                                |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Figure 2.24: An Equilateral depiction of the primary Axiological/Ikanological centred Methodological-Epistemological-Ontological triad within the nucleus of a science. |                                  | The ultrastructure of a science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                              |
|                                                                                                                                                                         |                                  | Figure 2.25: A Right depiction of the secondary Methodological-Ontological-Axiological/Ikanological triad within the nucleus of a science.                                                                                                                                                                                                                                                                                                                                                                         | Figure 2.26: A Right depiction of the secondary Methodological-Epistemological-Axiological/Ikanologic triad within the nucleus of a science. |
|                                                                                      |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                         |
| <b>Source: Researcher's own</b>                                                                                                                                         |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                              |
| <b>Reference:</b>                                                                                                                                                       |                                  | The value of M represents the Methodology (a study of method);<br>The value of E represents the Epistemology (a study of the theory of knowledge);<br>The value of O represents the Ontology (a study of the nature of being);<br>The value of A represents the Axiology (a study of values and ethics); and<br>The value of I represents the Ikanology (a study of skills and competence).<br>All the elements highlighted above are considered in this study in the ambit of Public Administration as a science. |                                                                                                                                              |
|                                                                                                                                                                         | <b>Vertices as meta-theories</b> | <b>Edges</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Value description</b>                                                                                                                     |

|  |                |     |                                                                                                                                                                                                                   |
|--|----------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>E→M</b>     | (n) | The value of (n) represents a study of the theory of knowledge and truth of a study of method (and particularly relevant to this study, of Public Administration as a science);                                   |
|  | <b>O→M</b>     | (o) | The value of (o) represents a study of the nature of being of a study of method (and particularly relevant to this study, of Public Administration as a science);                                                 |
|  | <b>E→A/I→O</b> | (p) | The value of (p) represents a study of knowledge and truth of the values & ethics, skills & competence centered nature of being (and particularly relevant to this study, of Public Administration as a science). |
|  | <b>A/I→O</b>   | (t) | The value of (t) represents a study of the values & ethics, skills & competence (and particularly relevant to this study, of Public Administration as a science).                                                 |
|  | <b>E→A/I</b>   | (u) | The value of (u) represents a study of knowledge and truth of the values & ethics, skills & competence (and particularly relevant to this study, of Public Administration as a science);                          |
|  | <b>M→A/I</b>   | (s) | The value of (s) represents a study of the method of the values & ethics, skills & competence (and particularly relevant to this study, of Public Administration as a science).                                   |

**Source:** Author's perspective

Table 2.8 investigates one of the nucleus triads, Figure 2.27, as the equilateral depiction of the primary Axiological/Ikanological centred Epistemological-Teleological-Methodological triad within the nucleus of a science as well as the science's related ultra-structure recognised below as: Figure 2.28, A right depiction of the secondary Epistemological-Teleological-Axiological/Ikanological triad within the nucleus of a science; and Figure 2.29, A right depiction of the secondary Epistemological-Methodological-Axiological/Ikanological triad within the nucleus of a science

**Table 2.8: The Axiological/Ikanological centred Epistemological-Teleological-Methodological Nucleus Triads**

| The Axiological/Ikanological centred Epistemological-Teleological-Methodological triads                                                                                  |                                                                                                                                              |                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Figure 2.27: An Equilateral depiction of the primary Axiological/Ikanological centred Epistemological-Teleological-Methodological triad within the nucleus of a science. | The ultrastructure of a science                                                                                                              |                                                                                                                                                |
|                                                                                                                                                                          | Figure 2.28: A Right depiction of the secondary Epistemological-Teleological-Axiological/Ikanological triad within the nucleus of a science. | Figure 2.29: A Right depiction of the secondary Epistemological-Methodological-Axiological/Ikanological triad within the nucleus of a science. |
|                                                                                                                                                                          |                                                                                                                                              |                                                                                                                                                |

|                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| <b>Source: Researcher's own</b>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
| <b>Reference:</b>                                                                                                                                                                                         | The value of E represents the Epistemology (a study of the theory of knowledge);<br>The value of T represents the Teleology (a study of purpose);<br>The value of M represents the Methodology (a study of method);<br>The value of A represents the Axiology (a study of values and ethics); and<br>The value of I represents the Ikanoology (a study of skills and competence).<br>All the elements highlighted above are considered in this study in the ambit of Public Administration as a science. |              |
|                                                                                                                                                                                                           | <b>Vertices as meta-theories</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Edges</b> |
|                                                                                                                                                                                                           | <b>T→E</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | (b)          |
|                                                                                                                                                                                                           | <b>M→E</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | (c)          |
|                                                                                                                                                                                                           | <b>T→A/I→M</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (f)          |
|                                                                                                                                                                                                           | <b>T→A/I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (g)          |
|                                                                                                                                                                                                           | <b>A/I→M</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (h)          |
|                                                                                                                                                                                                           | <b>A/I→E</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (k)          |
| <b>Value description</b>                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
| The value of (b) represents a study of purpose of the theory of knowledge and truth (and particularly relevant to this study, of Public Administration as a science);                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
| The value of (c) represents a study of method of the theory of knowledge and truth (and particularly relevant to this study, of Public Administration as a science);                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
| The value of (f) represents a study of the purpose of the values & ethics, skills & competence centered study of method (and particularly relevant to this study, of Public Administration as a science); |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
| The value of (g) represents the study of purpose of the values & ethics, skills & competence (and particularly relevant to this study, of Public Administration as a science);                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
| The value of (h) represents a study of the values & ethics, skills & competence in the study of method (and particularly relevant to this study, of Public Administration as a science);                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
| The value of (k) represents a study of the values & ethics, skills & competence in the study of knowledge and truth (and particularly relevant to this study, of Public Administration as a science).     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |

**Source:** Author's perspective

Considering the nucleus triads above and the vastness that it unlocks in terms of the foundational philosophical and scientific knowledge, it is incomprehensible why such foundational truths and knowledge are difficult to find in Public Administration as academic discipline.

In addition to a science's anatomy, such a science's physiology will be quick to follow since the afore discussed nodal entities stand in distinct relationship with other nodal entities. Section 2.4 of this study thus proceeds by investigating the nature of the physiology of a science.

## 2.4 THE PHYSIOLOGY OF A SCIENCE

A universally understood conceptualisation of the term Physiology determines this concept as that it is a particular discipline in the natural sciences that investigates and contemplates the manner in which molecules in cells interact to impart distinct functions, and, the manner in which bodily organs (assemblages of cell types) display inherent and distal activities via “neural and humoral communication”, to uphold natural life within an organism (University of New South Wales, Sydney (UNSW), School of Medical Sciences, 2017). Evident from the afore-described explication stands the truth that Physiology, in the first instance considers living organisms, secondly, that such living organisms display internal and external activities, and thirdly, that such activities occur by means of ‘communication’ within and amongst various systemic clusters. Whilst considering the conceptualisation of Physiology, the inquiries that this section to the study thus pose, are noted as follows: Do inorganic, abstract objects and entities similarly display inherent and distal ‘patterns and functions of communication’ by means of systemic clusters? Before this inquiry can continue, a clear conceptual differentiation needs to be made between an entity and an object since Public Administration as science is referred to in this study as an object and within the object, independent nodal entities are found that direct the anatomy of a science.

### 2.4.1 Conceptualising and determining the properties of an entity by means of semantic description and meta-physical account

Li (1999:13, 15, 20, 21, 25, 29, 30) describes an entity as: i) “something that exists at a certain time”; ii) “a four-dimensional spatio-temporal” thing “that would itself extend over time”. Hereto, Hamilton Livingston (1990:27) defines four-dimensionality as a “non-linear domain” and as such, “unitary man is [a] four-dimensional being in a four dimensional environment”. Fitzpatrick (1982:10) describes the concept four-dimensionality as that it is “the transcendence of a space-time interaction”; iii) that an entity “is something that endures in time”. IoT ONE (2020) advocates that an entity is “something that exists in itself, actually or potentially, concretely or abstractly, physically or not.” In addition, Pettersson (2001:267) states that an entity is “that which has a distinct existence as an individual unit, often used for organisations which has no physical form.” Hereto, Maturana and Varela (2012:8) validate an entity as: i) that through the lens of a spectator, an entity receives entity status only if the observer can designate and conceptualise it; ii) that to designate and conceptualise an entity, is to specify or itemise “the actual or potential interactions and relations” of the designated and conceptualised entity; iii) that the spectator can only designate and conceptualise an entity if there is at least one other divergent entity from which this one specific entity can be differentiated, and from which the

spectator can “observe such an entity to interact or relate”; iv) that the divergent entity that serves as a point of orientation for the designation and conceptualisation of the primary entity under discussion here can be an entity, but the decisive position that substantiates any entity’s designation and conceptualisation, is the spectator, him or herself; v) “The set of all interactions into which an entity can enter, is its domain of interactions”; vi) “The set of all relations (interactions observed by the spectator), in which an entity can be observed is its domain of relations”; vii) “The latter domain lies within the cognitive domain of the observer”; viii) “An entity is an entity if it has a domain of interactions, and if this domain includes interactions with the observer who can specify for it, a domain of relations”; and ix) “The observer can define an entity by specifying its domain of interactions; thus part of an entity, a group of entities, or the relations, can be made units of interaction (entities) by the observer”.

Note that this study refers to nodal entities within the corporeal morphology of Public Administration as a science. Fitzpatrick (1982), Hamilton Livingston (1990), Li (1999), Pettersson (2001:267), Maturana and Varela (2012), and IoT ONE (2020), present the fundamental essence of an entity as that its character has a strong relation to: i) time; ii) existence, and as such reality; iii) a spectator; and iv) distinct domains. In the context of time, these aforementioned scholars inform the researcher that: i) a nodal entity is something that exists at a certain time. It is thus possible to deduce that every nodal entity in the anatomy of Public Administration as a science exists at a certain time; ii) Nodal entities are four-dimensional, spatio-temporal things that would itself extend over time. To this characteristic of an entity it is possible to infer that every nodal entity in the anatomy of Public Administration as a science, is a four-dimensional, spatio-temporal thing, would itself extend over time. It is of critical importance to recognise that four-dimensionality bestow a non-linear domain upon entities; iii) Nodal entities have a transcendence of space-time interaction, which implies that nodal entities in the anatomy of Public Administration as a science have a pre-eminence to engage in space-time interaction; iv) Nodal entities are things that endure in time. It is thus presumed that nodal entities in the anatomy of Public Administration as a science similarly endure in time.

As previously mentioned, in addition to time, the fundamental essence of the character of a nodal entity also has a resilient connection to existence or reality. Hereto the aforementioned scholars present the fundamental essence of a nodal entity as that: i) a nodal entity is a thing that exists independently and is therefore recognisable as a thing in itself. The latter implies then that a nodal entity must have *noumenal* qualities or attributes since it is understood as a thing in itself. The implications hereof to nodal entities in the anatomy of Public Administration as a science, is that each nodal entity exists independently from other nodal entities, for

example, it is possible to designate and characterise quotidian science as something entirely different from a paradigm or even extraordinary science as two additional and separate nodal entities in the object of Public Administration as a science. Each nodal entity thus has *noumenal* characteristics that will enable a spectator to entitle and conceptualise such a nodal entity as a thing in itself; ii) Nodal entities exist in reality and is therefore observable through the senses or cognitively in cognitive-abstract observation. It is therefore inferred that nodal entities in the anatomy of Public Administration as a science exist in reality i.e., cognitively and can be observed via the senses or as cognitive-abstract entities; iii) Nodal entities are often used for organisations that has no physical form. Since the anatomy and physiology of Public Administration as a science are both organisations without physical form, it is useful to apply nodal entities to give a physical form to cognitive sensations.

The fundamental essence of the character of a nodal entity furthermore has a particular relation to a spectator or “observer”, as Maturana and Varela (2012:8) refer to a spectator, in which the spectator’s role is often succumbed to Feinberg’s (1968) Accordion Effect. Hirschmann (1971 – 1972; 202 – 204) explicated the Accordion Effect as the phenomenon where human actions are expanded or contracted, particularly in the description or understanding of animate and inanimate agency. In the case of the anatomy of Public Administration as a science, nodal entities are recognised as inanimate agencies, in other words, nodal entities do not have a soul or will of their own. In the context of the role that the spectator plays in the character designation and recognition of an entity, the following elements are highlighted: i) It is only through the lens of a spectator, that an entity will receive entity status. Therefore, if and only if the spectator can designate and conceptualise such an entity does the entity itself become an entity; ii) The spectator’s act to designate and conceptualise an entity includes the specification or itemisation of the actual or potential interactions and relations of the said entity; iii) The spectator can only designate and conceptualise the entity if there is at least one other divergent entity from which this one specific entity can be differentiated, and from which the spectator can observe such an entity to interact or relate to other entities; iv) “The divergent entity that serves as a point of orientation for designation and conceptualisation of the primary entity can be an entity, but the decisive position that substantiates any entity’s designation and conceptualisation is the spectator him or herself (Maturana & Varela, 2012:8).”

Maturana and Varela (2012:8) argue that domains also fulfil a particular function in an entity’s existence, which will be outlined as follows: i) an entity displays a domain of relations as the set of all the relations (interactions through the observer) in which the entity can be observed. An entity is thus an entity if it has a domain of interactions and if this domain includes

interactions with the spectator, who can specify on its behalf, a domain of relations. In the case nodal entities in Public Administration as a science, it is possible for the spectator to recognise a host of relations between the entity and the spectator and between the entity and other divergent entities; ii) Critical to mention is the fact that an entity's domain of relations lies within the cognitive domain of the spectator. It is a truthful statement to confirm that even in Public Administration as a science, an entity such as Quotidian science's domain of relations lies within the cognitive domain of the spectator; iii) An entity similarly contains a domain of interactions, which represents the set of interactions into which an entity can enter. As mentioned above, entities in the anatomy of Public Administration as a science retains a domain of interactions with both the spectator and other entities; iv) An entity similar includes a non-linear domain. Neither of the entities in the anatomy of Public Administration as a science, follows a linear pattern in its domain of interactions. This phenomenon becomes evident in the figures on the physiology of entities in the anatomy of Public Administration as a science; and v) "The [spectator] can define an entity by specifying its domain of interactions, thus part of an entity, a group of entities or the relations can be made units of interaction between entities by the [spectator]." Such units of interaction will similarly become visible once this chapter present the figures that illustrate physiology or interaction between entities in the anatomy of Public Administration as a science, which are only observable because they have been designated and conceptualised by a spectator.

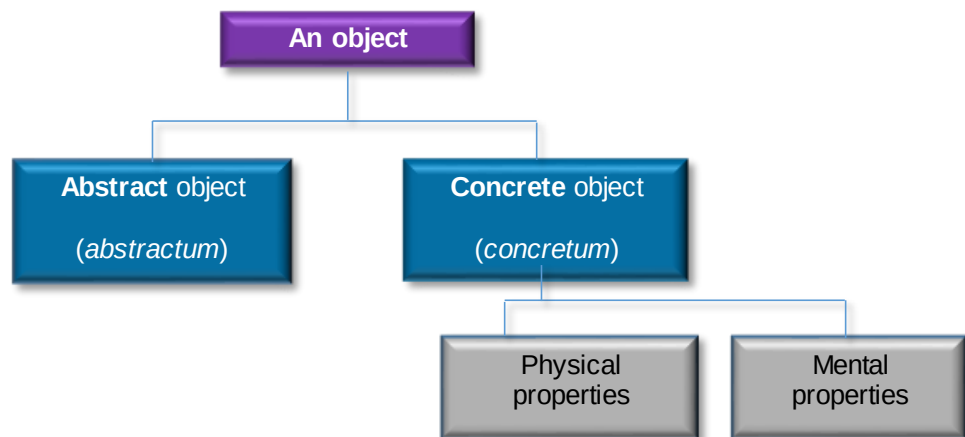
The substantiation of arguments and later inferences *vis-à-vis* the physiology of Public Administration as a science, fundamentally depend upon the conceptualisation and extant properties relevant to an entity and an object.

#### **2.4.2 Conceptualising and determining the properties of concrete and abstract objects by means of semantic description and meta-physical account**

The intelligence embedded in the meanings and property descriptions of concrete and abstract objects, necessitate a firm appreciation and differentiation between three concepts, relevant to this sub-section. These four concepts are recognised as: a) an object; b) a universal; and c) particulars. A descriptive blend between conceptualisations offered in the English Oxford Living Dictionaries (2017), The Cambridge Dictionary (2017) and the Merriam-Webster (2017), explicated these three concepts as follows: An object is- i) "something material" that can be observed by means of the senses but that is inanimate" (not alive); ii) "something mental" ("total emotional and intellectual response of an individual to an external reality"; relating to the mind, its, activity or its products"); iii) "something physical" that is observed through the senses and which becomes "an agent for psychological identification; iv) the teleological goal

or end of an endeavour or action; and v) “[a] thing that forms an element of, or constitutes the subject matter of an investigation or science.” The most basic foundational cognitive differentiation of an object is embedded in the object’s ontological expression as either abstract or concrete, to which the latter further differentiates between physical and mental properties. Figure 2., visually depicts such differentiation.

**Figure 2.30: The most basic foundational cognitive differentiation of an object**



**Source:** Daly (2010); and Lowe (2014:182)

Firstly, an object is understood in this study as the activity or products that result from a *posteriori* abstract, inanimate matter, which transforms into the ‘vehicle’ for psychological identification, in which the object becomes the teleological goal or end of an endeavour or action. The implication hereof to this study and in particular the physiology of Public Administration as a science is that an understanding of the science of Public Administration as object will be the activity or product that results from reasoning of observed theoretical facts as inanimate matter, which transforms into the conduit for cognitive association or recognition, in which cognitive association or recognition of the science of Public Administration becomes the teleological goal or end of the study as academic endeavour or action. Secondly, this study recognises an entity as that it is a *posteriori* inanimate matter, with a unique identity that notably subsists detached from other things such as its own characteristics, a teleological intent and conceptual reality. The association of the latter intelligence to this study implies that an entity such as the nodal entities in a science is again the result obtained from reasoning of observed theoretical facts, in which such nodal entities present unique identities that notably subsist detached from other things such as its own characteristics. A more specific example to the latter would be that a paradigm subsists detached to it characteristics of a meta-physical sense, a sociological sense and an artefact or construct sense. It is similarly true that each



nodal entity present in the anatomy of a science presents its own teleological intent and conceptual reality.

Against the background of conceptualising both an entity and an object, this chapter continues to investigate a generic ontological description of the six nodal entities that are present in the anatomy of a science.

### **2.4.3 A generic, precursory discussion *vis-à-vis* the ontic description of each of the six nodal entities**

Considering the generic position of each of the nodal entities as they are visually depicted in a section that follows, it is clear that each nodal entity justifies the right to an ontic description. Without pre-empting the content of Chapter 4 in this study, a brief, generic precursory discussion about ontic concepts that are relevant to this study is introduced. This introduction merely serves as a concise philosophical introduction for what is to follow in Chapter 4 of this study.

Stout (2012:388 - 398) pioneered a recognition and interpretation into the various ontic angles of incidence through which P[p]ublic A[a]dministration can subsist. Centred on Stout's (2012:388 - 398) scholarly contribution, this section firstly presents an ontological framework to the nodal entities within the anatomy of Public Administration as a science, and secondly the interpretation and substantiation of the nodal entities, as ontic entities within the anatomy of Public Administration as a science. It is however at this point critically important: i) to be reminded of Naugle (2002:354) and Baumann's (2011:45) observation in terms of the rudimentary composition of reality, that affords the footing from which "we live and move and have our being."; and ii) to note that an ontic explication of the source, state, expression and condition of an entity adopt a particular nuance that is strictly based on the worldview and as such, the emanating philosophy that the observer wholly trusts as the one and only truth. Moon and Blackman (2014:1169) inferred: i) that human beings' concept of reality is positioned on different instances of a continuum that stretches from Realism – one reality exists to Relativism – where multiple realities exist; ii) This continuum presents five distinct positions that include from left to right Naïve realism (Reality is understood by using appropriate methods), Structural realism (Reality is described by scientific theory, but its underlying nature remains uncertain), Critical Realism (Reality is captured by broad critical examination), Bounded Relativism (Mental constructions of reality are equal in space and time within boundaries), and Relativism (Realities exist as multiple intangible mental constructions and there is no reality beyond subjects). What would the implications of such facts be on an ontic description of the nodal

entities within Public Administration as a science? Firstly, Moon and Blackman's (2014:1169) continuum determines that the potential answers in ascertaining the source, state, expression and condition of Public Administration as a science, will be plotted on the continuum between Realism and Relativism. Secondly, the source, state, expression and condition of Public Administration as a science will be categorised as either Naïve realism, Structural realism, Critical Realism, Bounded Relativism and Relativism. Table 2.9 below juxtaposes Moon and Blackman's (2014:1169) five variants in the Realism – Relativism continuum against Stout's (2012:388 – 398) ontological elements to ascertain the varying angle of incidences when determining the ontic nature of Public Administration as a science.

**Table 2.9 A generic perception of the ontic position that Public Administration as a science will assume on the Realism - Relativism Continuum**

|                                                                                      | Realism                                                                                                                           |                                                                                                                                                                                  |                                                                                                                                                      | Relativism                                                                                                                                                                            |                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                      | Naïve realism                                                                                                                     | Structural realism                                                                                                                                                               | Critical Realism                                                                                                                                     | Bounded Relativism                                                                                                                                                                    | Relativism                                                                                                                                                                                            |
| The source of Public Administration as a science (Transcendental / Immanent / Both). | The source of Public Administration as a science is understood as transcendental, immanent or both, by using appropriate methods. | The source of Public Administration as a science is described by scientific theory, either as transcendental, immanent or both, but its underlying nature remains uncertain.     | The source of Public Administration as a science is either transcendental, immanent or both, and is captured by means of broad critical examination. | Mental constructions of the source of Public Administration as a science are equal in space and time within boundaries, and is recognised either as transcendental, immanent or both. | The source of Public Administration as a science exists as multiple intangible mental constructions, recognised as transcendental, immanent or both, and as such there is no reality beyond subjects. |
| The state of Public Administration as a science. (Static / Dynamic / Both).          | The state of Public Administration as a science is static, dynamic or both and can be understood by using appropriate methods.    | The state of Public Administration as a science is static, dynamic or both and is described by scientific theory, but its underlying nature remains uncertain.                   | The state of Public Administration as a science is static, dynamic or both, and is captured by broad critical examination.                           | Mental constructions of the state of Public Administration as a science reveal the latter as static, dynamic or both, in which they are equal in space and time within boundaries.    | The state of Public Administration as a science is static, dynamic or both and exists as multiple intangible mental constructions and hereto, there is no reality beyond subjects.                    |
| The expression of Public Administration as a science. (Whole / Plural / Both).       | The expression of Public Administration as a science can be understood as whole, plural or both by using appropriate methods.     | The expression of Public Administration as a science is understood as whole, plural or both, and is described by scientific theory, but its underlying nature remains uncertain. | The expression of Public Administration as a science is whole, plural or both and is captured by broad critical examination.                         | Mental constructions of the expression of Public Administration as a science reveal it as whole, plural or both, and are equal in space and time within boundaries.                   | The expression of Public Administration as a science is whole, plural or both and exist as multiple intangible mental constructions, and there is no reality beyond subjects.                         |
| The condition of Public                                                              | The condition of Public Administration as                                                                                         | The condition of Public Administration as a                                                                                                                                      | The condition of Public Administration                                                                                                               | Mental constructions of the condition of                                                                                                                                              | The condition of Public Administration as                                                                                                                                                             |

|                                                                                                                                                | Realism                                                                                                                                                                                       |                                                                                                                                                                                                                           |                                                                                                                                                                                           | Relativism                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                | Naïve realism                                                                                                                                                                                 | Structural realism                                                                                                                                                                                                        | Critical Realism                                                                                                                                                                          | Bounded Relativism                                                                                                                                                                                                                     | Relativism                                                                                                                                                                                                                                                        |
| Administration as a science. (Differentiated Individual; Undifferentiated Individual; Differentiated Relational; Undifferentiated Relational). | a science can be understood either as: Differentiated Individual; or Undifferentiated Individual; or Differentiated Relational; or Undifferentiated Relational, by using appropriate methods. | science is described by scientific theory either as Differentiated Individual; or Undifferentiated Individual; or Differentiated Relational; or Undifferentiated Relational, but its underlying nature remains uncertain. | as a science is captured by broad critical examination either as Differentiated Individual; or Undifferentiated Individual; or Differentiated Relational; or Undifferentiated Relational. | Public Administration as a science are equal in space and time within boundaries and are recognised either as Differentiated Individual; or Undifferentiated Individual; or Differentiated Relational; or Undifferentiated Relational. | a science exist as multiple intangible mental constructions in which it can either be described as Differentiated Individual; or Undifferentiated Individual; or Differentiated Relational; or Undifferentiated Relational. There is no reality beyond subjects . |

**Source:** Stout (2012:388 - 398); Moon and Blackman (2014:1169)

#### 2.4.3.1 An ontological framework to the nodal entities within the anatomy of Public Administration as a science

According to Stout (2012:388 – 398), human beings' understanding of an entity may be displayed as follows: a) the source of being (all nodal entities in the anatomy of P[p]ublic A[a]dministration as a science) is either, transcendent, immanent or both. Hereto, the Cambridge English Dictionary (2020) describes the concept source as: "the place something comes from or starts at, or the cause of something". Therefore, the source of every nodal entity in the anatomy of a science will either be classified as immanent, transcendent or both. Schwartz (2007:ix) asserts that: "the split between the concepts of the transcendent and the immanent, the infinite and the finitude is regrettable, for once they are radically separated, the transcendent becomes radically inaccessible, abstract, even empty, and in this view, only immanence is available to us, through reason and through experience". Haynes (2012:4) maintains that philosophies of immanence steer away from the notion of transcendence that is positioned in contrast with immanence, since the latter instance bears the perfect environment to incite hierarchical dualism to the disadvantage of the latter. Haynes (2012:5) furthermore proclaims that "[i]n this modern moment, we are no longer satisfied with thinking immanence as immanent to transcendent; we want to think transcendence within the immanent, and it is from immanence that a breach is expected... immanence itself is made to disgorge the transcendent everywhere." It is clear that both transcendence and immanence are highly complex philosophical concepts that requires sufficient space for contemplation. Chapter 4 of this study is dedicated and will elaborate upon the concepts of transcendence and immanence in order to present an ontic meta-theory that has the capacity to explicate the

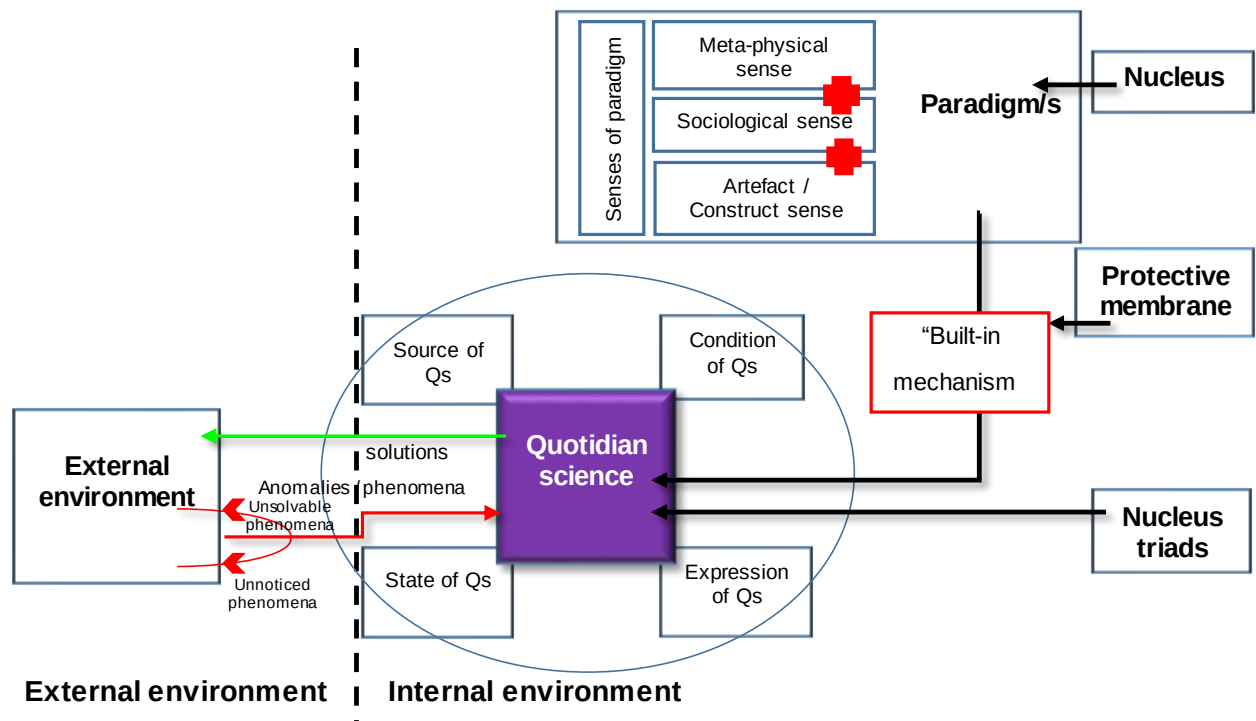
ontic character of Public Administration as a science within the ambit of a multitude of worldviews. It needs to be said that for a post-modern nihilist, or an atheist, or an agnostic, it may be acceptable to either disregard transcendence or to disguise transcendence that it is almost unrecognisable, but for a Christian, the viewpoint of not having transcendence or having a disguised transcendence is absolutely unthinkable. The critical role of individuals' worldviews primarily become evident; b) the state of being (all nodal entities in the anatomy of P[p]ublic A[a]dministration as a science) is either static, dynamic or both. The Cambridge English Dictionary (2020) conceptualises the concept 'state', as "a condition or way of being that exists at a particular time". Significant to note is the reference and connection of an entity's state to the concept of time, and hereto, the knowledge that was mentioned before in this chapter, with reference to Fitzpatrick (1982), Hamilton Livingston (1990), Li (1999), Pettersson (2001:267), Maturana and Varela (2012), and IoT ONE's (2020), connection between the concepts 'entity' and 'time'; c) the expression of being (all nodal entities in the anatomy of P[p]ublic A[a]dministration as a science) that is either whole, plural or both. The Cambridge dictionary explains 'expression' as concept, as that it is an individual's sensible (observed by means of the senses) display of cognitive processes, physical and/or emotional consciousness or perceptions. A significant observation is that Stout (2012:388 - 398) projected animate behaviour onto inanimate objects in the belief that such objects too display expressions; and d) the condition of being (all nodal entities in the anatomy of P[p]ublic A[a]dministration as a science) that is either differentiated individual, differentiated relational, undifferentiated individual or undifferentiated relational or all of them. The Merriam Webster Dictionary (2020) conceptualises 'condition' as "something essential to the appearance, or occurrence of something else." In the context of the object's appearance and activity, Stout (2012:388 – 398) accentuates and necessitate a determined spectrum-description of an entity's individuality (the condition of being independent, individual) as opposed to relationality (the condition of being relational), and similarly of being differentiated (a display of inherent, unique characteristics) as opposed to undifferentiated (a display of being the same as all other objects).

#### **2.4.4 A visual depiction and description of the nodal entities in Public Administration as a science and each nodal entity's systemic physiology within Public Administration as science**

The insight that Fitzpatrick (1982), Hamilton Livingston (1990), Li (1999), Pettersson (2001:267), Maturana and Varela (2012), and IoT ONE (2020) brought to this study, necessitates the fact that each one of the individual nodal entities will be interpreted in their own sub-system of interaction and communication, within the body of P[p]ublic

A[administration] as a science, and as cognitively observed by the researcher. Figure 2.31 thus commences with a discussion that edifies Nodal entity 1, Quotidian science.

**Figure 2.31: Nodal entity 1 - Quotidian science in its ontological state and systemic physiology within Public Administration as science**



**Source:** Author's perspective

The physiological sub-system of nodal entity 1, as depicted in Figure 2.31, which is recognised as Quotidian science, and which is located in the corporeal morphology of a science, pivots on a first awareness. This awareness is documented as that the activities which occur in and around Quotidian science as entity are indeed non-linear. It is the non-linear characteristic of this sub-system that adds to the complexity of displaying a written account that describes the systematic manner through which Quotidian science's sub-system could be explicated.

To make sense of the activities in this non-linear sub-system that is depicted in Figure 2.31, Kuhn (1962; 2012) reminds of the fact that the formal intent of Quotidian science is first and foremost for this nodal entity to be a puzzle-solving unit that presents solutions to anomalies and phenomena that an external environment poses or exhibits. To draw this statement closer to P[ublic] A[administration], implies that an external environment to Public Administration (as visually depicted in Chapter 1, Figure 1.1, Quadrant 3 and Chapter 2, Figure 2.5), and an external environment to public administration (as visually depicted in Chapter 1, Figure 1.1, Quadrant 4, and Chapter 2, Figure 2.5), pose or exhibit anomalies and phenomena, to which

Quotidian science has to present solutions. Figure 2.31 similarly makes it clear that there are anomalies and phenomena that will return void, unsolved or even unnoticed to the external worlds of P[p]ublic A[a]dministration.

In discussing Quotidian science as sub-system within Public Administration as a science, the author of this study is reminded of the contributions of Fitzpatrick (1982), Hamilton Livingston (1990), Li (1999), Pettersson (2001:267), Maturana and Varela (2012), and IoT ONE (2020) in that Quotidian science as nodal entity in the anatomy of this field of study has a distinct connection to time. Hereto, it is stated emphatically that as nodal entity, Quotidian science is something that: i) exists at a certain time; ii) is a four-dimensional thing, in which the four-dimensionality bestows a non-linear domain upon the nodal entity; iii) would itself extend over time; iv) has transcendence of space-time interaction, which thus is the supremacy to engage in space-time interaction; and v) endures in time.

Fitzpatrick (1982), Hamilton Livingston (1990), Li (1999), Pettersson (2001:267), Maturana and Varela (2012), and IoT ONE (2020) remind that Quotidian science as nodal entity exists as “a thing in itself, independently recognisable from other nodal entities, and in this study then of the anatomy of Public Administration as a science. This statement bestows *noumenal* attributes upon Quotidian science in the sense that it has the capacity to: i) exist independently from other nodal entities, with a character of its own; ii) exist in reality and is therefore observable through the senses; iii) exist theoretically and is therefore cognitively apparent; iv) exist as cognitive-abstract observation; and v) exist as an individual unit or within an organisation that has no physical form.

In the context of discussing the attributes of inanimate nodal entities, Hayes (2000:706) alerts against getting ensnared in anthropomorphism. In addition, Hirschmann (1971 – 1972:202) reminds of Feinberg’s Accordion Effect that is reminiscent of the truth that human beings’ actions are often expanded or narrowed-down in the process of detailing an entity or event. An example of Feinberg’s Accordion Effect is described as follows: Quotidian science resolved issues of illegal land invasion. The fact that scientists, public servants, members of a community and land seekers respectively engaged in in-depth research, discussions, agreements amongst many others, have become superfluous information. The latter is thus proverbial of descriptions given to nodal entities in the physiology of Public Administration as a science. Hereto, the quotidian scientist, public servant, community members or land invaders’ roles have similarly become unnecessary information. The latter similarly all depends on the fact if the focus is on animate or inanimate agencies. The animate agency, or the spectator in Quotidian science, who may also be referred to as the P[p]ublic

A[ad]ministration quotidian scientist. The quotidian scientist plays a critical role in the physiology of a science: i) It is through the lens of the quotidian scientist that this particular nodal entity receives entity status, if and only if the quotidian scientist has enough evidence that the entity could be designated and conceptualised. Here, it is possible to observe that in both instances, the verdict is positive. Quotidian science has been designated and conceptualised in the specification or itemisation of the actual or potential interactions and relations of Quotidian science as visually displayed in Figure 2.31; ii) The confirmation of Quotidian science is furthermore positive since it is possible to not only recognise one other divergent entity from which Quotidian science can be differentiated, but in the case of the anatomy of P[ublic] A[ad]ministration as a science, it is possible to recognise the potential of a Paradigm or Paradigms as nodal entity, the Protective Membrane as nodal entity, the Nucleus as nodal entity and the Nucleus Triads as nodal entity from which Quotidian scientists can observe Quotidian science as nodal entity to interact and relate; iii) These divergent entities serve as point of orientation for designation and conceptualisation of Quotidian science can be an entity, but the decisive position that substantiates any entity's designation and conceptualisation is the spectator her or himself, in the case of Quotidian science, the quotidian scientist her or himself.

Maturana and Varela (2012) highlight the following facts that have to be considered in terms of Quotidian science and likewise all the other nodal entities in the anatomy of Public Administration as a science. These facts are documented as follows: i) Quotidian science is an entity if, and only if, it can display a domain of interactions, which it clearly does as visually depicted in Figure 2.31; ii) Quotidian science is an entity if, and only if, this domain includes interactions with the spectator, which in this study is recognised as interactions between Quotidian science and the quotidian scientist, who can specify for it, a domain of relations that once again is visibly present in Figure 2.31; iii) Such a domain of relations (interactions through the spectator / quotidian scientist) in which an entity can be observed, lies within the cognitive domain of the observer / quotidian scientist; iv) Quotidian science as an entity presents a non-linear domain; and v) A connection between the quotidian scientist and the domains of Quotidian science as an entity is embedded in the fact that the quotidian scientist can conceptualise an entity by specifying its domains of interactions between parts of entities, groups of entities, or the relations can be made units of interactions.

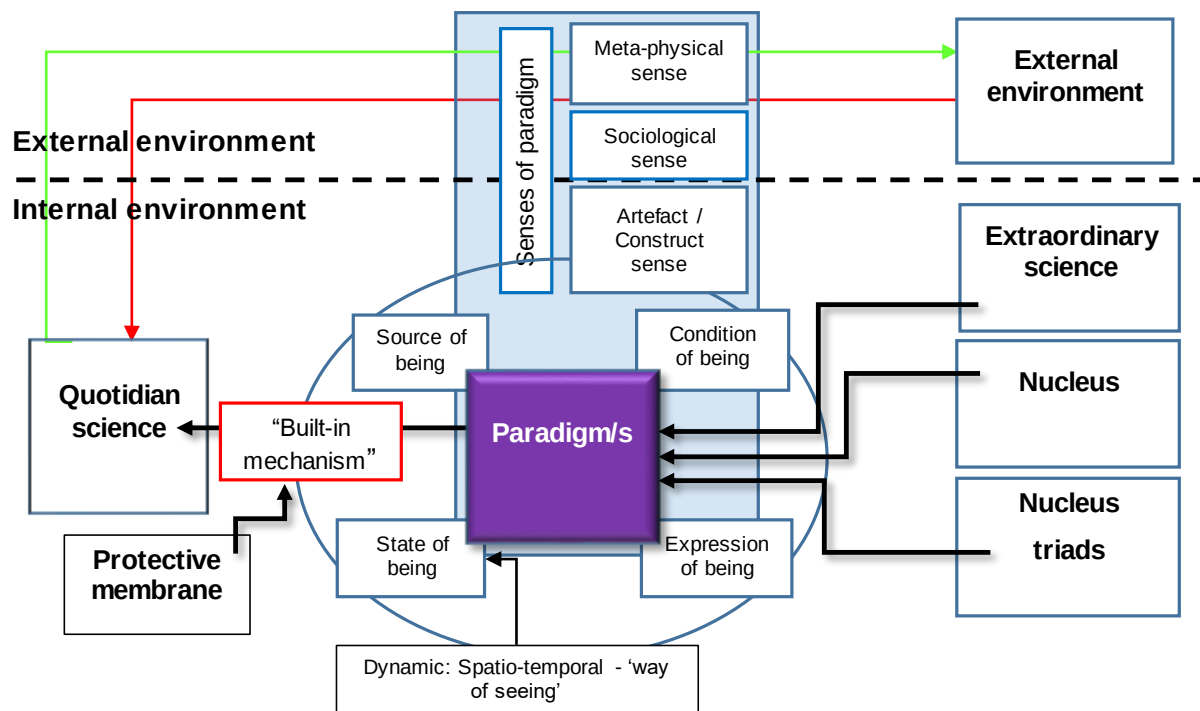
In conclusion to nodal entity 1 or Quotidian science in the anatomy of Public Administration as a science, there is no doubt in terms of the influence that Kuhn (1962:2012), Masterman (1970:70) and Lakatos (1978:102) recognised in the interaction and requisite presence between Quotidian science, the Nucleus, Paradigm/s, Protective Membrane and the Nucleus

Triads as nodal entities. In this light, the study continues by recognising the physiology in nodal entity 2 that is accepted as a Paradigm/s, that is/are present in the sub-system of the anatomy of Public Administration as a science.

Figure 2.32 that follows, provides a visual depiction of nodal entity 2, a Paradigm/s that is/are present in the sub-system of the anatomy and physiology of Public Administration as a science. All the confirmations presented against Figure 2.31 in terms of Quotidian science being an entity, is confirmed as valid and true for all the entities that follow. With reference to a paradigm, Kuhn (1962; 2012:15, 159) alerts to three critically important facts, which this study recognises here, before a brief description of the physiology of a Paradigm/s in the physiological sub-system of the anatomy of Public Administration as a science, is/are investigated. These three facts are noted as follows: i) a science in an academic discipline does not automatically have a paradigm. The mere concept of paradigm presents an evolutionary trajectory in which a paradigm evolves from a pre-science phase into a fully-fledged paradigm that reflects a meta-physical, sociological and artefact or construct sense. These elements of a paradigm have been explicated earlier in this chapter: ii) if at all, the social sciences more-often than not, boasts more than one paradigm at any given time; and iii) it is debatable if the social sciences have ever reached the state of presenting at least one mature paradigm.



**Figure 2.32: Nodal entity 2 - A paradigm or simultaneously active paradigms in its ontological state and systemic physiology within Public Administration as science**

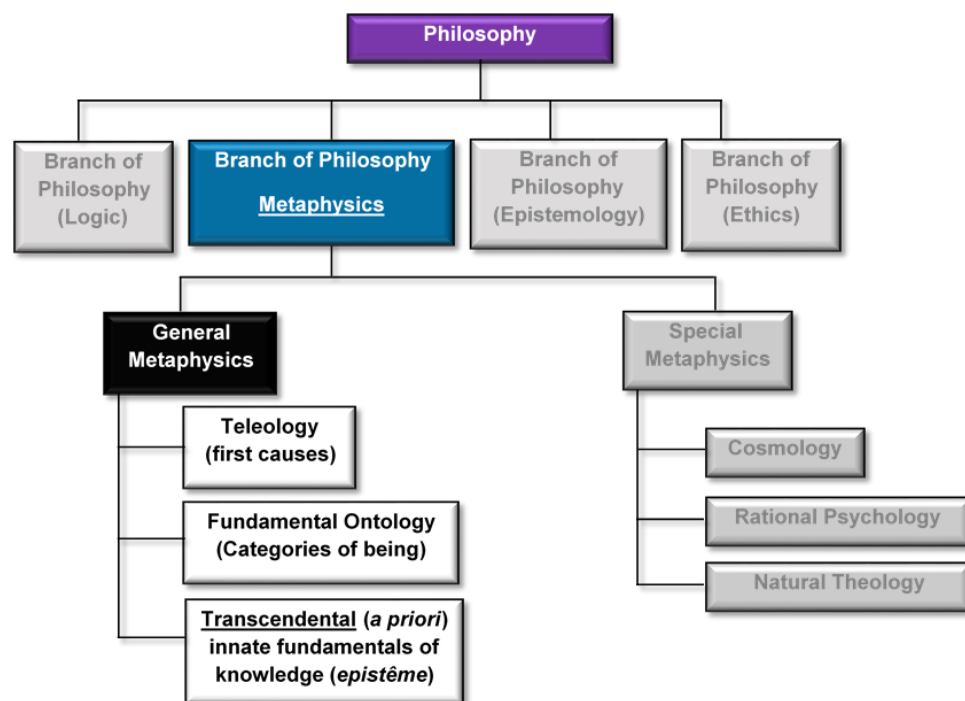


**Source:** Author's perspective

In Kuhn's (1962; 2012:xi, xix, xvii-xxv, xiinll, xlii, xvi-xxv, xxiv, 10-12, 19-20, 23, 25, 43-51, 79, 83-84, 103, 109, 122, 145-146, 155-156, 174-190) 21 descriptions of a paradigm, and Masterman's (1970:70) confirmation and thereafter classification of Kuhn's (1962; 2012) 21 descriptions, it is understood that a paradigm in essence reflects three senses namely: i) a meta-physical sense; ii) a sociological sense; and iii) an artefact or construct sense. In an attempt to determine the source of a paradigm, against Stout's (2012:389) classification of source as being, which is either transcendent, immanent or both, the first inquiry that ascends in determining whether a paradigm's source is transcendent, immanent or both, is documented as follows: What is the relation between meta-physical and transcendent? This inquiry justifies a study in itself since the complexity thereof had philosophical giants such as Aristotle, Kant and Hume, amongst many others, in deep contemplation. As adjectives, a distinction between transcendental and meta-physical illuminates the fact that the transcendental is appreciative of, or relates to *a priori* or the innate fundamentals of knowledge (*epistême*), that are in its entirety detached from experience (Sylvan, 1997:405). The meta-physical or Meta-physics is a branch of Philosophy (Teffo & Roux, 1998:134; Vericat, 2004:172; Moore, 2012:18), that concerns itself with two primary theses (Loux, 2008:2; Jaroszyński, 2018:34) namely: i) first causes; and ii) a study of being and the categories of being. Meta-physics is correspondingly

categorised into General Meta-physics that includes Ontology, and Special Meta-physics, which is concerned with Cosmology, Rational Psychology and Natural Theology. Sylvan (1997:406) classifies Meta-physics into Fundamental Ontology and Transcendental. Zahavi (2017:65) constructs an understanding of Meta-physics as follows: i) “Meta-physics is a speculatively constructed philosophical system dealing with the highest and ultimate questions concerning the existence of God, the immortality of the soul, etc”; ii) “Meta-physics is an attempt to answer the perennial questions, concerning the meaning of factual human life”; iii) “Meta-physics is concerned with an answer to the question of why there is something, rather than nothing”; iv) “Meta-physics is a theoretical investigation of the fundamental building blocks or reality”; and v) “Meta-physics is a fundamental reflection on and concerned with the status and being of reality. Is reality mind-dependent or not? And if yes, in what manner?” Figure 2.33 illustrated the positional relation between Meta-physics and Transcendental.

**Figure 2.33 Finding the positional relation between Meta-physics and Transcendental**

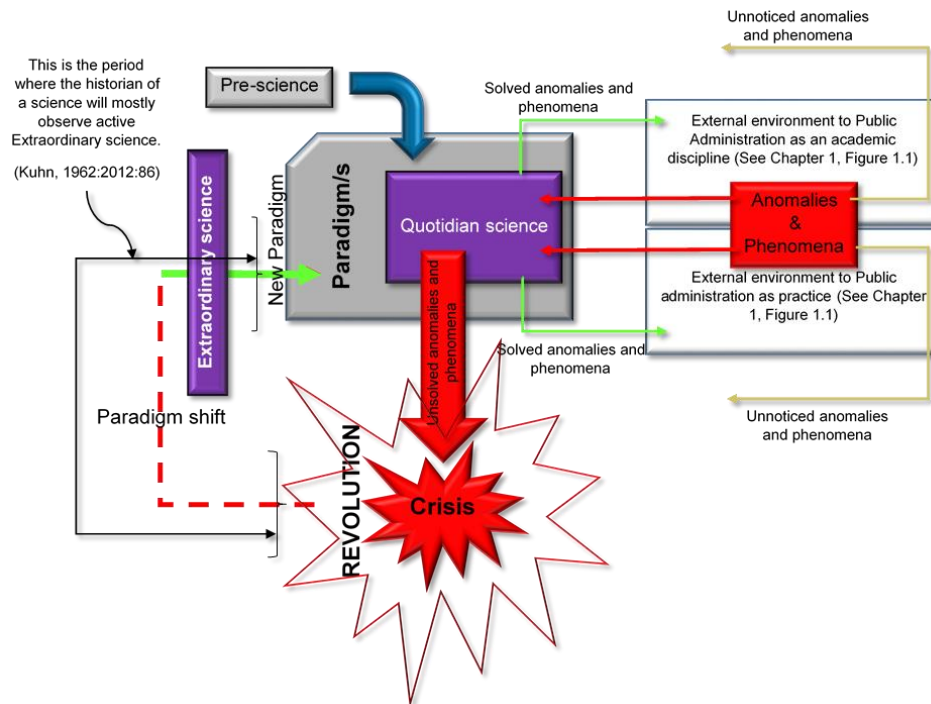


**Source:** Author’s perspective as adopted from Sylvan (1997:405, 406); Teffo and Roux (1998:134); Vericat (2004:172); Rosenkrantz and Hoffman (2011:1, 2); Moore (2012:18); Loux (2013:2); Zahavi (2017:65); and Jaroszyński (2018:34)

Figure 2.33 similarly highlights Rosenkrantz and Hoffman’s (2011:1, 2) explication of the four primary branches of Philosophy, as well as the positioning of Meta-physics and Transcendental in it.

The next inquiry that presents itself, is documented as follows: Where does Public Administration fit into the ambit of Philosophy, of Meta-physics and of Transcendental? Firstly, there is a significant relation between the elements of General Meta-physics and the apices explained in Chapter 1, Figure 1.2 and the apices of one of the knowledge triads outlined in Chapter 2, Table 2.5, Figure 2.17. Secondly, there is a significant relation between Special Meta-physics and in particular Cosmology as the science of reality as an ordered law-governed system (Rosenkrantz & Hoffman, 2011:2). The relation thus between Public Administration, Philosophy, Meta-physics and Transcendental is critically investigated and answered in Chapters 3 – 5 of this study. As a general remark, this may be the only position or space where P[ublic] A[dministration] will display universals. As an initial thought, General Meta-physics and Transcendental hold distinct elements that construct both these objects as things in themselves, which carry the fundamental description of worldviews and the spectrum of worldviews that exist. It is therefore a non-negotiable to recognise the spectrum of worldviews as point of departure to understanding the philosophy of Public Administration as a science. It would be safe to say that the source of Paradigm is both immanent and transcendental, since a Paradigm is incited by meta-physics and by the sociological activities found in and amongst quotidian and Extraordinary scientists as well as the four continuums in the Artefact sense of paradigm and the Construct sense of paradigm that enables scientists to establish solutions to anomalies and or phenomena. The latter was explained earlier in Chapter 2, in Figure 2.11. Considering the state of Paradigm, Figure 2.34 that follows emphatically discloses the dynamic state of a paradigm. The expression of a paradigm, according to Stout (2011:389), is whole, plural or both. Based on the contributions of Kuhn (1962; 2012) and Masterman (1970:59-90), the expression of a paradigm is plural since it is recognised in a meta-physical, sociological and artefact or construct sense. The condition of a paradigm is described by Stout (2011:338-398) as differentiated individual, undifferentiated individual, differentiated relational or un-differentiated relational. This study wishes to argue that a paradigm in the anatomy of a science is differentiated since it is possible to recognise a paradigm as a separate nodal entity with a distinct purpose in the anatomy of a science. This study furthermore wishes to argue that a paradigm as nodal entity in the anatomy of a science is relational since Figure 2.32 is indicative of the reciprocal relationships between a Paradigm and other nodal entities in the anatomy of Public Administration as a science. Even though the afore described details of the nature of a Paradigm has been included, this particular nodal entity requires significant research to fully manifest as a mature nodal entity in Public Administration as a science. Figure 2.34 that follows presents a visual image of the dynamic state and nature of a paradigm.

**Figure 2.34: Thomas Kuhn's Paradigm Cycle in the context of P[p]ublic A[a]dministration as a science**



**Source:** Author's own, based on the scholarly contributions of Kuhn (1962; 2012); Masterman (1970); and Hacking (2012)

Following the Paradigm as nodal entity in the anatomy of a science, the latter presents Nodal entity 3 as Extraordinary science to which this study will briefly describe this nodal entity's ontic character and physiological interactions. As a reminder of what was referred to in terms of Extraordinary science earlier in this chapter, Kuhn (1962; 2012:xxvii, 83) irradiates the character of Extraordinary science (recognised in the anatomy of Public Administration as a science, as nodal entity 3), as follows: i) Extraordinary science is the front-runner to a novel paradigm; ii) Extraordinary science in an academic discipline is recognised as anomalies and phenomena that does not fall within the normal boundaries of quotidian science's puzzle solving efforts; iii) the circumstances that surround an academic discipline in this particular time, reveals that such a field of study finds itself in a spatio-temporal interlude of crisis; iv) the crisis demands that scientists in the discipline press into Extraordinary science, rather than Quotidian science, since extraordinary solutions are required to deflate the crisis and its effects on the continued existence of the discipline; v) in the midst of such a crisis, the discipline's environment displays a dramatic increase in rival articulations in response to the crisis and in an attempt to present solid scientific solutions; vi) there is similarly a willingness amongst scientists to attempt anything in order to obtain resolves to the crisis; vii) scholars in the field of study display an overt discontent that is incited by both the crisis and its consequences; viii)

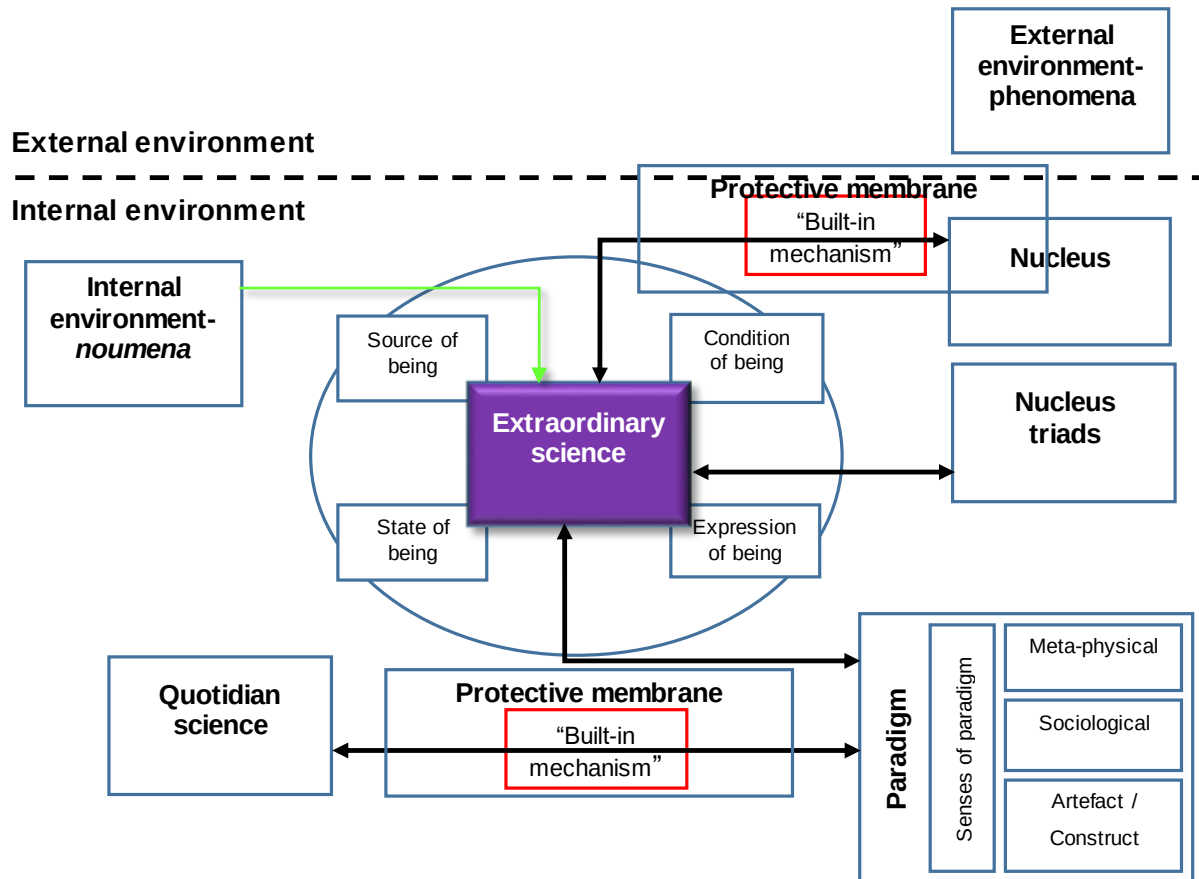
scientists and scholars of the discipline naturally wishes to fall back onto the field of study's philosophy of science and correspondingly re-engage on the basics of the field of study; and viii) out of the turbulence and agitation, novel ideas and methods ascend and ultimately new theory is presented. Kuhn (1962:2012:6) describes the circumstances illustrated above as "extraordinary episodes" that are recognised as "scientific revolutions", and as mentioned earlier in this chapter, "[t]hey are the tradition-shattering complements to the tradition-bound activity of [quotidian] science." If it is considered that quotidian science occurs within the strictures of a paradigm, Kuhn (1962; 2012:83 – 86) informs that there is a considerable time-lapse between the first time that unsolvable anomalies and/or phenomena appear and the inevitable effects that it will have on the field of study, until a new paradigm appears. When a field of study is bemused by the events that signify paradigmatic change, Kuhn (1962; 2012:86) alerts historians of science to the fact that these are the moments that they will be able to observe the true character of Extraordinary science as nodal entity in the anatomy of a science. Hereto, Kuhn's Cycle of Paradigm Change informs the tacit spaces between an unsolved anomaly and a new paradigm as it is illustrated in Figure 2.34.

From Kuhn (1962; 2012) and Masterman's (1970) conceptualisation of Nodal entity 3, Extraordinary science, the source in the ontic explication of this entity is recognised as unsolvable or paradigm resistant anomalies or phenomena, which in themselves are immanent, since they emanate from the external environments to both the discipline and its related practice. It is however argued that *noumena* recognised as problems that require solutions, and which emanates from the 'thing in itself', in other words *noumena* that require solutions in terms of e.g., P[public] A[administration] as a science in itself, are categorised as transcendental. The inference that can be made from this explanation is that the ontic source of Extraordinary science is both transcendental and immanent. Kuhn (1962; 2012) depicts a paradigmatic cycle in which Extraordinary science appears at a particular position in the cycle. Reference is made here to a position in the cycle and not a phase or stage in the cycle since the activities associated with both Extraordinary science and a Paradigm are non-linear. The latter is observed as a true characteristic of an entity, and in this study, a nodal entity in Public Administration as a science. Extraordinary science fulfils an extraordinary role in the anatomy of a science and in this sense, the ontic state of Extraordinary science should be observed as dynamic and not static, since Extraordinary science is a unique and rare occurrence that often only makes its appearance, as Kuhn (1962; 2012:) pointed out, when a paradigmatic crisis has turned into a scientific revolution. In addition, the question arises, how does Extraordinary science express itself? Kuhn (1962:2012:6) states that Extraordinary science expresses itself by means of "the tradition-shattering complements to the tradition-bound activity of [quotidian] science." The appearance of the ontic expression cannot be predetermined as either whole,

plural or both, given that each time extraordinary science expresses itself, the expression itself may vary radically from previous instances. The question if Extraordinary science is differentiated individualistic, undifferentiated individualistic, differentiated relational or undifferentiated relational becomes visible in Figure 2.35. Extraordinary science's relational directionality is both two-way and one-way. Extraordinary science is in some instances influenced by some nodal entities such as the nucleus and the nucleus triads and in other instances influence nodal entities such as Quotidian science, the paradigm or paradigms, the nucleus and the nucleus triads. Whether Extraordinary science is differentiated or undifferentiated is clear. Extraordinary science adheres to all the hallmark characteristics of a nodal entity in the anatomy of a science. Extraordinary science also has a distinguishable character from other nodal entities and since it does, Extraordinary science is commonly classified as differentiated. Extraordinary science is therefore categorised as differentiated relational and differentiated individualistic. Once again there is visibly no linearity in explicating the physiology that relates to Extraordinary science as nodal entity in the anatomy of a science.

Figure 2.35 that follows displays the interaction between Extraordinary science and other nodal entities in the anatomy of a science. There is no communication between Extraordinary science and Quotidian science in view of the fact that Extraordinary science is the “tradition shattering” events in a science, whilst Quotidian science is the tradition bound events that occur in a field of study's science. As mentioned before, Kuhn (1962; 2012:86) signalled that when a field of study is bemused by the events that signify paradigmatic change, historians of science will be able to observe the true character of Extraordinary science as nodal entity in the anatomy of a science. Figure 2.35 brings it to the attention of the scholar that there is an interaction between Extraordinary science and a paradigm. However, this interaction is in its entirety wholly different to the interaction between a Paradigm and quotidian science as nodal entity. Figure 2.35 thus follows by presenting a visual display of Nodal entity 3, recognised as Extraordinary science in its ontology and systemic physiology within Public Administration as a science.

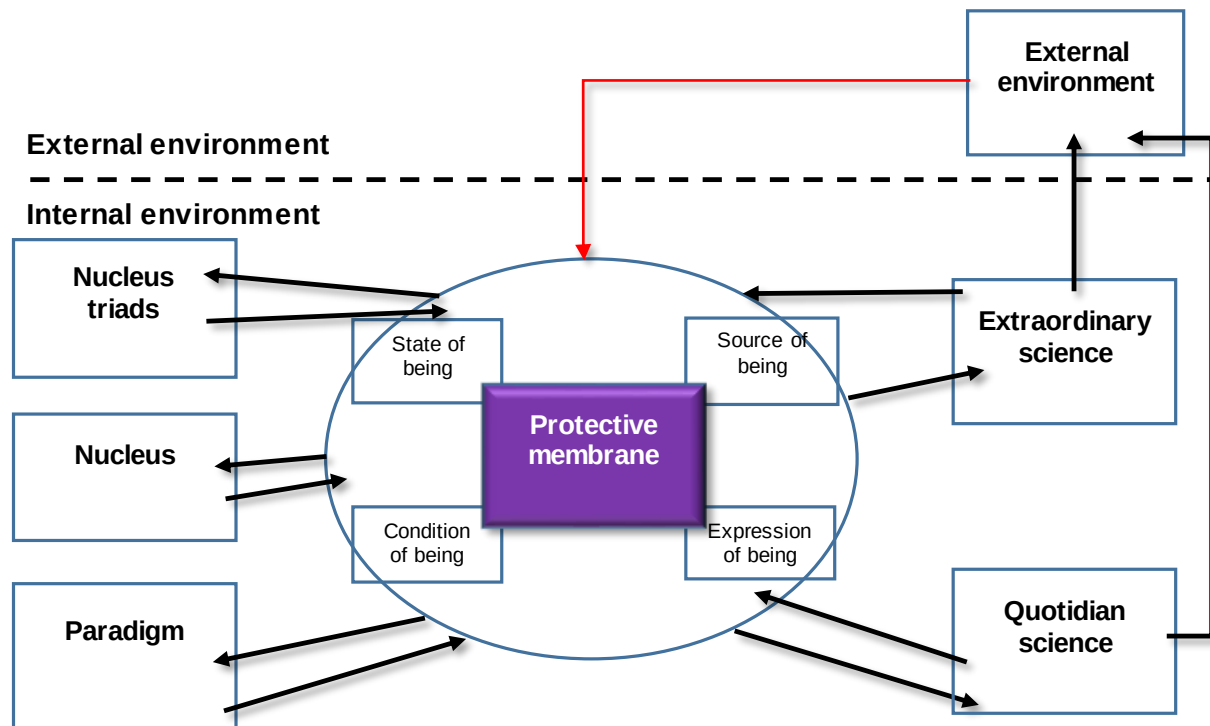
**Figure 2.35: Nodal entity 3 - Extraordinary science in its ontology and systemic physiology within Public Administration as science**



**Source:** Author's perspective

Figure 2.36, represents Nodal entity 4, the Protective membrane's physiological relations. Bearing in mind that the Protective membrane acts similarly to the Rheostat system in the human brain since it 'severs' paradigms from Quotidian science if such paradigms no longer present logical explanations to anomalies and phenomena, which in the case of P[p]ublic A[a]dministration are presented by external environments to both the discipline and its practice. Hereto, the Protective membrane also carries a hard core of theories that are not unreceptive to change, which in turn are surrounded by a 'protective belt' of theories that are impressionable to change. The physiology of the Protective membrane reveals mostly two-way relationships between the Protective membrane as nodal entity and the other nodal entities that are extant in the anatomy of a science.

**Figure 2.36: Nodal entity 4 - The Protective membrane in its ontology and systemic physiology within Public Administration as science**

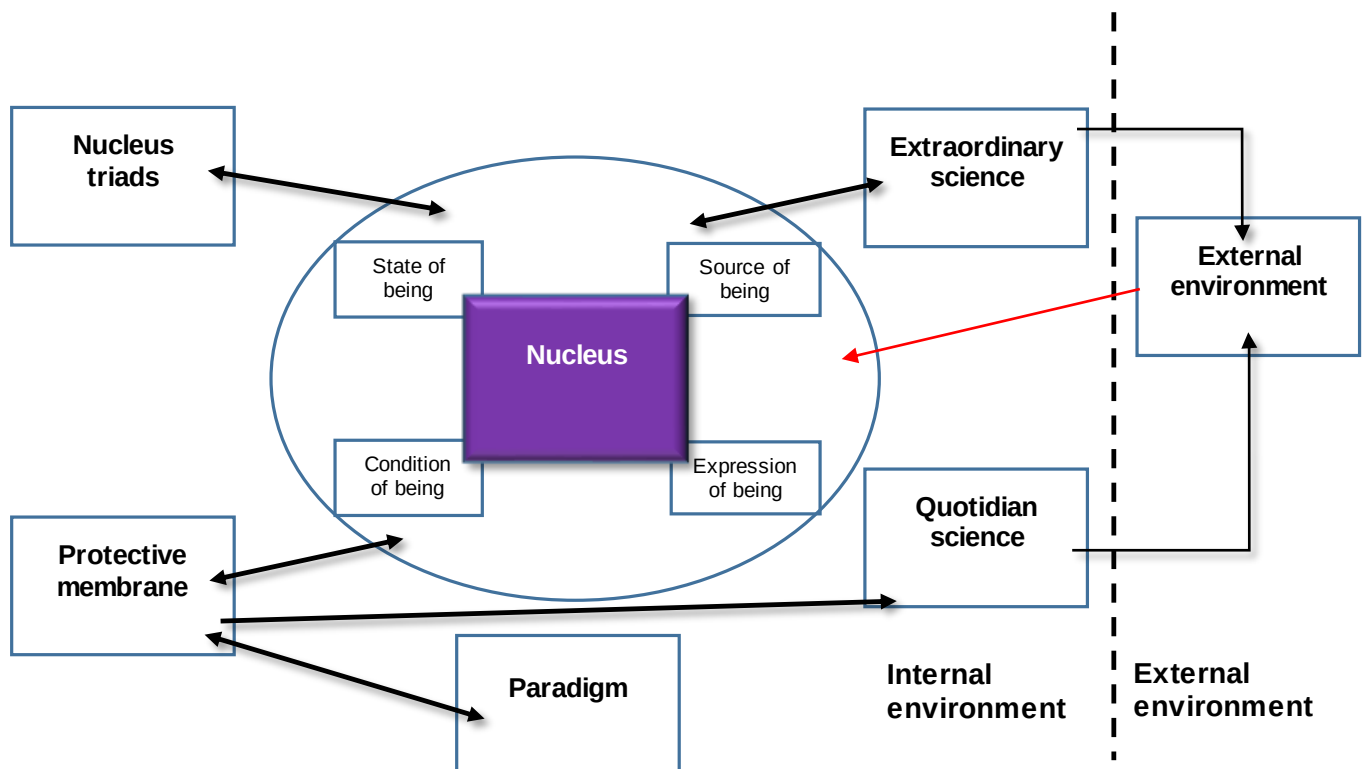


**Source:** Author's perspective

An ontic description of the Protective membrane reveals that its source is immanent since the mainstay of this nodal entity is the theories that underpin the field of study at large. The state of the Protective membrane is both static and dynamic since it features theories that are unreceptive to change in the hard core of this nodal entity, and similarly theories that are susceptible to change. Hereto, the Protective membrane also plays a significant role in the interaction between Quotidian science and the Paradigm/s that reveals the Protective membrane's dynamic nature. The expression of a Protective membrane is both whole and plural since it expresses itself as both a single nodal entity that reflects rigid and malleable theories within the field of study and hereto also presents a mechanism that severs Quotidian science from the Paradigm/s to ensure a continued state of homeostasis in the science as a whole. The condition of the Protective membrane is certainly differentiated, since this nodal entity in the anatomy of a science can be differentiated from the rest of the nodal entities in a science and it can function independently. The Protective membrane plays a critically important relational function in both the anatomy and physiology of a science since it is the carrier of the discipline's theories. It is therefore inferred that the ontic condition of the Protective membrane in the anatomy and physiology of a science is differentiated relational.



**Figure 2.37: Nodal entity 5 - The Nucleus in its ontology and systemic physiology within Public Administration as science**

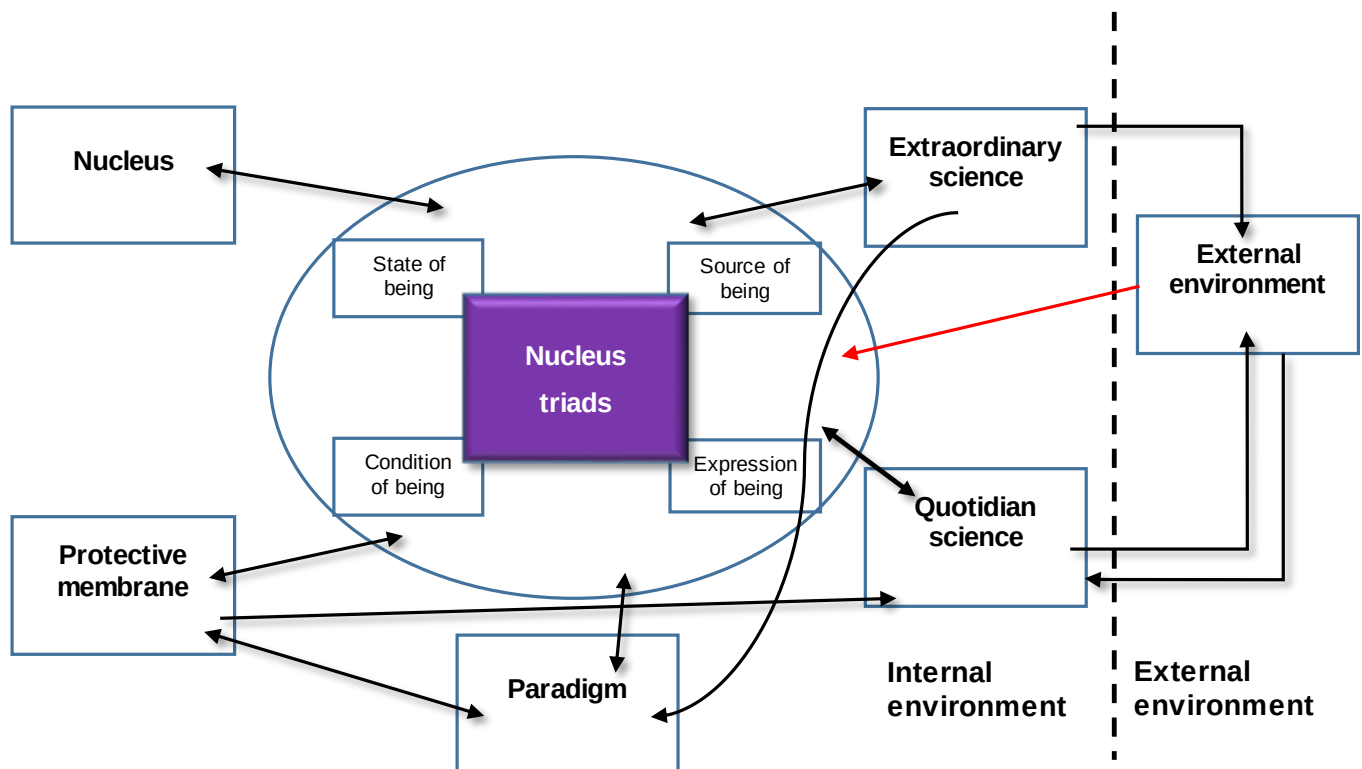


**Source:** Author's perspective

Figure 2.37 illustrates the physiology of Nodal entity 5, the Nucleus of a science. Since the Nucleus of a science carries the philosophy and the history of such a science, this nodal entity has a significant impact on all the other nodal entities in the anatomy and physiology of a science. The Nucleus of a science however fosters mostly two-way interactions between itself and other nodal entities in a science. Considering the ontic description of the Nucleus in a science, the sources that give rise to the Nucleus of a science includes a solid philosophy as well as the sciences historical details. These two characteristics of the Nucleus in a science enable the science to have both immanent and transcendental features. Hereto, see Chapter 2, Figure 2.33. The state of the Nucleus as nodal entity in a science is dynamic. The state of a science is dynamic in the sense that the history of a science may change, depending on the angle of incidence which is used as the historical lens to such a science. If Public Administration is historically documented from a Western perspective, the result may be completely different if this field of study is historically documented from an African or Eastern perspective. In addition, the philosophical documenters of the Public Administration will be largely influenced by a worldview, whether theological, philosophical, cultural, economic, political, amongst many more, so that the philosophy that underpins the science in Public

Administration may differ from region to region or country to country. The expression of the Nucleus of a science will similarly be plural, based on the fact that differing nations may express the historical and philosophical details to the Nucleus of Public Administration as a science with an emphasis on different elements. The condition of the Nucleus in the anatomy and physiology of a science is differentiated relational.

**Figure 2.38: Nodal entity 6 - The nucleus triads in its ontology and systemic physiology within Public Administration as science**



**Source:** Author's perspective

Figure 2.38 is an illustration of Nodal entity 6, recognised as the Nucleus triads in the anatomy of a science that fundamentally present meta-physical (General and Special Meta-physical) knowledge that anchors the science in all its nodal entities. Even though, at an earlier stage in Chapter 2, the enormity of an investigation concerning the Nucleus triads in a science and as such a science's meta-physical character was discussed, Figure 2.38 points to the clearly reciprocal relationships or interactions between the Nucleus Triads and each of the other five nodal entities in the anatomy of a science. Once again, non-linearity proves to be the hallmark of entities and the Nucleus Triads prove to be no different. Based on the details offered in Figure 2.33, the source of the knowledge triads is recognised as Philosophy and in particular

Meta-physics as a branch of Philosophy. This recognition implies that the source of the Nucleus triads in the anatomy and physiology of a science reflects as both transcendental and immanent. Considering the state of the Nucleus triads and the enormity in potential that is held within this nodal entity for knowledge development that enhances scholars of P[p]ublic A[a]dministration as science's understanding of this field of study, the state of this nodal entity is dynamic. The knowledge triads' expression will reflect as both whole and plural since each apex will reflect its own expression but such an apex will also be investigated against other apices from which *epistême* will be obtained. The condition of Nucleus triads is similar to the other nodal entities, recognised as differentiated relational.

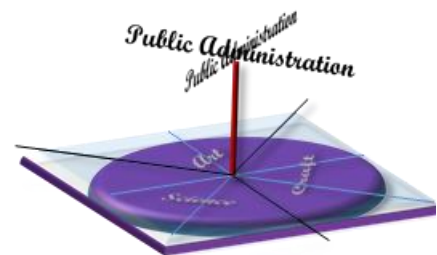
## 2.5 CONCLUSION

In conclusion, Chapter 2 commenced by highlighting the significance in scholars of P[p]ublic A[a]dministration's meticulous application of language, and recognition of the meaning that underpins the terminology that explains this field of study. Hereto, Chapter 2 investigated the anatomy of a science whilst it became imperative to allude to the pluralistic ontic expression of P[p]ublic A[a]dministration as science, as art and as craft and the purposeful role that each of these ontological expressions play in the fulfilment of this field of study's teleological intent or purpose.

Hereto, Chapter 3 continues by presenting the relevant research questions and research objectives to Chapter 3. The focus of Chapter 3 is primarily on investigating the first of three apices as outlined in Chapter 1, namely Teleology or the study of purpose to P[p]ublic A[a]dministration as a science.

# Chapter 3

**ARISTOTELIAN TELEOLOGY: *AITIAS* AS ALL THE WAYS  
OF STATING PUBLIC ADMINISTRATION'S *TO DIA TI*  
THROUGH *VIS A FRONTE***



## CHAPTER 3: ARISTOTELIAN TELEOLOGY: AITIAS AS ALL THE WAYS OF STATING PUBLIC ADMINISTRATION'S TO DIA TI THROUGH VIS A FRONTE

### 3.1 INTRODUCTION

Chapter 2 constructed the anatomy and physiology of P[p]ublic A[a]dministration as a science, and hereto, concretised the foundations and positioning of one of the Knowledge triads, which were introduced in Chapter 1 of this study, within the anatomy of a science. Chapter 2 similarly made reference to more knowledge triads and the potential for knowledge development, however, for the purposes of this study, the focus will only be on a teleological (Chapter 3), ontological (Chapter 4) and Epistemological (Chapter 5) understanding of P[p]ublic A[a]dministration as a science.

Chapter 3 was predominantly incited by two primary and one secondary inquiries. The two primary questions are documented as follows: a) What are the relevant literature and scientific explications that would guide this study towards the compilation of a Teleological meta-theoretical framework, in which the latter directs a systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)? and, b) What are the meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework that represents the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of Public Administration, in order to establish the discipline's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)? The secondary question that Chapter 3 aims to address is recorded as follows: Which properties would such a meta-theoretical framework include that guides the systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)?

#### 3.1.1 Research questions, Apex I – Teleology (the nature of being and existence)

Apex I – Teleology (the purpose of an object):

- Primary research question: What are the relevant literature and scientific explications that would guide this study towards the compilation of a Teleological meta-theoretical

framework, in which the latter guides a systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)?

- Secondary research question: Which properties would such a meta-theoretical framework include that guides the systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)?
- Primary research question: What are the meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework that represents the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of Public Administration, in order to establish the discipline's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation)?
- What are elements of the body of knowledge that are incited by the following:
  - Secondary research question: What is the Teleology of the Ontology of Public Administration as a science?
  - Secondary research question: What is the Teleology of the Epistemology of Public Administration as a science?

### **3.1.2 Research objectives, Apex I – Teleology (the nature of being and existence):**

Apex I – Teleology (the purpose of an object):

- Identified, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of a Teleological meta-theoretical framework, in which the latter directed a systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).
  - A constructed and presented Teleological meta-theoretical framework, in which the latter directed the systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).

- Presented, analysed and interpreted Teleological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a Teleological meta-theoretical framework that represented the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of Public Administration, in order to establish the academic discipline's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).

To these particular research inquiries, Chapter 3 thus aims to deliver upon the research objectives as follows: Identified relevant literature and scientific explications that guided this study towards the compilation of the corporeal morphology (anatomy) and physiology of a science, in which such literature directed the systematic construction of the structure and functioning of a science? Identified properties of the corporeal morphology of a science that included and guided the systematic construction of the structure of a science? Identified properties of the physiology of a science that included and guided the systematic construction of the structure of a science? Identified corporeal morphological, physiological properties and theoretical resultants as product of juxtaposing relevant Public Administration data/theorems/theories against the structure and functioning of a science that represents Public Administration as a science? Against the research questions and objectives relevant to Chapter 3, section 3.2 continues to introduce Teleology as causal examination.

### 3.2 TELEOLOGY: A CAUSAL EXAMINATION

“Wisdom begins in wonder” (Socrates in Plato’s *Theaetetus*, c. 369 B.C.). Sobrino (2012:372) and Kaya (2014:123) advocate that Aristotle’s proviso on apposite knowledge lies preserved in extracts from his (Aristotle’s) writings in *Posterior Analytics* (*Analytica Posteriora* or *Ἀναλυτικά Ὑστερά*) and in *Physics* (*Physica*, *Phusike akroasis* or *Φυσικὴ ἀκρόασις*), which are captured respectively as follows: “we think we have knowledge of a thing only when we have grasped its cause” (APost. 71 b 9-11; and APost. 94 a 20). In addition to Sobrino (2012:372) and Kaya (2014:123), Byrne (1997:81) and Ho (2010:330) state that “[W]e think we do not have knowledge of a thing until we have grasped its why? That is to say, its [be-]cause” (Phys. 194 b 17-20).

Falcon (2015:75-91) conceptualises the study of end, perfection, completeness and purpose (Teleology) by means of identifying the causal or purposive conditions of an object or matter as follows: (a) that an object reflects the substantiation of patterns in nature; (b) acts as a

principle that ends, that is “immanent in nature” (Ross, 1923; and Woodfield, 2010:6), - immanent in nature refers to fact that the source of being is within that which exists-, (Stout, 2012:389); and (c) as a principle that explains phenomena by means of final causes (the purpose, end, aim or goal of something, and by Hocutt’s (1974:385) understanding, amongst these, -the reason for- requires inclusion. Teleology is a truth or quality ascribed to nature or the natural process of being, of which the object is heading towards a distinct end, as it is influenced by a particular purpose (Feser, 2014:86). Witt (2001:255) is of the opinion that natural Teleology alone does not expend the philosophically appealing application associations of ‘for the sake that’, which subsist in Aristotle’s description of substance. Witt (2001:255) thus argues for two types of Teleology namely: Natural Teleology; and Meta-physical Teleology which she explicates as follows: Natural Teleology illuminates the production and elements of distinct matter; Meta-physical Teleology describes what the matter is to be. Aristotelian form (*aitia* or purpose), according to Witt (2001:255), adopts two separate shapes, it is either a “cause of becoming”, or “a cause of being”, against which Natural Teleology is clarified as: “form features in explanations of becoming, during which formative processes must be explained teleologically in terms of the form that will eventually be realized”; and, Meta-physical Teleology is explained as: “form is the cause of being, that is, the cause of the identity and unity of substance itself.” The differentiation between, and the positioning of Natural Teleology and Meta-physical Teleology in causal examination becomes visually clear in Figure 3.1 of this chapter where Natural Teleology, in its *relata*, is situated in the final cause, the material cause and the efficient or moving cause as the causes of becoming; and, Meta-physical Teleology, in its *relata*, is located in the formal cause, as the cause of being. Witt (2001:254) firstly apprises that Meta-physical Teleology differs from Natural Teleology in the following distinct manners: (a) in that which either of the two types of Teleology is intended to explicate; (b) in its group of related elements (*relata*); and (c) in the primary associations that influence its group of related elements (*relata*). Secondly, Witt (2001:254) alludes to critical connections between Meta-physical Teleology and Natural Teleology as follows: (a) the relationship in both types are teleological, in other words, both ascribe to the natural process of being, and both are heading towards a distinct end as it is influenced by a particular purpose; (b) each element subsists for the sake of the other; and (c) natural processes and organic elements (the *explananda* or, the phenomenon that needs to be explained) of Natural Teleology represents the processes and elements of the formal object.

A linguistic comprehension of terminological command and application in Teleology is of the utmost importance prior to a further investigation into efficacious causal examination.



Therefore, this study follows by offering a brief, but significant linguistic clarification on Teleological terminology as it will be appreciated and realised in this study.

### 3.2.1 Teleology: a linguistic clarification

Teleology has its linguistic roots in the Greek terms *télos* and *téleios* that signify the respective lexes, end, the perfected or completed, as well as *logia* that suggests the study of an object or thing (Von Wright, 1971:83-131; Ekegren, 2002:105; and Preus, 2015:47, 198, 382). Woodfield (2010:1) propounds the concept of Teleology as a dogma or an enquiry into ends or final causes. It is against such an understanding that Woodfield (2010:1) identifies a linguistic technicality of consequence, submerged in the concept of 'final causes', from which he suggests that Teleology would be better understood in modern linguistic application as - the purpose of something. Woodfield (2010:1) appears not to be the only scholar that points to linguistic nebulousness and inattention to an understanding of Aristotelian Teleology. Hocutt (1974:385) correspondingly suggests that Aristotle's theory of causes would be more comprehensible if it was entitled: "Aristotle's theory of explanations." Hocutt (1974:385, 386) discloses his scholarly discomfort with the direct translation of *aition* to cause, and directs to a paper written by Vlastos (1969:294), in which Vlastos argued that the direct translation of *aitia* to cause "is to make nonsense of Aristotle's reference to any efficient *aitia*, as the English term for 'cause' suggests nothing but productive agent or event." Hocutt (1974:385) explains that Aristotle's reference to the four *aitias* denotes "all the ways of stating *to dia ti* (the because/s)", and thus emphatically affirms his preference for the latter understanding thereof. To strengthen Vlastos (1969:294), Hocutt (1974:385, 386) and Woodfield's (2010:1) observations, reference to, and thus an explanation of the two lexes, cause and because, are included here to display a contemporary construction and interpretation of the respective terms.

According to the Oxford English Dictionary (2015: online), cause (kc:z) as noun is explained as follows:

(a) "A person or thing that gives rise to an action, phenomenon, or condition.

Synonyms – source, root, origin, and starting point."

(b) "A principle, aim, or movement to which one is committed and which one is prepared to defend or advocate.

Synonyms – principle, ideal, conviction, and tenet."

Cause (kc:z) as verb is explained in the Oxford English Dictionary (2015), as follows:

(a) “to make something, especially something bad happen.

Synonyms – bring about, give rise to, be the cause of, lead to, create and begin.”

According to The Oxford English Dictionary (2015), because (bɪkɒz) as conjunction is explained as follows:

(a) “For the reason that, since.

Synonyms – since, owing to the fact that, seeing that/as.”

Bearing Vlastos (1969:294), Hocutt (1974:385, 386) and Woodfield's (2010:1) counsel in mind, as well as the linguistic differentiation between cause and be-cause as it is outlined in the The Oxford English Dictionary (2015), it is of significance to note that during causal examination, Aristotle's intention was not to ask the question what?, but rather, to establish the reason/s for an object and thus, to ask the question why? In essence, such linguistic clarity then confirms the importance of the question why?, whilst establishing *to dia ti* (the because/s), (Phys., 194 b 17-20; Byrne, 1997:81; Sobrino, 2012:372; & Kaya, 2014:123). The implication of the implementation of an accurate linguistic interpretation to relevant causal lexes in this study results in examining an object from a distinct angle of incidence such as, why is the discipline of Public Administration what it is?, and not what causes the discipline of Public Administration?

It should furthermore be noted that the lexes, thing and object (whether material or nonphysical/abstract), are applied interchangeably in this chapter but refers to the same entity and subsequently will represent the same linguistic denoting. The following paragraphs will elucidate the manner in which causal examination is affixed to an explicit realm of reality.

### **3.2.2 An explicit realm of reality: worldview and *zeitgeist***

Falcon (2015:75-91) advises that each Aristotelian science comprises in causal examination of an explicit realm of reality, and if causal examination is directed efficaciously such an investigation ensues causal knowledge, that is, knowledge of the relevant or appropriate because/s of an object, of which such knowledge is enfolded in Teleology. Shiappa (2003:17) interprets causal examination of an explicit realm of reality as the comprehension and ordering of such a reality.

Prior to an investigation into the theory of Teleology (causal examination), this study is required to elucidate Falcon (2015:75-91) and Shiappa's (2003:17) references to, and interpretations of an explicit realm of reality. The rationale behind an explication of an explicit

realm of reality in this study connects to the fact that the latter has a direct relation to the way in which human beings experience, interpret and explain reality and truth (Toulouse, 2006:181; and Shipton, Coetzee & Takeuchi, 2014:104). This study therefore includes both an account of human being's worldview as well as *zeitgeist*, which Oergel (2019:25, 26), Neiman (1957:977) and Theoret (2011: TedxMcGill) refer to the latter as a "[T]ime-[S]pirit that marks the thought or feeling of a period or age" and which Walsh, Teo and Baydala (2014:10) refer to as "the intellectual, cultural and sometimes technological atmosphere of an era."

Worldviews and *zeitgeist* are considered respectively as point of departure in causal examination or Teleology, as both worldviews and *zeitgeist* contain the potential to critically influence the manner in which human beings experience, interpret and explain reality and truth.

### 3.2.2.1 Human being's worldviews

Firstly, considering worldviews, the explanation of an explicit realm of reality finds meaning and clarification in the following illuminations: (a) multiple understandings of reality and of truth are expressed through numerous worldviews that human beings have (Marietta Jr., 2004:35); and (b) variations in the adoption of worldviews have a fundamental influence on the purpose of an object that is under investigation (Kampourakis, 2014:xv). In light of the aforementioned statements, an aspect for earnest consideration then is Woodfield's (2010:2) caution to the divergence in individual worldviews, particularly when the end and purpose of something is decided upon. Attention to the divergence in individual worldviews form an important entry position into the act of determining an object's because, due to the fact that different worldviews harbour a significant impact on an individual's selection of purpose for things or objects, and whether such things or objects are perceived to have a purpose in the first instance, or not (Woodfield, 2010:2). Dicks (2012:44) bases his explanation of worldview on contributions made by scholars such as Geertz (2017:10); Turner (1977:189); Naugle (2002:59); and Sire (2015:26), from which he describes the concept of worldview as the basic and most multifaceted suppositions that human beings believe about the composition of veracity, as comprising of, and being articulated in world clarifying accounts, inclusive of cryptograms and traditions, which establish a basis, and which underpin every conception and act about and towards all of that which human beings cogitate, and execute in life. Sire (2015:141) conceptualises worldview as that it is an allegiance, a deep-seated stance of human's inner most being, that can be articulated as a narrative or an arrangement of conjectures (presumptions or theories that are true, true in part, or wholly untrue), that human beings embrace (intentionally or unconsciously, dependably or incongruously), (Naugle,

2002:354; and Baumann, 2011:45), in terms of the rudimentary composition of reality, and, that affords the footing from which “we live and move and have our being.”

A combination of scholarly contributions made by Timpanaro (1975:34); Bhaskar (1978:98); Timpanaro (1996:73); Williams (1996:77); Tripp (1999:37-71); Stewart (2007:44); McCallum (2009); Hägglund (2011:114 - 129); Lightbody (2013:10-11); Shipton, Coetzee and Takeuchi (2014:137-138); and Sire (2014: 44, 45, 60, 62 and 66) are initially offered in this study to depict a visible variance to the manner in which reality and truth are understood and explained by means of a few major worldview categories, (a broader and more in-depth expansion of worldviews are discussed in Chapter 3 that considers Ontology), as displayed in Table 3.1 below:

**Table 3.1: Categories of major worldviews and related perceptions of reality and truth**

| Worldview                                                      | Reality                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Truth                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Naturalism (Atheism, Agnosticism and Existentialism)</b> | <ul style="list-style-type: none"> <li>▪ Reality only comprise of the material universe (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> <li>▪ Everything can be clarified on the basis of natural law (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> <li>▪ An aspiration to be uninhibited on all levels – bodily, mentally and spiritually (Lightbody, 2013:10-11).</li> <li>▪ Reality exist as one-dimensional (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> </ul> | <ul style="list-style-type: none"> <li>▪ Truth is only derived at by means of scientific evidence (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> <li>▪ Reality, and thus truth, are only derived at by means of observation through the five senses (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> </ul> |

| Worldview | Reality | Truth |
|-----------|---------|-------|
|-----------|---------|-------|

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                | <ul style="list-style-type: none"> <li>Objects such as the soul or spirit is a figment of the imagination (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>2. Pantheism (Hinduism, Buddhism and New Age Awareness)</b> | <ul style="list-style-type: none"> <li>It is only the spiritual dimension that subsists (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> <li>Everything is God (Tripp, 1999:37-71).</li> <li>Everything else is a figment of the imagination or <i>maya</i> (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> <li>Spiritual reality in which human beings all share a similar essence of being (Hinduism – brahma; Buddhism – nirvana; New Age – force, energy, vibration, essence) is perpetual, depersonalised and enigmatic (McCallum, 2009); (Shipton, Coetzee &amp; Takeuchi, 2014:137); and (Tripp, 1999:37-71).</li> <li>The philosophy of the Unity of all things – Monism (Tripp, 1999:37-71).</li> <li>It is conceivable to reason that everything is a part of God, or that God is a part</li> </ul> | <ul style="list-style-type: none"> <li>Truth is only experienced in unison or cohesion with the universe (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> <li>Truth cannot be described in a rational manner (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> <li>A Western understanding of rational truth cannot reveal reality (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:137).</li> </ul> |

| Worldview | Reality | Truth |
|-----------|---------|-------|
|-----------|---------|-------|

of everything and everyone (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:137).

### 3. Theism (Christianity, Islam and Judaism)

- God exists as immeasurable, limitless and personal (McCallum, 2009); (Shipton, Coetzee & Takeuchi, 2014:137).
  - God created a finite, material world (McCallum, 2009); (Shipton, Coetzee & Takeuchi, 2014:137).
  - “There is one God of infinite wisdom, holiness and power who has existed eternally (Tripp, 1999:37-71).
  - “God is personal and exists within Himself as three persons, Father, Son and Holy Spirit that have always existed in a love relationship” (Tripp, 1999:37-71).
  - Reality exists in both spiritual and material form (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:137).
  - Judaism and Islam both believe in the existence of one God only (Tripp, 1999:37-71).
  - The universe as it is known by human beings had a
- Truth about God can only be established through revelation (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:137).
  - Truth about the material world is obtained through revelation, through sensory observation and rational cognition (McCallum, 2009); (Shipton, Coetzee & Takeuchi, 2014:137).

| Worldview | Reality | Truth |
|-----------|---------|-------|
|-----------|---------|-------|

distinct beginning and will have a definite end (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:137).

#### 4. Spiritism and Polytheism

- Spirit beings inhabit the world and they control all events (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:138).
- Natural occurrences are determined by gods and demons (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:138).
- Reality consists of material things but such material things have spirits related to them and could thus be interpreted as spiritual (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:138).
- Truth about the natural world could only be discovered by means of a shaman personage who has apparitions through which the gods and demons tell her/him what they think, do and feel (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:138).

#### 5. Postmodernism

- Language and a cultural paradigm are the vehicles through which reality can be explained and clarified (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:138).
- Reality is thus typically socially constructed (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:138).
- Truths are mental constructs that are particularly meaningful to individuals within a distinct cultural paradigm (McCallum, 2009); and (Shipton, Coetzee & Takeuchi, 2014:138).
- Such truths will not be applicable to other paradigms (McCallum, 2009); and (Shipton,

| Worldview                         | Reality                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Truth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | <ul style="list-style-type: none"> <li>Reality is created by all (Tripp, 1999:37-71).</li> <li>God, if s/he, it exists should be ignored as s/he, it has no opinion about the manner in which human beings should live or what they should believe (Tripp, 1999:37-71).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         | <p>Coetzee &amp; Takeuchi, 2014:138).</p> <ul style="list-style-type: none"> <li>Truth has an innate relation to an individual's culture (McCallum, 2009); and (Shipton, Coetzee &amp; Takeuchi, 2014:138).</li> </ul>                                                                                                                                                                                                                                                                                                                                                 |
| <b>6. Materialism (Atheistic)</b> | <ul style="list-style-type: none"> <li>Everything that exists depends upon matter, and so reality is material Hägglund (2011:114 - 129); and (Bhaskar, 2011:98).</li> <li>The material universe is the only reality Hägglund (2011:114 - 129); and (Tripp, 1999:37-71).</li> <li>The "Big Bang Theory" represents the origin of the universe (Tripp, 1999:37-71).</li> <li>The origin of the universe was initiated by means of a physical process, thus far unknown (Tripp, 1999:37-71).</li> <li>Stewart (2007:44) refers to atheistic materialism as the science-religion battle.</li> <li>Reality is omnipresent Hägglund (2011:114 - 129).</li> </ul> | <ul style="list-style-type: none"> <li>Agnosticism is the ultimate and concluding truth of all knowledge Hägglund (2011:114 - 129).</li> <li>Nature has precedence over mind (Timpanaro, 1975:34; Timpanaro, 1996:73; and Williams, 1996:77).</li> <li>The physical level is more significant than the biological level (Timpanaro, 1975:34; Timpanaro, 1996:73; and Williams, 1996:77).</li> <li>The biological level is of greater importance than the socio-economic or cultural levels (Timpanaro, 1975:34; Timpanaro, 1996:73; and Williams, 1996:77).</li> </ul> |

**Source:** Author's perspective adopted from Timpanaro (1975:34); Timpanaro (1996:73); Williams (1996:77); Tripp (1999:37-71); Stewart (2007:44);



McCallum (2009); Bhaskar (2011:98); Hägglund (2011:114 - 129); Lightbody (2013:10-11); Shipton, Coetzee and Takeuchi (2014:137-138); and Sire (2014:44, 45, 60, 62 and 66)

Sire (2014:44, 45, 60, 62 and 66) advocates eight rudimentary inquiries and six secondary questions that encapsulate and articulate the nature of fundamental reality and thus worldview propositions, as follows:

- (a) What is undoubted reality, that which is nothing but real?  
A sovereign God? / The gods? / Or, a universe that consists of matter?
- (b) What is the disposition of exterior reality (the environment around us)?  
Is the world created or autonomous? / Is the world chaotic or orderly? / Is the world matter, spirit or both? / Are humans in a subjective, personal relationship with the world? Or is the world independent and separate from human beings?
- (c) What qualifies as a human being?  
An extremely intricate automaton? / A latent god? / An individual created in the likeness of God? / A nude ape?
- (d) What happens to a human being at death?  
Individual extinction? / Transformation to an advanced condition? / Reincarnation? / Departure to an ethereal existence, "on the other side?"
- (e) What enables human beings to have knowledge of anything at all?  
Human beings are created in the image of an all-knowing God / Awareness and logic grew under the contingencies of subsistence through an extensive process of evolution.
- (f) What enables human beings to distinguish between that which is right and that which is wrong?  
Humans are made in the image of God whose character is blameless / Human beings choose between right and wrong / It depends solely on what feels good / The concept evolved by means of a cultural or physical survival stimulus.
- (g) What is the significance of human antiquity?  
To realise the purpose of God or the gods / To establish a paradise on earth / "To prepare a people for a life in community with a loving and holy God."
- (h) What subjective, life-orienting, fundamental obligations are coherent to a particular worldview?

Sire (2014:44, 45, 60, 62 and 66) and Warren (2015:50-56) offers the following clarifying examples:

Theist - Christian: To glorify God; to seek and realise the will of God; to first seek the kingdom of God; to obey God and to enjoy Him forever; to be devoted to an omniscient, omnipresent, knowing and loving God (Sire, 2014: 44, 45, 60, 62 and 66).

Naturalist: To materialise a personal ability and capacity to go through life; to inflict as much good as possible unto fellow human beings; to exist in a world of inner peace; to exist in amongst social diversity and conflict (Sire, 2014: 44, 45, 60, 62 and 66); Everything in life is a result of random chance, God either doesn't exist or He doesn't matter (Warren, 2015:50-56).

Materialist: The one truth that is most significant in life is to own as much material objects as possible (Warren, 2015:50-56).

Individualist: The individual's needs take preference above all (Warren, 2015:50-56).

Hedonist: Whatever feels good, is comfortable is right. Human beings live in constant pursuit of enjoyment (Warren, 2015:50-56).

Relativist: Whatever works for you is fine (Warren, 2015:50-56); "All points of view are equally valid".

Sire's (2020:269) six secondary questions have relevance:

- (i) Who rules this world?  
God? / Humans? / No one at all?
- (j) Are humans determined or free?
- (k) Who is/are the creator/s of values?
- (l) Is it true that God is really good?
- (m) Is God subjective or objective?
- (n) Is there truth in the fact that God (he/she/it) exists at all?

Sire's (2020:269) elementary inquiries expose a pluralistic world, inclusive of a range of approaches through which human beings commit to distinct intellectual obligations. Following the recognition of human being's commitment to a diverse set of worldviews, this study continues to consider the second concept related to the realm of reality, identified as *zeitgeist*. Being mindful of the fact that the latter too plays a fundamental role in the manner through which humans select the purpose of an object, which in this study refers to the discipline of Public Administration.

### 3.2.2.2 Zeitgeist, the modal value climate of a society

Secondly, Neiman (1957:980) explains *zeitgeist* as a contemporary viewpoint, a present intellectual trend that is in essence indicative of a general atmosphere of prevalent opinion. Neiman (1957:980) furthermore claims that *zeitgeist* is avertable, therefore local and impermanent, and that it exemplifies temporary as opposed to definite principles. Boehnke, Hadjar and Baier (2007:778) refer to *zeitgeist* as the “modal value climate of a society” that manifests in something such as public opinion. Vedder, Berry, Sabatier and Sam (2009:642) explicate *zeitgeist* as “the general value context in society and that it has an effect on both inter-generational and intra-generational societal relationships. Vedder *et al.* (2009:624) furthermore informs that the intensity of *zeitgeist* effects on a society depends upon whether it is measured amongst members of an ethnic group or members of a broader community. Measuring *zeitgeist* in the contemporary era is no longer an out of the question matter as Theoret (2011: online) explains that for the first time in human history it is possible to measure the collective global unconsciousness. Theoret (2011: online) defends his statement by referring to social media, and in particular facebook as one of the examples, where information reflects data referring to the global collective unconsciousness such as: i.e., “950,3K people are talking about this link”. Measuring collective global unconsciousness implies a distinct linkage between logic and the patterns that joins human beings, which is measured through the relationships that humans have, and which in turn gives rise to “proto-ideas (unconscious thoughts that billions of people have at a particular time in space)”, (Theoret, 2011: online). Considering Neiman (1957:980), Boehnke, Hadjar and Baier (2007:778), Vedder *et al.* (2009:624) and Theoret’s (2011: online) research findings, it becomes evident that *zeitgeist* is a modal value climate that is inter and intra-generational, prevalent in local and global society, and is impermanent in nature.

Bearing in mind the multiplicity of variations in an interpretation of reality and truth as it is shaped by individual worldviews and the unpredictability and impermanence in *zeitgeist*, it is of importance to be attentive to Woodfield (2010:2) and Falcon’s (2015:75-91) caution, and to consider these variations, particularly when the final *aitia* (that for the sake of which an object exists – its why?) is determined, as part of causal examination. Having been alerted to worldviews and *zeitgeist*, and the role that both play in determining the end, perfected, or purpose of an object or thing, whether consciously or unconsciously, consistently or inconsistently (Naugle, 2002:354; and Baumann, 2011:45), the study continues to explore the theoretical domain of Teleology.

### 3.2.3 Teleology: four types of be-causes

Aristotelian causation prompts Leunissen (2010:11-12) to identify and explicate four types of causes as follows: (a) the material cause which represents “that out of which” (τὸ ἐξ οὗ), (Phys. II.z, 194 b 24); (b) the formal cause that exemplifies “what is it to be” (τὸ πῶς εἶναι), (Phys. II.z, 194 b 27); (c) the efficient cause which embodies “that from which the origin of motion or rest comes” (οθεν ἡ ἀρχὴ τῆς μεταβολῆς ἢ πρώτη ἢ τῆς ηρεμῆσεως), (Phys. II.z, 194 b 29-30); and (d) the final cause that typifies “that for the sake of which” (τὸ οὗ ἐνεκα), (Phys. II.z, 194 a 33). The sequence in which Leunissen (2010:11-12) orders and clarifies the four types of causes are of particular interest to this study as it commences with the material cause and is thus not representative of reverse causation as explained later in this section. Leunissen (2010:12) simultaneously alerts to Aristotle’s three categories through which the final cause exhibits itself, which she outlines as follows: (a) realised natural elements or objects as the completed results of process generation that comprises the reproduction of form (Phys. II.8, 199 a 13-14; Phys. II.8, 199 b 8; Phys. II.9, 200 b 3-4); (b) acts performed by (components of) natural matter, objects or instruments (Phys. II.8, 198 b 24-28; and Phys. II.9, 200 b 4-8); (c) objects of desire as the intentions and objectives of purposeful actions (Phys. II.3, 194 b 33-34).

The aforementioned paragraph introduced the four types of causes and the three categories of the final cause, but of importance is the fact that each of the four causes should be positioned in a particular order to reflect a specific causal pattern in order to attain that which Falcon (2015:75-91) classifies as an efficacious causal examination.

### 3.2.4 Teleology: patterns of be-cause

Recalling, with earnest vigilance, Vlastos (1969:294) and Hocutt’s (1974:385, 386) caveat to the oversimplification of translating Aristotle’s *aitia* into causes, this section includes Van Evera’s (2015:no page numbers) explication of four basic causal patterns extant in causation, as it represents an unsophisticated semblance of Aristotle’s causal patterns that does not merely reflect the level of complexity through which direct, reverse, reciprocal or undermined causation are represented in Aristotle’s explanation of causation. Van Evera’s (2015) representation is included here as a mere recognition of basic causal patterns into this study, of which the complexity becomes clear later in this section through the scholarly efforts of Pace and Ryan (1947:444); Mekios (2007:47); Woodfield (2010:2). Van Evera (2015) advises that causal laws presume four basic causal

patterns that are explained as follows: (a) direct causation presupposes that  $\alpha$  causes  $\beta$ ; (b) reverse causation surmise that  $\beta$  causes  $\alpha$ ; (c) reciprocal causation postulates that  $\alpha$  causes  $\beta$  and,  $\beta$  causes  $\alpha$ ; and (d) undermined causation suggests that  $\alpha$  causes  $\beta$  and,  $\beta$  reduces  $\alpha$ . Having noticed Leunissen's (2010:11-12) clarifications of the four types of causes, and the three categories of the final causes and Van Evera's (2015) explication of basic causal patterns, this study pays particular attention to reverse causation as it is this exact causal pattern that will be adopted and included in a theoretical framework in the causal examination of Public Administration. Emanating from the contributions of Leunissen (2010:11-12) and Van Evera (2015), it is surmised, on a simplistic level, that if  $\beta$  causes  $\alpha$  (as suggested in reverse causation), the causal examination of Public Administration will not commence, in a future chapter of this study, by firstly examining the material cause or "that out of which" Public Administration subsists, as sequentially arranged by Leunissen (2010:12), but rather with "that for the sake of which" Public Administration exists, in other words, its final cause. In addition, it is presumed that the final cause and eventually the final object of Public Administration may reflect categories as denoted above from the research conducted by Leunissen (2010:12).

Pace and Ryan (1947:444), Mekios (2007:47), and Woodfield (2010:2), argue that scholars may perceive Teleology as backward or reverse causation (*vis a fronte*), which Woodfield (2010:2) explains and questions simultaneously as follows: (a) to observe the current through a future-oriented lens; (b) does the future have a stimulus on, or does it inspire the current?; (c) is everything moving towards an ultimate end or its ultimate purpose?; and (d) prior to determining the outcome for, or against any hypothesis, and prior to evaluating anything for its truth or falsehood, undoubted clarity needs to exist about the conceptualisation (meaning and significance) of that particular object. Attfield (1994:79) propounds that Aristotelian philosophy (as explained by Aristotle in Physics), (Phys.) reveals an appreciation for the natural world (Raine, 2003:65) and thus a reason or a because as to why something is the way it is (Leunissen, 2010:11). Ross (1996:75) explains *vis a fronte* (reverse causation) as that the point of departure in causal examination of an object, first and foremost has to be an investigation of the final cause as the final cause represents the blueprint, the idea, or the end, that which is perfected, the purpose of an object, after which the matter (those materials that are significant and apposite to the blueprint, the idea, the end, the perfected or the purposes of an object) are determined. Such matter is then informed by the efficient or moving cause in order for the matter to take on the form of the object (formal cause).

### 3.2.5 Teleology: the natural chain of be-causes

Ross' (1996:75) explanation of Aristotelian philosophy and the natural chain of causes results in a distinct understanding of reverse causation and thus the nature and causal conditions of each *aitia*, as it will be adopted in this study. Witt's (2001:255) rationalisation of natural Teleology categorises reverse causation into the causes that underpin the production and elements of distinct matter, and so provides an explanation of natural generation or the reproduction of form that includes the following Aristotelian causes: (a) the nature and causal conditions of the final cause; (b) the nature and causal conditions of the material cause; and (c) the nature and causal conditions of the efficient or moving cause. Witt's (2001:255) clarification of meta-physical Teleology furthermore categorises reverse causation into the cause that underpins that which the matter is to be, that is listed below as (d) the nature and causal conditions of the formal cause.

Natural Teleology represents the production and elements of distinct matter (Witt, 2001:255), through which "form features in explanations of becoming, and during which formative processes must be explained teleologically in terms of the form that will eventually be realized". According to Von Wright (1971:83-131); Ross (1996:75); Ekegren (2002:105); Leunissen (2010:11-12); and Preus (2015:47, 198, 382):

(a) The nature and causal conditions of the final cause – (that for the sake of which an object exists – the why?). The final purpose thus:

- appraises and leads the other three purposes;
- expounds the *télos* and *téleios* (end, perfected and purpose) of an object – the object exists for this particular reason;
- display an object's *télos* and *téleios* (end and perfected or purpose) as it is observed, based on its activity (the purpose of something becomes evident through that which it does); and
- exposes relationships between the parts and the whole.

Hocutt (1974:385); Ross (1996); Woodfield (2010:6); Stout (2012:389); Feser (2014:86); and Falcon (2015:75-91), propound the following causal conditions that support the final cause.

Purpose conditions focus on the following:

- acts as an object that reflects substantiation of patterns in nature;
- acts as a principle that ends, and that are immanent in nature;

- acts as a principle that explains phenomena by means of final causes;
- the end towards which the object directs; and
- that for the sake of which an object is what it is.

Once an acquisition of the object's end and purpose (final cause) has been obtained, the causal chain of reverse causation suggests progression through the identification of matter which has its being in the material cause. Law of Identity, as first principle of logic and reasoning, motivates that an object is what it is, and it therefore does not have the ability to be anything else, or "each thing is the same with itself, and different from another" (Metaph. VI, 4 c; Ross, 1923; and Iannone, 2013:254). Witt (2001:255); Leunissen (2010:11-12); and Ross (1996:75) present the nature of the following cause in the reverse causation chain as:

- (b) The nature and causal conditions of the material cause – (that which an object is made of). The material cause thus:
- presents that out of which something comes into existence (the raw materials);
  - may have multiple material causes;
  - determines that matter individuates form. If this proved to be false, there would only be one kind of any object;
  - reveals that matter does not only refer to physical matter; and
  - clarifies that an object consists of a meticulous selection of raw materials that prove to be significant to the *télos* and *téléios* (end and purpose) of an object.

Ross (1923); Hocutt (1974:385); Woodfield (2010:6); Stout (2012:389); Feser (2014:86); and Falcon (2015:75-91), propounds the following causal conditions that support the material or efficient cause, and that are listed as follows:

Purpose conditions focus on the following:

- acts as an object that reflects substantiation of patterns in nature;
- acts as a principle that ends, and that are immanent in nature;
- acts as a principle that explains phenomena by means of final causes;
- the aspect of change or movement which is determined by the material that composes the moving or changing of things; and
- the material cause of an object is thus comparable to the nature of raw material out of which the object is constituted.

Though the formal cause has not yet been discussed, as part of the reverse causation chain, it is significant to point out that there is a particular relationship between the material cause and the formal cause. Ross (1996:75) explains the relationship between material and form as that form informs matter in order for the object to be a definite kind of thing and in return, matter individuates form so that the object, no matter how many times replicated will always display the *télos* and *téleios* (end and purpose) of that particular object.

The nature of the next *aitia* in reverse causation represents the process whereby matter is transformed or converted into form, a process referred to in philosophy as Hylemorphism or Hylomorphism. Hylemorphism is linguistically understood as hyle ὕλη (matter or *materia*) and morphe μορφή (form or *forma*) or matter into form (Manning, 2013:173 - 187) and (Peramatzis, 2018:12-32). The *succeeding aitia* (purpose) in the reverse causation chain is known as the efficient or moving cause and is explained by Witt (2001:255); Leunissen (201:11-12); and Ross (1996:75) as follows:

- (c) The nature and causal conditions of the efficient or moving be-cause – by which something comes into being. The efficient or moving be-cause thus...
- is that which makes, or have a capacity to actualise the ability within the matter so that the object can take on a particular form;
  - is the change agent;
  - determines that objects can have multiple efficient or moving causes; and
  - is as the skills of builders and carpenters are to the object house.

Ross (1923); Hocutt (1974:385); Woodfield (2010:6); Stout (2012:389); Feser (2014:86); and Falcon (2015:75-91), propound the following causal conditions that support the material or efficient cause that are listed as follows:

Purpose conditions focus on the following:

- acts as an object that reflects substantiation of patterns in nature;
- acts as a principle that ends, and that are immanent in nature;
- consists of things apart from the object that is moved or changed;
- nature has within itself a principle of change and of stasis (Cohen, 1999:67);
- interacts with the object; and
- is equivalent to that which causes change and motion to commence or cease.



In essence, the efficient or moving cause has the capacity to combine and arrange the raw materials in such a manner that it takes on the form of an object. Witt (2001:255); Leunissen (201:11-12); and Ross (1996:75) portray the formal cause as the final *aitia* in the reverse causation chain and explains it as follows:

Meta-physical Teleology- what the matter is to be, (Witt, 2001:255) through which “form is the cause of being, that is, the cause of the identity and unity of substance itself”.

- (d) The nature and causal conditions of the formal cause – (“the what-ness of an object”). The formal cause thus...
- represents the essence or substance of an object;
  - is the determining principle of an object;
  - is also identified as the quiddity (the inherent nature or essence) of an object;
  - determines that an object can only have one form;
  - means to philosophers that substance has reference to the formal cause as opposed to scientists for whom substance has reference to the material cause; and
  - in opposition to Plato, is determined by Aristotle as that forms exist in things and not separately thereof.

Purpose conditions focus on the following:

- acts as an object that reflects substantiation of patterns in nature;
- acts as a principle that ends, and that are immanent in nature;
- the arrangement, shape, appearance, pattern or form of an object; and
- a recognisable object.

Therefore, to determine the reason for, the *to dia ti* or, the because of an object by means of a chain of reverse causation, it is necessary to establish the sake for which that object exists (the final cause), identify the specific raw material (the specific matter) that would make that object what it is supposed to be (material cause), identify that by which the object comes into being (efficient or moving cause) and clarify or uncover the substance or determining principle of an object.

Witt (1989:81) noticed that to Aristotle there was a correspondence between the final and formal causes, as primary causes in causal examination, which he confirms when noting “what a thing is and what it is for is one and the same thing” (Phys. II.2 198 a 25-27). Aristotle continues to motivate his theorem by means of the following: “Further, it belongs

to the same study to know the end or what something is for, and to know whatever is for that end” (Phys. II.2. 194 a 27-29) and Witt (1989:82).

In establishing the true nature of each of the four causes, Hocutt (1974:392-394) suggests six causal sub-types and two additional causal elements as extracted from Aristotle’s statements in Aristotelian causation. The section that follows therefore explores these causal elements.

### **3.2.6 Teleology: six causal (purpose) sub-types and two additional causal (purpose) elements**

Hocutt (1974:392), Woodfield (2010:4) and Falcon (2015:75-91) refer to the importance of the question why? in Teleology and that all Aristotle’s causes or ‘the be-causes’, as Hocutt (1974:386) prefers to refer to the causes, cooperate together to establish an answer to the question why? Hocutt (1974:392-394) informs that Aristotle, in addition to the four be-causes also identified eight causal sub-types of which the first six, according to Hocutt (1974:393) are understood to belong to a different order to that of the latter two (Aristotle does not include the latter two as sub-types even though they in themselves require distinction (Hocutt, 1974:393). The six sub-types are represented below against (a) to (f). Hocutt, (1974:393) advises of two additional elements which Aristotle did not deem in the same category or class as the sub-types listed against (a) to (f) below, but according Aristotle also requires distinction. These elements are listed against (g) and (h) below. A distinction needs to be made, in each of the four causes, between (a) and (b), in which (a) represents the Generic cause; and (b) represents the Specific cause; a distinction needs to be made, in each of the four causes, between (c) and (d), in which (c) represents the Essential cause; and (d) represents the Coincidental cause; a distinction needs to be made, in each of the four causes, between (e) and (f), in which (e) represents the Remote cause; and (f) represents the Proximate cause; and, a distinction needs to be made, in each of the four causes between (g) and (h), in which (g) represents the Actual cause; and (h) represents the Potential cause. Extricating linguistic substantiations of the sub-types of causes from both The Oxford dictionaries (2015: online) and The Oxford Advance Dictionary (2015: online), the six sub-types of Aristotle’s four causes and the two additional aspects for distinction, as identified by Hocutt (1974:393), are explained as follows:

A distinction between:-

- (a) The generic be-cause which is understood as follows:

Generic: “shared by; including or typical of a whole group of things; not specific.”

Cause: “that gives rise to an action, phenomenon or condition; reasonable grounds for doing, thinking or feeling something; a principle aim or movement to which one is committed and which one is prepared to defend or advocate.”

Because: “for the reason that; and since.”

The generic be-cause could therefore be explained as a reason to that which is shared and conventional to a whole group of things which are not specific but that incites a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

and

(b) The specific cause which is understood as follows:

Specific: “detailed and exact; connected with one particular thing only; existing in one place or limited to one thing.”

Cause: “that gives rise to an action, phenomenon or condition; reasonable grounds for doing, thinking or feeling something; a principle aim or movement to which one is committed and which one is prepared to defend or advocate.”

Because: “for the reason that; and since.”

The specific cause could therefore be explained as a cause to that which is detailed and exact, is attached to one distinct thing only, exists in one place or is limited to one thing, but that incites a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

The distinction therefore between the generic cause and the specific cause will be found in the following variations: (a) that which is not specific against that which is detailed and exact in character; (b) that which is shared by other objects against that which is connected to a particular object only; and (c) that which includes typical elements of a whole group of objects against that which exists in one object only or, is limited to one object only, but that in either of the aforementioned six variances incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or

mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

A distinction between:-

(c) The essential cause which is understood as follows:

Essential: “completely necessary; extremely important in a particular situation or for a particular activity.”

Cause: “that gives rise to an action, phenomenon or condition; reasonable grounds for doing, thinking or feeling something; a principle aim or movement to which one is committed and which one is prepared to defend or advocate.”

Because: “for the reason that; and since.”

The essential cause could therefore be explained as a cause to that which is completely necessary, extremely important in a specific circumstance or for a certain activity, but that incites a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

and

(d) The coincidental cause which is understood as follows:

Coincidental: “happening by chance; not planned.”

Cause: “that gives rise to an action, phenomenon or condition; reasonable grounds for doing, thinking or feeling something; a principle aim or movement to which one is committed and which one is prepared to defend or advocate.”

Because: “for the reason that; and since.”

The coincidental cause could therefore be explained as a cause to that which happens by chance, and are unplanned but that incites a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

The distinction therefore between the essential cause and the coincidental cause will be found in the following variations: (a) that which is completely necessary against that which happens by chance; and (b) is extremely important in a particular situation or for a particular activity against that which is unplanned, but that in either of the aforementioned four variances incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

A distinction between:-

(e) The remote cause which is understood as follows:

Remote: "remote from something; far away in time; not closely related."

Cause: "that gives rise to an action, phenomenon or condition; reasonable grounds for doing, thinking or feeling something; a principle aim or movement to which one is committed and which one is prepared to defend or advocate."

Because: "for the reason that; and since."

The remote cause could therefore be explained as a cause to that which is remote from something, is far away in time and is not closely related, but that incites a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

and

(f) The proximate cause which is understood as follows:

Proximate: "nearest in time and order to something."

Cause: "that gives rise to an action, phenomenon or condition; reasonable grounds for doing, thinking or feeling something; a principle aim or movement to which one is committed and which one is prepared to defend or advocate."

Because: "for the reason that; and since."

The proximate cause could therefore be explained as a cause to that which is nearest in time and order to something, but that incites a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

The distinction therefore between the remote cause and the proximate cause will be found in the following variations: (a) that which is remote from something against that which is near to something; and (b) that which is far away in time and not closely related to something against that which is nearest in time and order to something, but that in either of the above four variances incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

A distinction between:-

(g) The actual cause which is understood as follows:

Actual: "stating and emphasising the fact or comment of that which is really true."

Cause: "that gives rise to an action, phenomenon or condition; reasonable grounds for doing, thinking or feeling something; a principle aim or movement to which one is committed and which one is prepared to defend or advocate."

Because: "for the reason that; and since."

The actual cause could therefore be explained as a cause to stating and emphasising the fact or comment of that which is really true, and that incites a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness and which presents itself as a principle aim or movement that can be preserved or promoted.

and

(h) The potential cause which is understood as follows:

Actual: "predicting; future."

Cause: “that gives rise to an action, phenomenon or condition; reasonable grounds for doing, thinking or feeling something; a principle aim or movement to which one is committed and which one is prepared to defend or advocate.”

Because: “for the reason that; and since.”

The coincidental cause could therefore be explained as a cause that predicts the future but that incites a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

The distinction therefore between the actual cause and the potential cause will be found in the following variations: (a) stating and emphasising the fact or comment of that which is really true against predicting or propounding a future state but that in either of the above mentioned two variances incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.

Having considered the four causes, as suggested by Aristotle, the sub-systems and the two additional elements for distinction that categorically classify the elements of each cause in Aristotelian causal examination (Apost. or Phys., II, 3, 195 a 3-4; II, 3, 194 b 23ff; II, 3, 195 b 15ff; XIII, 4, 1044 b 9-10; II, 6, 197 b 20), Hocutt (1974:392, 393), Johnson (2005:1) and Woodfield (2010:3) propound the critique of Aristotle four causes as follows: (a) scholars of modern science in general display an animosity towards teleological explanations; (b) Teleology has been accused of being counterrevolutionary, regressive and unempirical; (c) Bacon (1874: III, 5) offered an apothegmatic expression to his opinion that an inquiry into final causes is a sterile act. “*nam causarum finalum inquisitor sterilis est, et, tanquam virgo Deo consecrate, nihil parit*” (Inquiry into final causes is sterile, and, like a virgin consecrated to God, produces nothing); (d) Teleology has been accused of being animistic and as such assumes that the phenomenon has mental activity or that the object has an ability to implicitly entreat the supernatural who in turn directs the course of occurrences; (e) Aristotelian Teleology has been deemed as deeply flawed, based on its earth centric cosmological viewpoints as well as its anthropological denotations of the justification of enslavement and patriarchy.

Despite such harsh critique, Johnson (2005:1) clarifies that Aristotelian Teleology is thought of as “the most influential philosophy in the whole history of science”, as it remains powerful in many scientific areas. Woodfield (2010:8) is of the following opinions: (a) that these criticisms do not address itself to teleological explanatory patterns, although it does obliterate the typical Aristotelian pseudo-explanation; and (b) that the primary reason why the application of the Aristotelian doctrine of four causes (Falcon, 2008:75-91) dwindled is based on the fact that academic scholars have ceased to ask teleological questions, because to them final causes are scientifically immaterial.

Johnson (2005:1) and Woodfield’s (2010:8), explanations of teleological critique as well as the influence that human worldviews and *zeitgeist* have in determining the end and ultimate purpose of things, and relevant to this study, of Public Administration as a science in particular, but similarly in all of this discipline and its practice’s ontic expressions. To understand, and to apply the Teleological meta-theory will have as a result, scholars’ deep-seated comprehension of P[p]ublic A[a]dministration and its fundamental purpose or end. Hereto, the following section suggests a theoretical framework as this study continues to examine the contribution that Teleology has in the examination of purpose of Public Administration as a science.

### **3.2.7 Teleology: towards theoretical knowledge that supports Public Administration as a science**

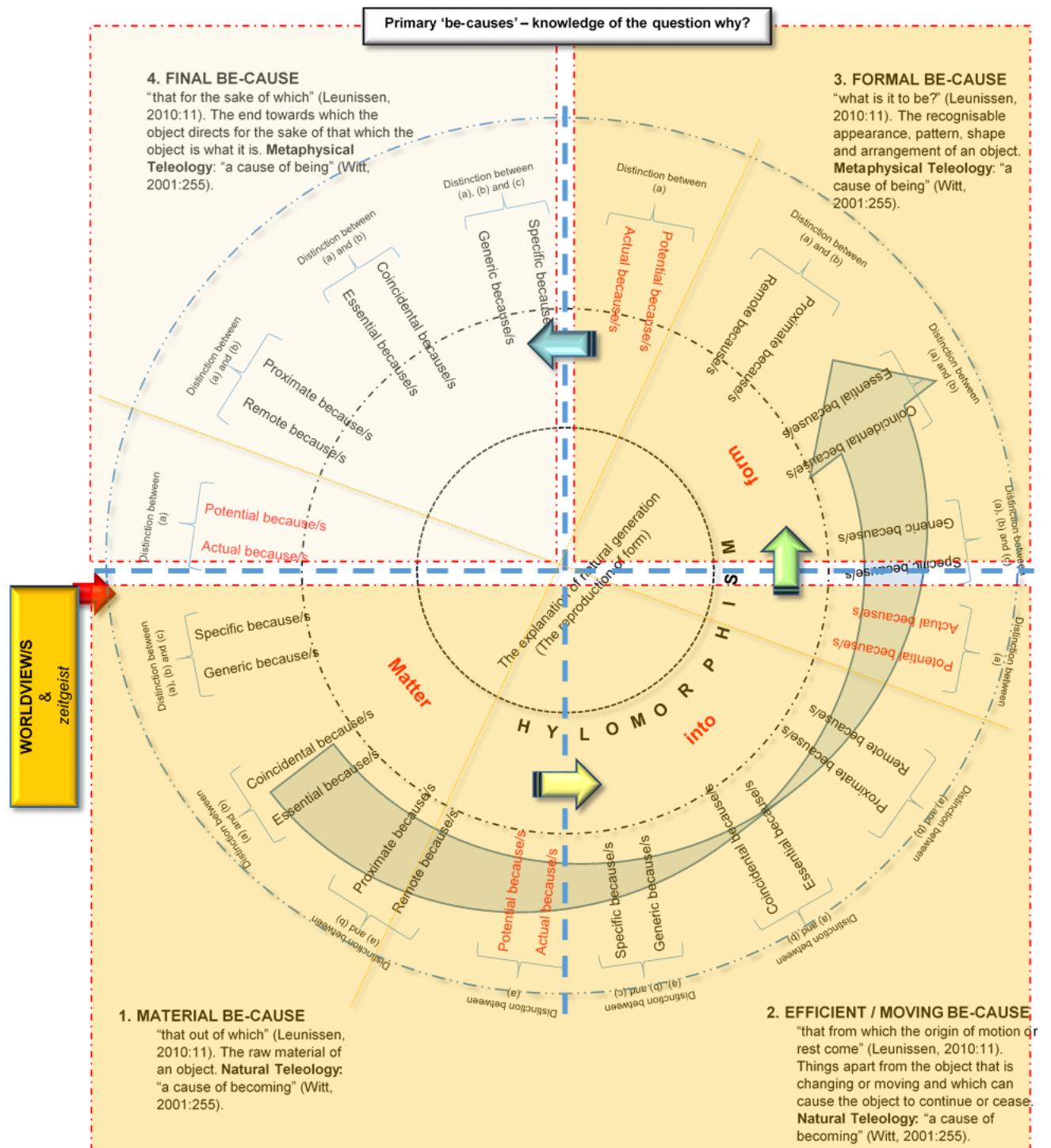
Aristotle reminds that “[w]e think we have knowledge of a thing only when we have grasped its [be-]cause” (Phys. 194 b 17-20). In other words, once we have grasped an object’s *to dia ti* (the because), through the application of *vis a fronte* (a chain of reverse causation or hylomorphism), as all the ways through which an object’s *aitia*’s and sub-be-causes exist, we have knowledge of such an object. Translated into the academic realm of Public Administration as a science, the aforementioned fact may be interpreted as: i) once scholars have grasped that out of which Public Administration as a science came into being (the material because of Public Administration as a science); ii) that from which the origin of motion or rest in Public Administration as a science arose (the efficient or moving because of Public Administration as a science); iii) that which Public Administration as a science is to be (the formal because of Public Administration as a science); and iv) that for the sake of which Public Administration as a science exists (the final because of Public Administration as a science), as it is constructed and influenced by human being’s varying worldviews within the ambit of a contemporary *zeitgeist*, Public



Administration as a science will be understood in which i – iii emphasises the process of hyle or hylomorphism.

In order for there to be a because to Public Administration as a science, there should potentially also be a 'why'? question which Hocutt (1974:392), Woodfield (2010:4) and Falcon (2015:75-91) affirmed as the most significant of fundamental inquiry in Teleology. The two 'why' questions that are of importance to this section of the study are noted as: Why has the discipline of Public Administration become fatigued and fragile? Why do the traditional, classic assumptions of Public Administration, as highlighted by Peters (2003:8, 9), no longer suffice to deliver on contemporary Public Administration demands? In order to establish the because to these two complex questions there needs to be a causal examination. As mentioned previously in this section, causal examination takes place within the recognition of three distinct aspects which are stated as follows: (a) causal examination includes an explicit realm of reality. There is therefore no doubt, vagueness or ambiguity about the necessity to include the state of things as they actually exist, as opposed to an idealistic or notional idea of these things. The application of causal examination into the academic discipline of Public Administration would therefore require the inclusion of the state of the discipline as it actually exist; (b) causal examination includes the consideration of individual worldviews that play a significant role in determining the end or purpose of something and whether it has a purpose or not.

**Figure 3.1:** Aristotelian meta-theory of explanation: the four *aitias* (causes) that incite *to dia ti* (the because/s) through *vis a fronte* (reverse causation)



**Source:** Author's perspective on Aristotelian causation as adopted from Hocutt (1974); Witt (2001:255); Leunissen, (2010:11); Woodfield (2010); and Falcon (2015:75-91)

### **3.3 THE RESULTS OF A SUPERIMPOSED POSITION OF PUBLIC PROJECT INTEGRATION MANAGEMENT ONTO A TELEOLOGICAL META-THEORY**

The Aristotelian directed meta-theory for the study of purpose or Teleology, posed four distinct be-causes that are presented in respective quadrants, and that are recognised as follows: Quadrant 1- The final be-cause or “that for the sake of which” (Leunissen, 2010:11) an object exists; Quadrant 2- The material be-cause, or “that out of which” the (Leunissen, 2010:11) object exists; Quadrant 3- The efficient or moving be-cause or, “that from which the origin of motion or rest comes” (Leunissen, 2010:11); and Quadrant 4- the formal because, or “what is it to be?” (Leunissen, 2010:11). Hereto, each of the four quadrants requires a distinction between specific and generic, coincidental and essential, proximate and remote, as well as potential and actual be-causes that give rise to an understanding of each of the four quadrants’ innate character. What follows is therefore an attempt to identify the various be-causes, relevant to each quadrant in a superimposed position of Public Project Integration Management.

This study has thus far presented a distinct trajectory from which an ontological pluralistic expression of Public Administration presents the opening argument to the practical application of the teleological meta-theory to a fragment, of a fragment, of a fragment within this field of study. Since the emphasis is here on a practical application, the ontological expression related to Public Administration that is most suitable to this particular context is the craft of this field of study. If the ontological expression was best suited to the ambit of the art of this discipline, the first fragment referred to above would be introduced as Project Integration as knowledge area. The second fragment mentioned above, would be referred to as the ten (10) knowledge areas within public projects. The third fragment alluded to above would be recognised as a public project. In the context of the art of Public Administration, as part of this discipline’s ontological pluralistic expression, neither one of these three fragments would have included the concept ‘management’, since the moment that a verb accompanies the designation, or as such the noun that reflects a specific entity, such an entity resorts under the craft of P[p]ublic A[a]dministration as ontological expression of both the discipline and practice. Hereto, the teleological meta-theory will be superimposed upon the craft as ontological expression of Public Administration, and the fragment of this field of study therefore refers to Public Project Integration Management as one of the ten Knowledge Management Areas of Public Project Management in Public Administration.

During an exploration of the pluralistic ontological expression of Public Administration as academic discipline in Chapter 2 of this study, it became known that this field of study expresses itself by means of a science (Gulick & Urwick, 1937; Simon, 1997), an art (Bozeman, 1993; Lynn, 1996; Mulgan, 2009; Shambaugh IV & Weinstein Jr. 2016), and a craft (Mintzberg, 2005:93; Sharma & Sharma, 2006; Berkeley & Rouse, 2008; Mintzberg, 2005:93; Mintzberg, 2009:10, 127; Gram's, 2010; Rhodes, 2016; Rouse, Meyer, Noe & Geerts, 2016). In order for the discipline's pluralistic ontological expression to be wholly fulfilled and complete, Chapter 2 of this study furthermore advises on the importance of always gauging which of P[ublic] A[dministration] pluralistic ontological expressions are active since they all display different characteristics and teleological purposes within the academic discipline and the practice. The rationale behind this statement is fulfilled in an understanding that: i) the science presents this field of study with Philosophy and a philosophically underpinned logic, order and systematic, scientific analysis towards knowledge acquisition and ultimately, with theory, (Mintzberg, 2005:93; 2009:10, 127; Gram's, 2010); ii) from which both the art and the craft of this discipline then respectively has a solid foundation as point of departure in the process of expressing itself either as a visionary power and novelty towards an effective, efficient and economic manifestation of this field of study (the art); iii) or, as the incited implementation of measurable transformation and change (the craft) as this study noted by means of a Reuleaux triangle in Chapter 2. The quest therefore that follows is primarily to understand the meta-theory of Teleology or *teleos* or final purpose of Project Integration Management as a Knowledge Management Area, and thus as a fragment of the ten (10) Knowledge Management Areas as conceptualised and theorised in the Project Management Body of Knowledge (PMBOK, 2017), as a fragment of Public Project Management, as a fragment of Public Administration as a field of study. Thus, what follows will be a superimposed version of Project Integration Management on the meta-theory of Teleology as a fragment (Project Integration Management) of a fragment (the Ten Knowledge Management Areas) of a fragment (Public Project Management) within the discipline of Public Administration. In an instant, the magnitude of the cosmology that is related to the discipline of Public Administration is perceived in perspective.

As observed in this chapter, an application of the teleological meta-theory has its own teleological intent since it is always in search of an answer to the question Why? In a very simplistic explanation, if the teleological quest was to establish the rationale behind the existence of a table, it could be argued that the final purpose of such a table exists because a family will sit around it and have meaningful discussions or have a meal together. The material purpose would then be the wood, glue, nails and all the matter out of which the table will be constructed. The efficient or moving because would be the carpenter's skills and competence

to build such a table, and the formal be-cause would be the table itself. Of critical importance in this process is the motion of hyle or hylomorphism that underscores the principle of matter into form or material that is transformed by means of the skills and competence of the carpenter into a final form (Manning, 2013:173 - 187).

According to Wirick (2011:57) and the Project Management Body of Knowledge (PMBOK, 2017:69-127), Project Integration Management as Knowledge Management Area within the context of Public Project Management is defined as that it is: “a set of project management activities and processes necessary for coordinating and combining the elements of a project. It allows the project manager, project team and project stakeholders to fit the various elements of the project together to make sure that the cross impacts are managed to create results that satisfy all of the stakeholders;” and, it is similarly “the processes and activities to identify, define, combine, unify and coordinate the various processes and project management activities within the Project Management Process Groups. In the project management context, integration includes characteristics of unification, consolidation, communication and interrelationship. These actions should be applied from the start of the process through to completion. Project Integration Management includes making choices about: i) Resource allocation; ii) Balancing competing demands; iii) Examining any alternative approaches; iv) Tailoring the process to meet the project objectives; and v) Maintaining the interdependencies among the Project Management Knowledge Areas.” Hereto, the PMBOK (2017:69-127) identifies seven processes that direct Project Integration Management, which are highlighted as follows: i) “Develop [the] Project Charter”; ii) “Develop [the] Project Management Plan”; iii) “Direct and Manage [the] Project Work”; iv) “Manage [the] Project Knowledge”; v) “Monitor and Control [the] Project Work”; vi) “Perform [the] Integrated Change Control”; and vii) “Close [the] Project or [Project] Phase”. These seven processes are of significant importance in the structural layout of Project Integration Management when the teleological meta-theory in its four quadrants are applied to these seven processes in order to ultimately establish a holistic conceptualisation of the final, the material, the efficient or moving and the formal purposes of Project Integration Management, as a fragment of the ten (10) Knowledge Management Areas, as a fragment of Project Management, and, as a fragment and sub-discipline in Public Administration. As alluded to before, the primary rationale behind superimposing Project Integration Management onto the teleological meta-theory is firstly to determine an answer to the question why do Project Integration Management exist within the ten (10) Project Knowledge Management Areas, and ultimately in Public Administration? In the execution of this craft related example, there is an underlying connectedness between the teleological, ontological and epistemological spheres of philosophy that the author will highlight as and when it occurs.

Since PMBOK (2017:69–127) presented seven processes that are included into Project Integration Management, this study continued by reflecting on each of these seven processes in their final, material, efficient or moving and formal be-causes, with the sole teleological intent of establishing the final, material, efficient or moving and formal be-causes of Project Integration Management as a whole fragment of a fragment of a fragment in Public Administration. The procedure therefore commences by investigating the first process included into Project Integration Management, as introduced by the Project Management Body of Knowledge (PMBOK, 2017:70) as the development of a Project Charter.

### **3.3.1 Develop a Public Project Charter**

The process of constructing a Project Charter has reference to “[t]he processes of developing a document that formally authorises the existence of a project and [that] provides the project manager with the authority to apply [public institutional] resources to project activities (PMBOK, 2017:70).” Considering Project Integration Management’s first process in a teleological context, led the study here to commence with a description of the Final be-cause of the process of developing a Project Charter.

**The Final be-cause:** A presentation of a raw, unrefined version of the final be-cause of the first process as it exists in the development of a Project Charter, has to present the assurance and thus the evidence that a document development progression occurred that resulted in: i) a Project Charter; ii) a formal authorisation for the project to exist; and iii) the project manager to be endowed with the authority to apply public institutional resources to project activities. In the context of government, there will always be significant checks and balances with reference to institutional resources that ultimately reflect in an Auditor-General (AG) report. The AG report will therefore reflect positively that: i) a Project Charter exists; ii) the project received formal authorisation; and iii) the project manager received authority within the public institutional policy framework to apply institutional resources to project activities. Having a basic understanding of the Final be-cause of the process of developing a Project Charter within Project Integration Management, the next teleological quadrant for consideration is the Material be-cause of the process of developing a Project Charter.

**The material be-cause:** Figure 3.2 below provides an inventory list of the material be-cause that are related to the development of a Project Charter. Figure 3.2 Thus presents the motion incited through hylomorphism that firstly highlights the inventory list of the matter or material that is required to develop a Project Charter, and that includes: i) Project documents; ii) Agreements related to the Project; iii) Enterprise environmental factors which PMBOK

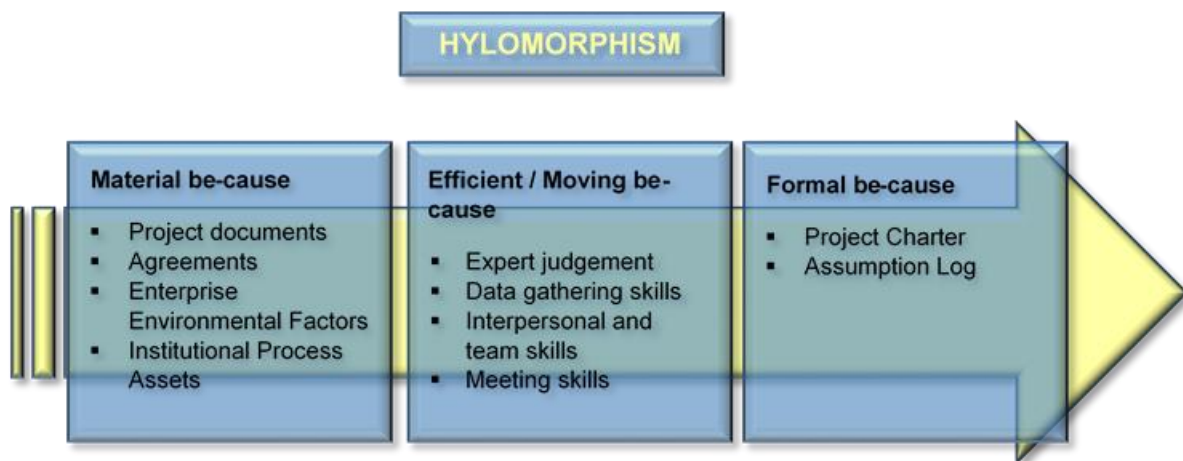
(2017:38) explains as the elements that construct the environment within which such a project subsists. Eliassen and Kooiman (1993:2, 3, 11) divide enterprise environment factors into internal and external factors. Eliassen and Kooiman (1993:2, 3, 11) clarify internal factors as that it considers the structure and culture of the public institution that instructs the execution of the project, and that it includes aspects such as institutional structure, institutional culture, working style, institutional policies and an employee skills audit record. In contrast, Kahn (2014) expound external factors as the regulatory environment in which citizens' needs subsist such as the socio-political, the socio-economic, the socio-cultural and the political-economic conditions. Amongst these external factors, Kahn (2014) includes "government regulations, economic scenario and project location, weather conditions, infrastructure, country culture, as well as economic and political conditions; and iv) Institutional process assets such as processes, policies and procedures and institutional knowledge bases" (PMBOK, 2017:39).

As alluded to much earlier in this chapter, in the progression of hylomorphism, these afore described materials are then transformed by means of the skills and competence that are present in the project manager and project team, which brings this discussion to an explanation of the Efficient or Moving be-cause.

**The Efficient or Moving be-cause:** The Efficient or Moving be-cause, which is really the 'into' part of hylomorphism highly depends on the skills and competence of the project manager and project team members for successful transition. Particularly pertaining to the development of a Project Charter, the skills and competence required include: i) expert judgement; ii) data gathering skills; iii) interpersonal and team skills; as well as iv) meeting skills. These skills and competence are of critical importance in the transformation of matter related to the development of a Project Charter as first process of Project Integration Management into form.

To complete the progression of hylomorphism, the transformation process ends in the **Formal be-cause:** The PMBOK (2017:69-127) informs that the formal be-cause of developing a Project Charter as first process step in the Knowledge Management Area, Project Integration Management, firstly includes the Project Charter itself, and secondly includes an Assumption Log. Figure 3.2 below provides a visual depiction of the afore described process of developing a project charter, true to the natural progression of hylomorphism.

**Figure 3.2: The progression of hylomorphism (matter into form) within the process of developing a Public Project Charter within Public Project Integration Management**



**Source:** PMBOK (2017:75)

Figure 3.2 above therefore highlights the transformative process of matter into form and of inventory lists of document the matter (data), that are transformed by means of the skills and competence of a project manager and her/his team, into tangible documents such as the Project Charter itself and an Assumption Log. The first step of Developing a Project Charter in the Knowledge Management Area recognised as Project Integration Management is followed by the development of a Project Management Plan, to which the discussion that ensues will highlight the Final, Material, Efficient or Moving and Formal be-causes of the development of a Project Management Plan.

### 3.3.2 Develop a Public Project Management Plan

Following the development of a Project Charter is the development of a Project Management Plan. Hereto, “[t]he processes of defining, preparing, and coordinating all plan components and consolidating them into an integrated project management plan” follows (PMBOK, 2017:70).

**The Final be-cause:** The assurance and thus evidence that all the plan components have been conceptualised, primed, organised and merged into a Project Management Plan. In the context of government, the institutional documentation and the Auditor-General report will therefore positively reflect: i) a Project Management Plan (PMP) that displays evidence that all the PMP components were a) conceptualised; b) primed; c) organised; and d) merged within the ambit of the public institutional policy framework. Considering the process of



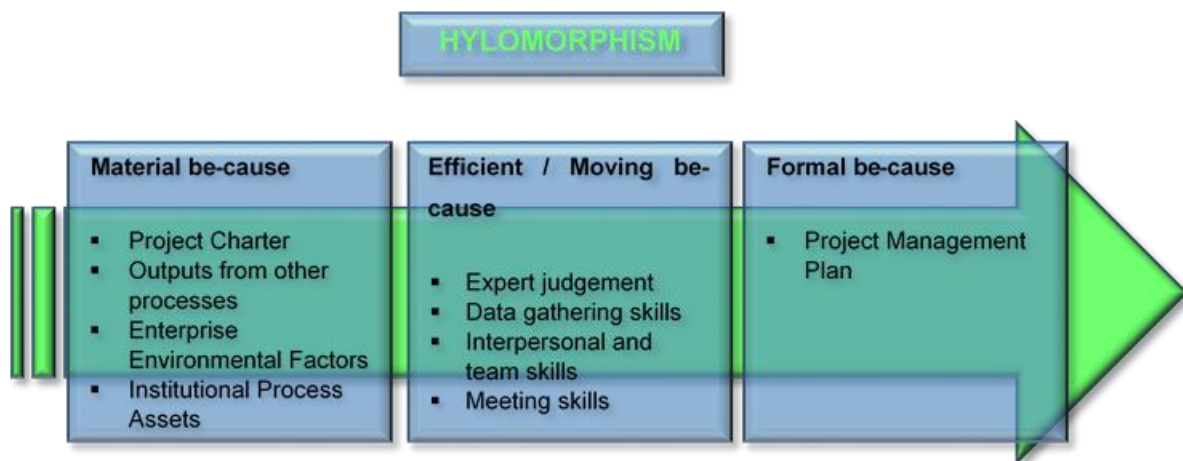
hylomorphism in the development of a Project Management Plan, the first aspect's elements that requires recognition is the Material be-cause's elements.

**The Material be-cause:** Recognising the Material be-cause in Figure 3.3 below, it is obvious that the material or matter out of which the Project Management Plan will be constructed is the: i) Project Charter; ii) Outputs from other processes; iii) Enterprise environmental factors; and iv) Institutional process assets. Therefore, the matter outlined above needs to be transformed by the skills and competence recognised in the following paragraph.

According to Figure 3.3 and the PMBOK (2017:82), the **Efficient or Moving be-cause** that transforms the already identified matter, highlighted above, into form is listed here as: i) expert judgement; data gathering skills; interpersonal and team skills as well as meeting skills. These skills and competence are highly relevant and necessary during this second process step (Project Management Plan) of the Project Integration Management as one of ten (10) Knowledge Areas in Project Management. These identified skills and competence will transform the afore identified matter into distinct forms, which is illuminated in the following paragraph.

As indicated in Figure 3.3, the **Formal be-cause**, as the last step in the process of hylomorphism, recognises the form into which the afore mentioned skills and competence of the project manager and her/his team will transform the relevant matter as a Project Management Plan. In the context of a public institution, the Auditor-General would subsequently seek evidence of a well-documented Project Management Plan. Figure 3.3 below is a visual representation of the second process of Project Integration Management, recognised as developing the Project Management Plan.

**Figure 3.3: The progression of hylomorphism (matter into form) within the process of developing a Public Project Management Plan within Public Project Integration Management**



**Source:** PMBOK (2017:82)

Transforming a Project Charter, outputs from other processes, enterprise environmental factors and institutional assets by means of expert judgement, data gathering skills, interpersonal and team skills as well as meeting skills concretises the progression of hylomorphism in this second process step of Project Integration Management. Following the development of a Project Management Plan, is to direct and manage project work. The subsequent paragraphs highlight the critical elements of directing and managing project work and simultaneously outlines the transformative process of hylomorphism.

### 3.3.3 Direct and Manage Public Project Work

To direct and manage project work are similarly described as “[t]he process[es] of leading and performing the work defined in the project management plan and implementing approved changes to achieve the project’s objectives (PMBOK, 2017:70).”

**The Final be-cause:** In a quest to answer the question why should a process step, recognised as Direct and Manage Project Work be included into Project Integration Management as knowledge management area in a public project, the riposte flows voluntary from the description that PMBOK (2017:70) presents as an account of this process step. The answer to the question why in this particular instance, is so that: i) there is recognised public project leadership and measurable public project performance in the execution of the project work that is in agreement with the conceptualisation of these elements as it is stated in the Project Management Plan; and, ii) in order for such leadership to proactively recognise the potentiality

for changes that may be needed in the project, to motivate, to obtain approval and to ensure the execution of such project changes; iii) with the primary motive in mind as that the project objectives have to be achieved.

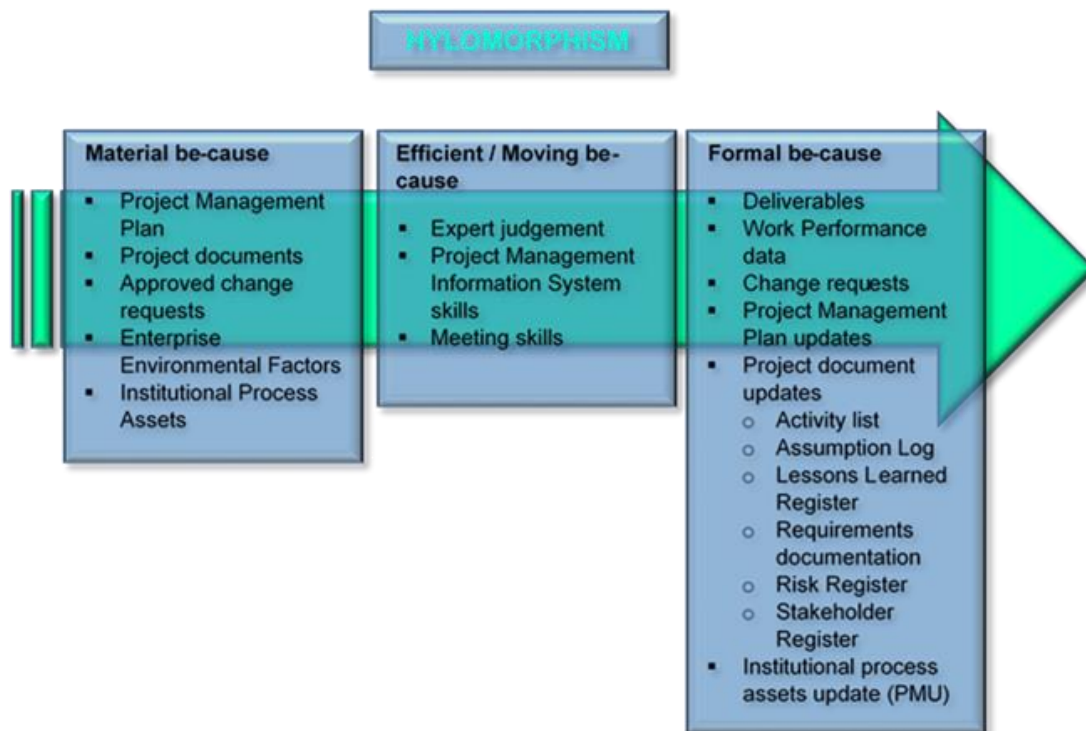
**The Material be-cause:** The matter that will be considered by the project manager and project team is recognised as: i) Project Management Plan; ii) Project documents; iii) Approved change requests; iv) Enterprise environmental factors; and v) Institutional process assets. At this early point in discussing the seven (7) process steps included in Project Integration Management, it is noted how a previous process steps' Formal be-cause, becomes the matter from which new forms (Formal be-causes) will be constructed. A relevant example is the Project Management Plan that was the Formal be-cause of the development of a Project Management Plan and in the process step that requires Direct and Manage Project Work this very same form becomes the matter out of which new forms will be created.

**Efficient / Moving be-cause:** In the progression of hylomorphism, the afore mentioned matter will be transformed by means of public project management and project execution skills such as expert judgement, project management information system skills, and meeting skills. These skills are deemed by PMBOK (2017:90) as critical in the successful transformation of matter into form during Direct and Manage Project Work as third step in the progression of Project Integration Management application in a project.

**The Formal be-cause:** The formal be-cause or purpose of Direct and Manage Project Work, takes shape in forms such as public project deliverables, work performance data, approved change requests, Project Management Plan updates that are all included in the project activity lists, assumption log, lessons learned register, requirements documentation, risk register, and stakeholder register, as well as institutional process assets updates in the Project Management Unit (PMU).

It is therefore of critical importance to recognise that just because Project Integration Management is documented as the first Knowledge Management Area by the Project Management Body of Knowledge, it does not mean that the total some of its objectives are positioned before commencement or at the beginning of a project. From the previous paragraph and Figure 3.4, the information gathered in for example a formal be-cause such as a risk register occurs throughout the public project. It is therefore clear that Project Integration Management is active throughout the duration of the entire project. Figure 3.4 below is a visual depiction of hylomorphism in the process step of Direct and Manage Project Work.

**Figure 3.4: The progression of hylomorphism (matter into form) within the process of Directing and Managing Public Project Work within Public Project Integration Management**



**Source:** PMBOK (2017:90)

Although the process step of Direct and Manage Project Work has been discussed, attention needs to be directed at the fact that there is an ancillary process cycle at work here that will continue after the process step of Manage Project Knowledge has been discussed. Direct and Manage Project Work are later on followed by Monitor and Control Project Work. This knowledge then confirms a supplementary cycle of direct, manage, monitor and control project work. Before a discussion on the monitoring and controlling of project work follows, PMBOK (2017:69-127) diverts the attention to a process step in Integrated Project Management recognised below as Manage Project Knowledge.

### 3.3.4 Manage Public Project Knowledge

“The process of using existing knowledge and creating new knowledge to achieve the project’s objectives and contribute to [institutional] learning (PMBOK, 2017:70).”

**Final be-cause:** The Final be-cause or final purpose that can be extrapolated from the process of managing project knowledge as an element of Project Integration Management, is highlighted by PMBOK (2017:70) as that existing knowledge needs to deliver threefold

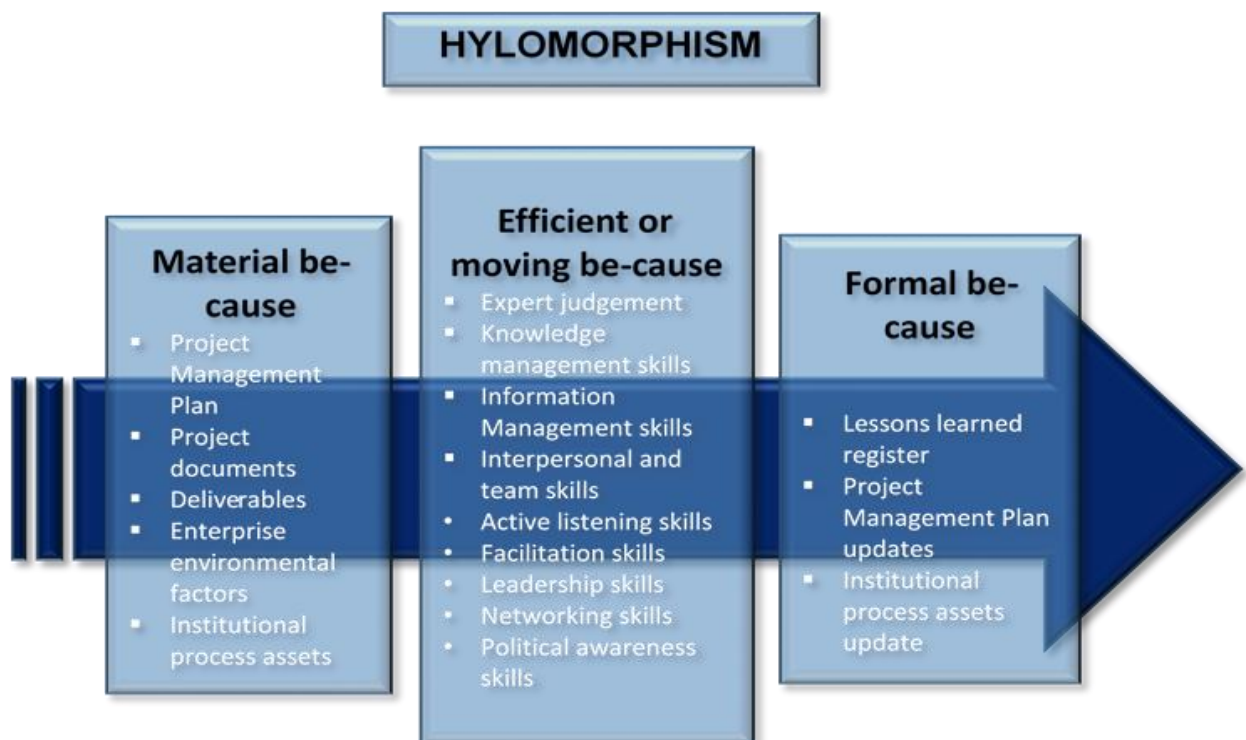
evidence in the final be-cause: firstly, evidence of new knowledge that was founded on existing knowledge; secondly, project objectives that have been met; and, thirdly, a contribution was made to institutional learning, particularly with reference to project management and the specific kind of project that was managed within the ambit of both the internal and external environments of an institution. Much earlier on in this section of Chapter 3 where the study considers a superimposed position of Project Integration Management onto a teleological meta-theory, it was noted that there is an underlying connectedness between the teleological, ontological and epistemological spheres of philosophy that the researcher/author will highlight as and when it occurs. This is one of those particular moments where the relation or interconnectedness between a teleological and an epistemological interface is recognised. Whilst the quest revolved solely on the teleological aspect, in a very natural manner, epistemology came into the explication and delivered evidence of the importance of knowledge in the search for an object's purpose.

**The Material be-cause:** In order to comprehend how the process of managing project knowledge ultimately arrives at its final purpose of presenting evidence of new knowledge that was founded on existing knowledge, of presenting achieved project objectives and of presenting the contribution that was made to institutional learning, it is of critical importance to commence with an identification of the matter that belongs to managing project knowledge as a process step of Project Integration Management. PMBOK (2017:89) informs that the Material be-cause or the matter out of which project knowledge management originates includes: i) the Project Management Plan; ii) the Project documents; iii) Deliverables that are determined by the focus of each individual project; iv) Enterprise environmental factors; and v) Institutional process assets. These aforementioned five material elements of project knowledge management thus incite the process of hylomorphism that will ultimately provide an answer to what the Final be-cause of what project knowledge management in Project Integration Management is.

**The Efficient / Moving be-cause:** Continuing with the process of hylomorphism, the matter out of which managing project knowledge comprises needs to be filtered through that which is the Efficient or Moving be-cause. PMBOK (2017:98) informs that the elements out of which the Efficient or Moving be-cause comprises include aspects such as: i) Expert judgement; ii) Knowledge Management skills; iii) Information Management Skills; iv) Interpersonal and team skills to which the latter includes active listening skills, facilitation skills, leadership skills, networking skills and political awareness skills. All these skills are required to set the process of hylomorphism in motion and to transform matter into form or as referred to in this study, into the Formal be-cause.

**The Formal be-cause:** That which has adopted the ultimate form of the object under discussion, which is project knowledge management is presented by PMBOK (2017:98) as: i) a Lessons learnt Register; ii) Project Management Plan updates; and iii) Institutional process assets updates. Presented evidence therefore of the before listed three elements of the Formal be-cause of Project Knowledge Management in Project Integration Management in a public project will therefore ensure that the public project can provide evidence of new knowledge that was founded on existing knowledge, that the project objectives have been met and that a contribution was made to institutional learning, particularly with reference to project management and the specific kind of project that was managed within the ambit of both the internal and external environments of an institution. Figure 3.5 That follows is a visual presentation of the progression of hylomorphism within the process of managing project knowledge within Project Integration Management within a public project within P[p]ublic A[a]dministration.

**Figure 3.5: The progression of hylomorphism (matter into form) within the process of Managing Public Project Knowledge within Public Project Integration Management**



**Source:** PMBOK (2017:98)

### 3.3.5 Monitor<sup>3</sup> and Control<sup>4</sup> Public Project Work

“The process of tracking, reviewing, and reporting overall progress to meet the performance objectives defined in the project management plan (PMBOK, 2017:70).”

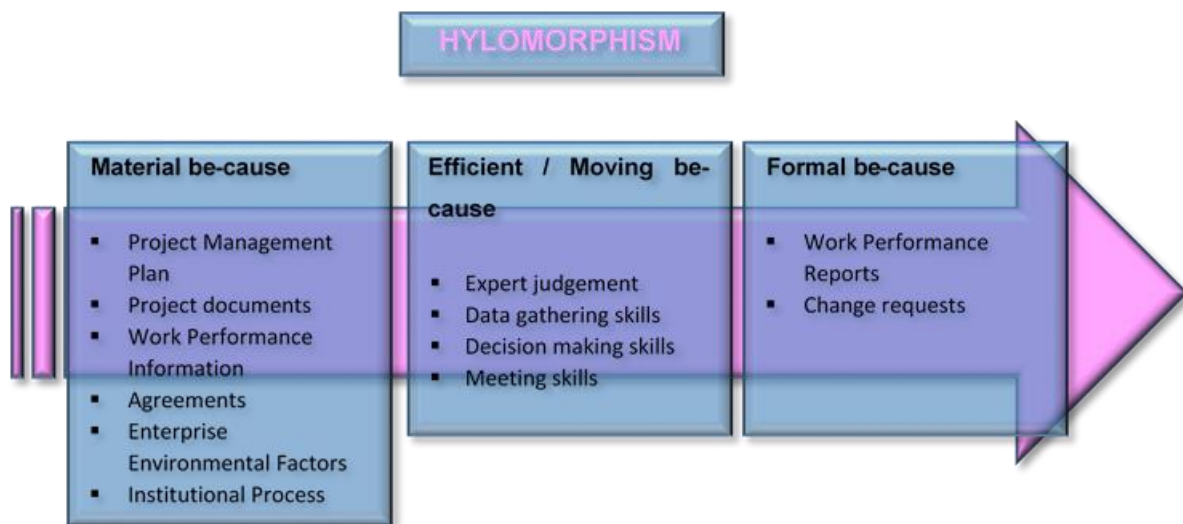
**The Final be-cause:** The Final be-cause of Monitor and Control Project Work will present evidence of reporting on the total project progress, which includes evidence that the performance objectives, as they were conceptualised in the Project Management Plan, were ultimately met.

**The Material be-cause.** The matter out of which the management of project knowledge comprises is introduced by PMBOK (2017:98) as: i) the Project Management Plan; ii) Project documents; iii) Work performance information; iv) Agreements; v) Enterprise environmental factors; and v) Institutional Process Assets. All five the aforementioned properties of the Material be-cause of the monitoring and control of project work together shape the matter that will be transformed by the skills and competence of the project manager and team.

The Efficient / Moving be-cause. The skills and competence that should ultimately be held by the project manager and team to transform the before alluded to material into a specific form includes: i) Expert judgement; ii) Data gathering skills; iii) Decision making skills; and iv) Meeting skills. The transformational power is thus embedded in these skills and competence of the project manager and team that will finally present the properties of the Formal be-cause as they will be listed below.

**Formal be-cause:** The ultimate Formal be-cause or formal purpose of Project Integration Management's process step to monitor and control project work is described as that it includes: i) Work Performance Reports; and ii) Change requests. As a whole, the process of hylomorphism that has just occurred enabled the process of Monitor and Control Project Work to present an ultimate or Final purpose which is to confirm that reporting on the whole project progress occurred, and that the performance objectives, as they reflect in the Project Management Plan were achieved. Figure 3.6 below provides a visual image of the process of hylomorphism in Monitoring and Controlling Project Work as a process in Project Integration Management.

**Figure 3.6: The progression of hylomorphism (matter into form) within the process of Monitoring and Controlling Public Project Work within Public Project Integration Management**



**Source:** PMBOK (2017:105)

As a continuation of the ancillary process that commenced as Direct and Manage Project Work, the process continues and concludes here with Monitor and Control of Project Work. What can be deduced at this point, is the fact that this secondary process will present the Final be-cause as that it includes evidence of: i) public project leadership; ii) measurable public project performance in the execution of the project work that is in agreement with the conceptualisation of these elements as it is stated in the Project Management Plan; iii) that such leadership proactively recognised the potentiality for changes that may be required in the project, to motivate, to obtain approval and to ensure the execution of such project changes; and iv) reporting on the total project progress, which includes evidence of the primary public project motive that the performance objectives, as they were conceptualised in the Project Management Plan, were met. The Project Integration Management process step that follows addresses the theme of Integrated Change Control.

### **3.3.6 Perform Integrated Change Control in a Public Project**

“The process of reviewing all change requests; approving changes and managing changes to deliverables, [institutional] process assets, project documents, and the project management plan; and communicating the decisions (PMBOK, 2017:70).”



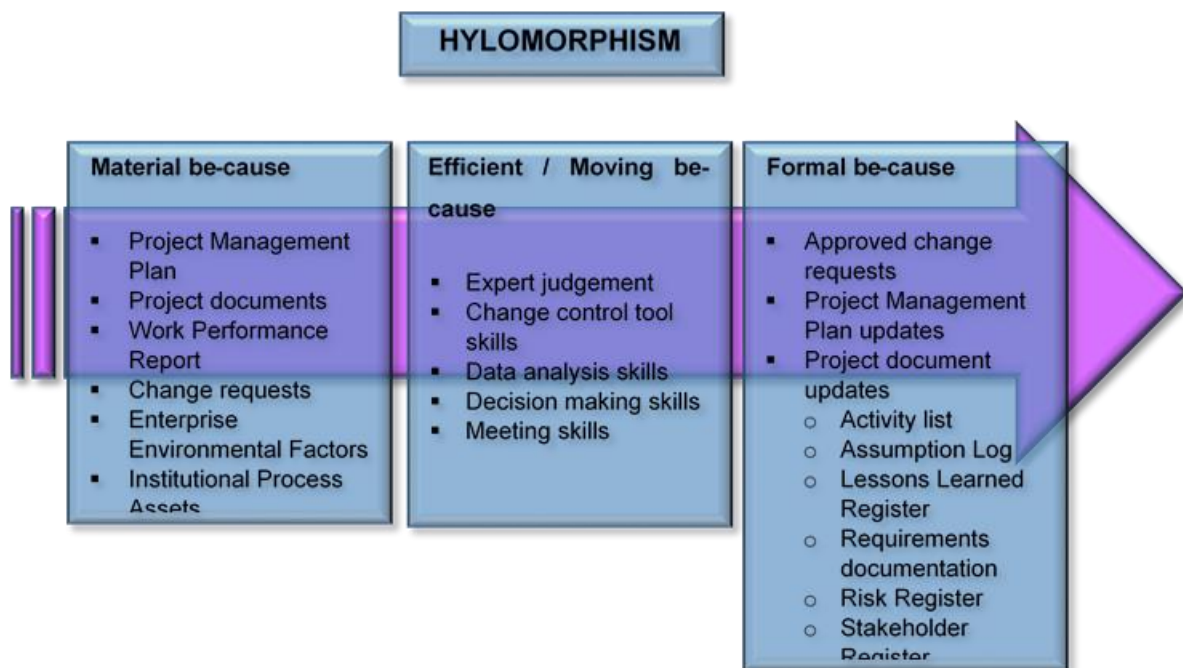
**The Final be-cause:** The process of performing Integrated Change Control delivers evidence that all the project related change requests: i) were reviewed; ii) where acceptable, were approved; iii) were communicated; and hereto, iv) changes to deliverables were managed; v) changes to [institutional] process assets were managed; vi) changes to project documents were managed; and vii) changes to the Project Management Plan were managed.

**The Material be-cause:** The matter out of which the process Perform Integrated Change Control comprise includes the Project Management Plan, Project documents, Work Performance Report, Change Requests, Enterprise Environmental Factors and Institutional Process Assets. In the same manner as all the processes that were discussed before, the material that constitutes Integrated Change Control forms the first building blocks in the process of hylomorphism. Hereafter the material is exposed to a process of transformation by means of the skills and competence embedded within the project manager and her/his team.

**The Efficient / Moving be-cause:** The Efficient or Moving be-cause that incites the material out of which the process of performing Integrated Change Control exist, reflects as: i) Expert judgement; ii) Change control tool skills; iii) Data analysis skills; iv) Decision making skills; and v) Meeting skills. In addition to the competence and skills identified above, it is evident from the Final be-cause that the project manager and team also requires two additional competencies and skills namely: i) Management skills; and ii) Communication skills.

**The Formal be-cause:** The ultimate form that the process of Performing Integrated Change Control will adopt is listed as follows: i) Reviewed and where acceptable, approved, communicated and managed change requests; ii) Project Management Plan updates; iii) Project document updates that include an Activity List, an Assumption Log, a Lessons Learned Register, Requirements documentation, a Risk and Stakeholder Registers. Figure 3.7 below,

**Figure 3.7: The progression of hylomorphism (matter into form) within the process of Performing Integrated Change Control within Public Project Integration Management**



**Source:** PMBOK (2017:113)

Gwartney, Stroup, Studenmund (1980:59), Martin (2005:6) as well as Biggs and Helms (2014:4), all proclaim the universal truth that the only constant to be found in an object such as public projects is change. With this truth in mind, it is not a surprising inclusion that the PMBOK (2017:113–120) incorporated the process of Performing Integrated Change Control within Public Project Integration Management as a critical process step that needs to be considered throughout the duration of any public project. The primary teleological conceptualisation of this process step is to provide evidence of managed and therefore reviewed, where acceptable, approved, communicated changes to deliverables, and recorded in public institutional process assets, public project documents and the Public Project Management Plan.

During the process of superimposing the process steps of Public Project Integration Management onto a teleological meta-theory, Chapter 3 now introduces the last of these process steps as Public Project or Public Project Phase.

### 3.3.7 Close Public Project or Public Project Phase

“The process of finalising all activities for the project, [project] phase, or contract. (PMBOK, 2017:70).”

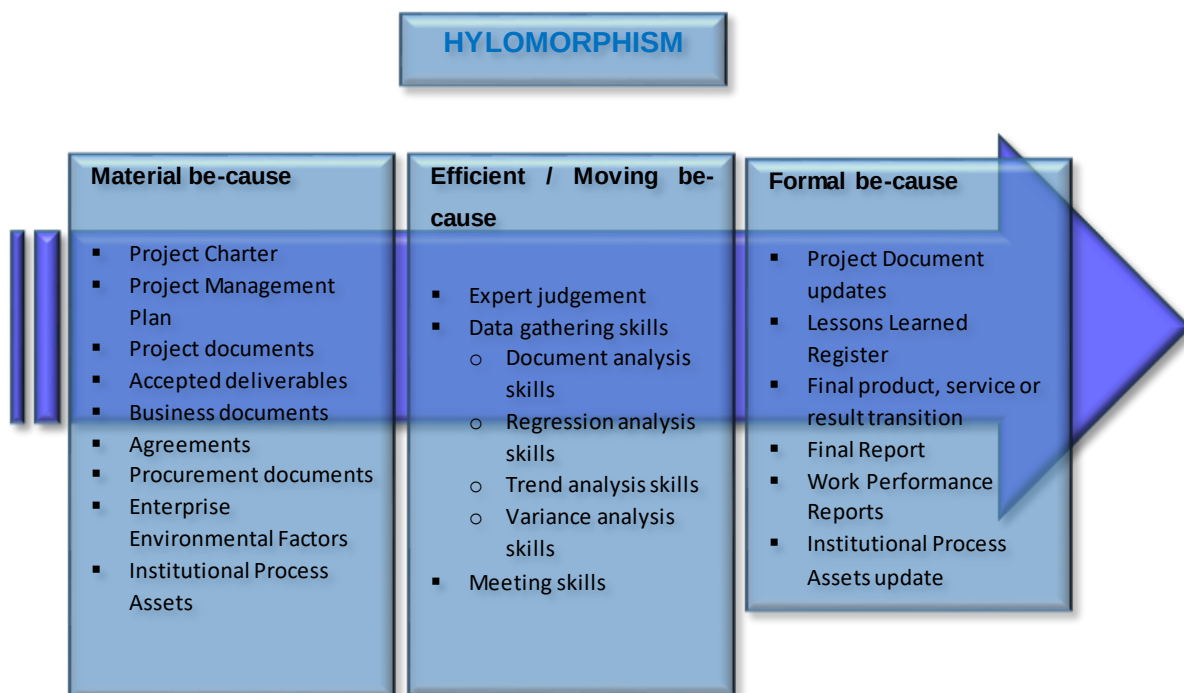
**Final be-cause:** The Final purpose of the Close Project or Project Phase process will present evidence that all the project related activities, or project phase related activities, or contract related activities have been completed successfully.

**Material be-cause:** The Material be-cause, or that out of which the Close Project or Project Phase comprise, include properties such as: i) the Project Charter; ii) The Project Management Plan; iii) The Project documents; iv) Accepted deliverables; v) Business documents; vi) Agreements; vii) Procurement documents that include the Assumption Log, the Basis of Estimates, the Change Log, the Issue Log, the Lessons Learned Register, the Milestone List, the Project Communications, the Quality Control Measurements, the Quality Reports, the Requirements documentation, the Risk Register and the Risk Report; viii) Institutional Process Assets; and Auditor-General Readiness Reports.

**The Efficient or Moving be-cause:** The Efficient or Moving because or as Leunissen (2010:11-12) describes it, the process from which motion or rest comes requires the following skills and competence from the project manager and team: i) Expert judgement; ii) Data analysis skills that include document analysis skills, regression analysis skills, trend analysis skills and variance analysis skills; as well as iii) Meeting skills. Once the skills and competence amongst the project manager and team are activated, the afore mentioned matter will transform into a particular form which is referred to below as the Formal be-cause.

**The Formal be-cause:** The end of the process of hylomorphism ensures that the ultimate form that the matter will adopt after it has been exposed to the efficient or moving be-cause is documented as follows: i) Project document updates; ii) Lessons Learned Register; iii) Final product, service or result transitions; iv) the Final Report; and v) the Institutional Process Assets update. Figure 3.8 follows by providing a visual layout of the progression of hylomorphism within the process of Close Project or Project Phase within Project Integration Management within a public project within P[p]ublic A[a]dministration.

**Figure 3.8: The progression of hylomorphism (matter into form) within the process of Close Public Project or Public Project Phase within Public Project Integration Management**



**Source:** PMBOK (2017:121)

The process step of Close Project or Project Phase within Project Integration Management, once again carries the features of matter into form or hylomorphism. The underlying message to this final step in the process or progression of Project Integration Management is that before evidence of a closed public project, a closed public project phase or the Formal purpose, such as up to date project documents, a completed Lessons Learned Register, a final product, service or result transition a Final Report, Work Performance Reports, and up to date Institutional Process Assets documents has not been fulfilled, the public project is not done yet.

What follows are the inventory lists that were extrapolated from the content of the process up to this point that reflects a superimposed position of project integration management onto a teleological meta-theory. These inventory lists will thus respectively indicate the properties of the Final, Material, Efficient or Moving and Formal be-causes. The primary purpose behind this process of deconstruction and construction is to ascertain the purpose of Project Integration Management, as a fragment of the ten (10) Knowledge Management Areas, as a

fragment of public Project Management, as a fragment of both P[p]ublic A[a]dministration as academic discipline and as practice.

### **3.4 AN INVENTORY LIST OF THE FINAL BE-CAUSE OF PUBLIC PROJECT INTEGRATION MANAGEMENT**

An inventory list of the Final be-cause or purpose that explicate the existence of Project Integration Management (a fragment) in the ten (10) Knowledge Management Areas (a fragment) of Project Management (a fragment) in the discipline and practice of P[p]ublic A[a]dministration are engrained in the seven (7) process steps that explicate Project Integration Management.

#### **3.4.1 Develop the Public Project Charter**

**The Final be-cause of the 1<sup>st</sup> process in Public Project Integration Management:** Evidence exists that a document development progression occurred, which resulted in: i) a Project Charter; ii) a formal authorisation for the project to exist; and iii) the project manager to be endowed with the authority to apply public institutional resources to project activities. In the context of government, there will always be significant checks and balances with reference to institutional resources that ultimately reflect in an Auditor-General (AG) report. The AG report will therefore reflect positively that: i) a Project Charter exists; ii) the project received formal authorisation; and iii) the project manager received authority within the public institutional policy framework to apply institutional resources to project activities. Having a basic understanding of the Final be-cause of the process of developing a Project Charter within Project Integration Management, the next teleological quadrant for consideration is the Material be-cause of the process of developing a Project Charter.

#### **3.4.2 Develop a Public Project Management Plan**

**The Final be-cause of the 2<sup>nd</sup> process in Public Project Integration Management:** Evidence exists that all the plan components have been conceptualised, primed, organised and merged into a Project Management Plan. In the context of government, the institutional documentation and the Auditor-General report will therefore positively reflect: i) a Project Management Plan (PMP) that displays evidence that all the PMP components were a) conceptualised; b) primed; c) organised; and d) merged within the ambit of the public institutional policy framework. Considering the process of hylomorphism in the development

of a Project Management Plan, the first aspect's elements that requires recognition is the Material be-cause's elements.

### **3.4.3 Direct<sup>1</sup> and Manage<sup>2</sup> Public Project Work**

#### **The Final be-cause of the 3<sup>rd</sup> process in Public Project Integration Management:**

Evidence exists that: i) there is recognised public project leadership and measurable public project performance in the execution of the project work that is in agreement with the conceptualisation of these elements as it is stated in the Project Management Plan; and, ii) in order for such leadership to proactively recognise the potentiality for changes that may be needed in the project, to motivate, to obtain approval and to ensure the execution of such project changes; iii) with the primary motive in mind as that the project objectives have to be achieved.

### **3.4.4 Manage Public Project Knowledge**

#### **The Final be-cause of the 4<sup>th</sup> process in Public Project Integration Management:**

Evidence exists that existing knowledge needs to deliver threefold evidence in the final be-cause: firstly, evidence of new knowledge that was founded on existing knowledge; secondly, project objectives that have been met; and, thirdly, a contribution was made to institutional learning, particularly with reference to project management and the specific kind of project that was managed within the ambit of both the internal and external environments of an institution. Much earlier on in this section of Chapter 3 where the study considers a superimposed position of Project Integration Management onto a teleological meta-theory, it was noted that there is an underlying connectedness between the teleological, ontological and epistemological spheres of philosophy that the researcher/author will highlight as and when it occurs. This is one of those particular moments where the relation or interconnectedness between a teleological and an epistemological interface is recognised. Whilst the quest revolved solely on the teleological aspect, in a very natural manner, epistemology came into the explication and delivered evidence of the importance of knowledge in the search for an object's purpose.

### **3.4.5 Monitor and Control Public Project Work**

#### **The Final be-cause of the 5<sup>th</sup> process in Public Project Integration Management:**

Evidence exists that reporting on the total project progress, which includes evidence that the performance objectives, as they were conceptualised in the Project Management Plan, were ultimately met.

As a continuation of the ancillary process that commenced as Direct and Manage Project Work, the process continues and concludes here with Monitor and Control of Project Work. What can be deduced at this point, is the fact that this secondary process will present the Final be-cause as that it includes evidence of: i) public project leadership; ii) measurable public project performance in the execution of the project work that is in agreement with the conceptualisation of these elements as it is stated in the Project Management Plan; iii) that such leadership proactively recognised the potentiality for changes that may be required in the project, to motivate, to obtain approval and to ensure the execution of such project changes; and iv) reporting on the total project progress, which includes evidence of the primary public project motive that the performance objectives, as they were conceptualised in the Project Management Plan, were met. The Project Integration Management process step that follows addresses the theme of Integrated Change Control.

### **3.4.6 Perform Integrated Change Control in a Public Project**

#### **The Final be-cause of the 6<sup>th</sup> process in Public Project Integration Management:**

Evidence exists that all the project related change requests: i) were reviewed; ii) where acceptable, were approved; iii) were communicated; and hereto, iv) changes to deliverables were managed; v) changes to [institutional] process assets were managed; vi) changes to project documents were managed; and vii) changes to the Project Management Plan were managed.

### **3.4.7 Close Public Project or Public Project Phase**

#### **The Final be-cause of the 7<sup>th</sup> process in Public Project Integration Management:**

Evidence exists that all the project related activities, or project phase related activities, or contract related activities have been completed successfully.

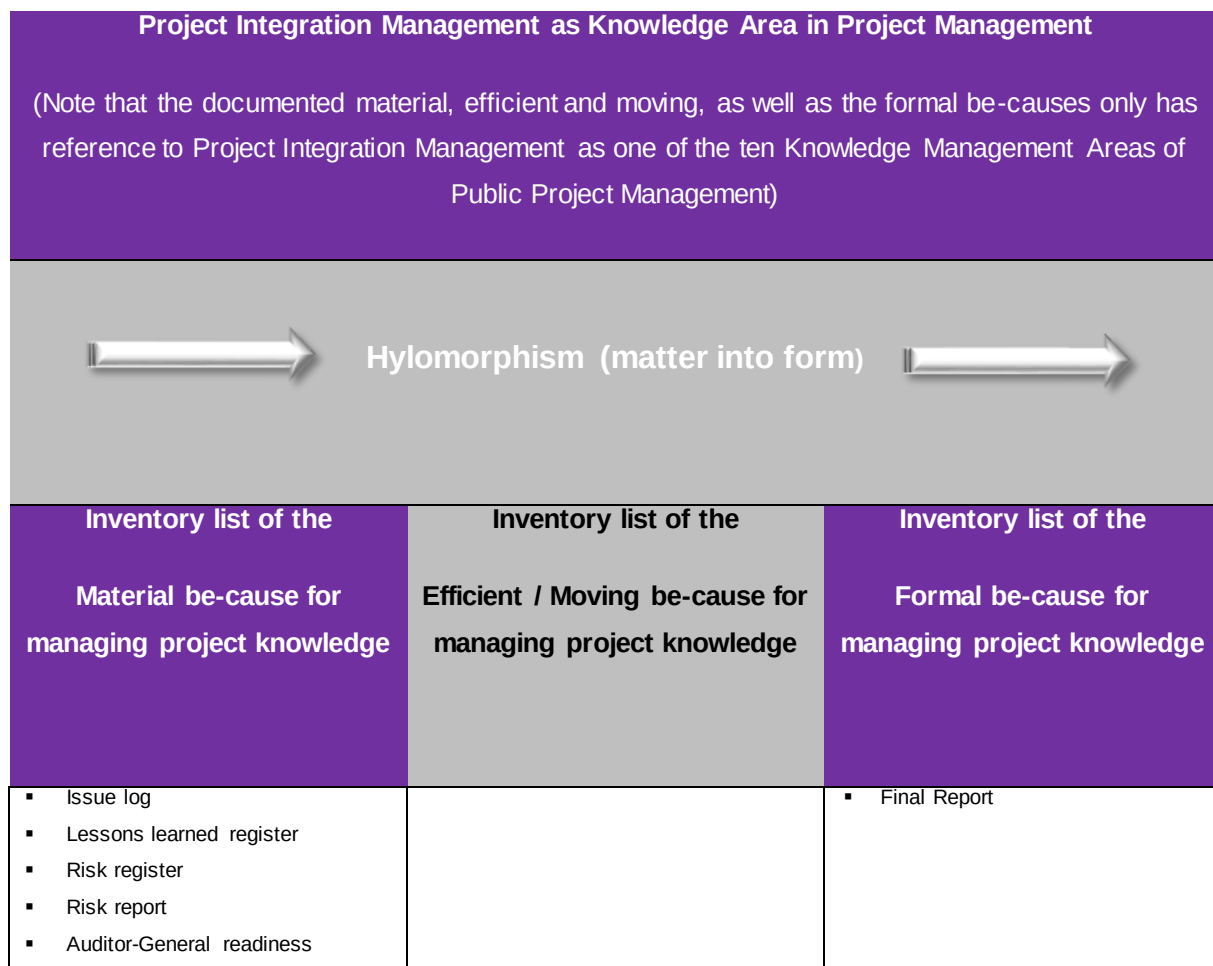
The critical importance for any scholar or practitioner of Public Administration to possess a deep-seated knowledge of the Final purpose of Public Project Integration Management in the 10 Knowledge Management Areas in Public Project Management in Public Administration is invaluable when public project success is considered. It is however not only the Final be-cause that is of critical importance, but similarly the *episteme* that constructs the Material, Efficient / Moving be-causes in the process of hylomorphism, since it is knowledge of the rationale behind this *episteme* that ultimately confirms a positive contribution as part of the machinery that manifests the teleological intent of P[p]ublic A[a]dministration as a whole. This section

thus continues by investigating the properties of the Material, Efficient / Moving be-causes in the process of hylomorphism as included in Table 3.2 Below.

**Table 3.2: An inventory list of the teleological Material, Efficient / Moving, Formal and Final be-causes of Project Integration Management in a Public Project**

| Project Integration Management as Knowledge Area in Project Management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Note that the documented material, efficient and moving, as well as the formal be-causes only has reference to Project Integration Management as one of the ten Knowledge Management Areas of Public Project Management)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Inventory list of the<br>Material be-cause for<br>managing project knowledge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Inventory list of the<br>Efficient / Moving be-cause for<br>managing project knowledge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Inventory list of the<br>Formal be-cause for<br>managing project knowledge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>▪ Project documents</li> <li>▪ Agreements</li> <li>▪ Enterprise environmental factors</li> <li>▪ Institutional process assets</li> <li>▪ Project Charter</li> <li>▪ Outputs from other processes</li> <li>▪ Project Management Plan</li> <li>▪ Approved change requests</li> <li>▪ Accepted Deliverables</li> <li>▪ Work Performance Information</li> <li>▪ Work Performance Report</li> <li>▪ Business documents</li> <li>▪ Procurement documents</li> <li>▪ Milestone list</li> <li>▪ Project communications</li> <li>▪ Quality control measurements</li> <li>▪ Quality reports</li> <li>▪ Requirements documentation</li> <li>▪ Assumption log</li> <li>▪ Basis of estimates</li> <li>▪ Change Log</li> </ul> | <ul style="list-style-type: none"> <li>▪ Expert judgement</li> <li>▪ Data gathering skills</li> <li>▪ Interpersonal and team skills               <ul style="list-style-type: none"> <li>▪ Active listening skills</li> <li>▪ Facilitation skills</li> <li>▪ Leadership skills</li> <li>▪ Networking skills</li> <li>▪ Political, economic, social and socio-cultural awareness skills</li> </ul> </li> <li>▪ Project Management Information Systems skills</li> <li>▪ Information Management Skills</li> <li>▪ Knowledge Management Skills</li> <li>▪ Decision Making skills</li> <li>▪ Change control tool skills</li> <li>▪ Data analysis skills</li> <li>▪ Document analysis skills</li> <li>▪ Regression analysis skills</li> <li>▪ Trend analysis skills</li> <li>▪ Variance analysis skills</li> <li>▪ Meeting skills</li> </ul> | <ul style="list-style-type: none"> <li>▪ Project Charter</li> <li>▪ Assumption Log</li> <li>▪ Project Management Plan</li> <li>▪ Deliverables</li> <li>▪ Work Performance Data</li> <li>▪ Change Requests</li> <li>▪ Project Management Plan updates</li> <li>▪ Project Document Updates               <ul style="list-style-type: none"> <li>▪ Activity List</li> <li>▪ Assumption Log</li> <li>▪ Lessons Learned register</li> <li>▪ Requirements documentation</li> <li>▪ Risk Register</li> <li>▪ Stakeholder Register</li> <li>▪ Institutional Process Assets update</li> <li>▪ Work Performance Data</li> <li>▪ Approved Change Requests</li> </ul> </li> <li>▪ Final Product, Service or Result Transitions</li> </ul> |





**Source:** PMBOK (2017:69-127)

In some instances, it is notable that an object such as the Project Charter can be both a Material and a Formal be-cause. The explanation behind this phenomenon is the fact that the Project Charter is in some instances the desired, ultimate form, and in other instances the matter out of which the desired, ultimate form will come into being. Table 3.2 above thus provides an inventory list that clearly highlights the list of matter that is transformed by the list of skills and competence, which the project manager and team possess to ultimately deliver the inventory list of the desired form that reflects all the properties if Public Project Integration Management. The latter is similarly underpinned by the process of hylomorphism.

**Table 3.3: A deconstruction in developing a Project Charter's final be-cause as teleological entity**

| PROJECT INTEGRATION MANAGEMENT: 1. DEVELOP A PROJECT CHARTER |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Distinction between specific and generic</b>              | <p>The distinction therefore between the generic be-cause and the specific be-cause will be found in the following variations: (a) that which is not specific against that which is detailed and exact in character; (b) that which is shared by other objects against that which is connected to a particular object only; and (c) that which includes typical elements of a whole group of objects against that which exists in one object only or, is limited to one object only, but that incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.</p> | <b>Specific:</b> | <ul style="list-style-type: none"> <li>▪ Since there is no specific public project under discussion here, the evidence discussed in the "Generic" column remains to be regarded as generic and thus applicable to any public project.</li> <li>▪ In the context of government, there will always be significant checks and balances with reference to institutional resources that ultimately reflect in an Auditor-General (AG) report. The government as context is to some extent closer to being specific, however, it merely confirms the project as public and not private, and hereafter still remains to be generic within the ambit of government.</li> <li>▪ In the context of government, the institutional documentation and the Auditor-General report will therefore positively reflect: i) a Project Management Plan (PMP) that displays evidence that all the PMP components were a) conceptualised; b) primed; c) organised; and d) merged within the ambit of the public institutional policy framework.</li> </ul> |
|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Generic:</b>  | <ul style="list-style-type: none"> <li>▪ Evidence exists that a document development progression occurred, which resulted in: i) a Project Charter; ii) a formal authorisation for the project to exist; and iii) the project manager to be endowed with the authority to apply public institutional resources to project activities.</li> <li>▪ The AG report will therefore reflect positively that: i) a Project Charter exists; ii) the project received formal authorisation; and iii) the project manager received authority within the public institutional policy framework to apply institutional resources to project activities.</li> <li>▪ Evidence exists that all the plan components have been conceptualised, primed, organised and merged into a Project Management Plan.</li> </ul>                                                                                                                                                                                                                                 |

PROJECT INTEGRATION MANAGEMENT: 1. DEVELOP A PROJECT CHARTER

- Evidence exists that: i) there is recognised public project leadership and measurable public project performance in the execution of the project work that is in agreement with the conceptualisation of these elements as it is stated in the Project Management Plan; and, ii) in order for such leadership to proactively recognise the potentiality for changes that may be needed in the project, to motivate, to obtain approval and to ensure the execution of such project changes; iii) with the primary motive in mind as that the project objectives have to be achieved.
- Evidence exists that existing knowledge needs to deliver threefold evidence in the final be-cause: firstly, evidence of new knowledge that was founded on existing knowledge; secondly, project objectives that have been met; and, thirdly, a contribution was made to institutional learning, particularly with reference to project management and the specific kind of project that was managed within the ambit of both the internal and external environments of an institution.
- Evidence exists that reporting on the total project progress, which includes evidence that the performance objectives, as they were conceptualised in the Project Management Plan, were ultimately met.
- As a continuation of the ancillary process that commenced as Direct and Manage Project Work, the process continues and concludes here with Monitor and Control of Project Work. What can be deduced at this point, is the fact that this secondary process will present the Final be-cause as that it includes evidence of: i) public project leadership; ii) measurable public project performance in the execution of the project work that is in agreement with the conceptualisation of these elements as it is stated in the Project Management Plan; iii) that such leadership proactively recognised the potentiality for

PROJECT INTEGRATION MANAGEMENT: 1. DEVELOP A PROJECT CHARTER

|  |                                                                                                                                                                                       |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                       |                      | <p>changes that may be required in the project, to motivate, to obtain approval and to ensure the execution of such project changes; and iv) reporting on the total project progress, which includes evidence of the primary public project motive that the performance objectives, as they were conceptualised in the Project Management Plan, were met. The Project Integration Management process step that follows addresses the theme of Integrated Change Control.</p> <ul style="list-style-type: none"> <li>▪ Evidence exists that all the project related change requests: i) were reviewed; ii) where acceptable, were approved; iii) were communicated; and hereto, iv) changes to deliverables were managed; v) changes to [institutional] process assets were managed; vi) changes to project documents were managed; and vii) changes to the Project Management Plan were managed.</li> <li>▪ Evidence exists that all the project related activities, or project phase related activities, or contract related activities have been completed successfully.</li> </ul> |
|  |                                                                                                                                                                                       | <b>Distinction:</b>  | <ul style="list-style-type: none"> <li>▪ Mention will be made of a very specific public project that needs to be completed in a specific governmental area such as health, education or housing. This distinction will provide the generic properties with a distinct focus as influenced by the project that needs to be fulfilled.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|  | The distinction therefore between the essential be-cause and the coincidental be-cause will be found in the following variations: (a) that which is completely necessary against that | <b>Coincidental:</b> | <ul style="list-style-type: none"> <li>▪ As a continuation of the ancillary process that commenced as Direct and Manage Project Work, the process continues and concludes here with Monitor and Control of Project Work. What can be deduced at this point, is the fact that this secondary process will present the Final be-cause as that it includes evidence of: i) public project leadership; ii) measurable public project performance in the execution of the project work that is in agreement with the</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| PROJECT INTEGRATION MANAGEMENT: 1. DEVELOP A PROJECT CHARTER |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Distinction between co-incident and essential                | which happens by chance; and (b) is extremely important in a particular situation or for a particular activity against that which is unplanned, but that incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object. |            | conceptualisation of these elements as it is stated in the Project Management Plan; iii) that such leadership proactively recognised the potentiality for changes that may be required in the project, to motivate, to obtain approval and to ensure the execution of such project changes; and iv) reporting on the total project progress, which includes evidence of the primary public project motive that the performance objectives, as they were conceptualised in the Project Management Plan, were met. The Project Integration Management process step that follows addresses the theme of Integrated Change Control.                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Essential: | <ul style="list-style-type: none"> <li>i) a Project Charter exists;</li> <li>ii) the project received formal authorisation; and</li> <li>iii) the project manager received authority within the public institutional policy framework to apply institutional resources to project activities;</li> <li>iv) all the plan components have been conceptualised, primed, organised and merged into a Project Management Plan;</li> <li>v) there is recognised public project leadership and measurable public project performance in the execution of the project work that is in agreement with the conceptualisation of these elements as it is stated in the Project Management Plan;</li> <li>vi) in order for such leadership to proactively recognise the potentiality for changes that may be needed in the project, to motivate, to obtain approval and to ensure the execution of such project changes;</li> <li>vii) with the primary motive in mind as that the project objectives have to be achieved;</li> </ul> |

PROJECT INTEGRATION MANAGEMENT: 1. DEVELOP A PROJECT CHARTER

- viii) existing knowledge needs to deliver threefold evidence in the final be-cause: firstly, evidence of new knowledge that was founded on existing knowledge; secondly, project objectives that have been met; and, thirdly, a contribution was made to institutional learning, particularly with reference to project management and the specific kind of project that was managed within the ambit of both the internal and external environments of an institution;
- ix) reporting on the total project progress, which includes evidence that the performance objectives, as they were conceptualised in the Project Management Plan, were ultimately met;
- x) As a continuation of the ancillary process that commenced as Direct and Manage Project Work, the process continues and concludes with Monitor and Control of Project Work. What can be deduced at this point, is the fact that this secondary process will present the Final be-cause as that it includes evidence of: a) public project leadership; b) measurable public project performance in the execution of the project work that is in agreement with the conceptualisation of these elements as it is stated in the Project Management Plan; c) that such leadership proactively recognised the potentiality for changes that may be required in the project, to motivate, to obtain approval and to ensure the execution of such project changes; and d) reporting on the total project progress, which includes evidence of the primary public project motive that the performance objectives, as they were conceptualised in the Project Management Plan, were met. The Project Integration Management process step that follows addresses the theme of Integrated Change Control;

| PROJECT INTEGRATION MANAGEMENT: 1. DEVELOP A PROJECT CHARTER |  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------|--|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                              |  |              | <p>xi) all the project related change requests: a) were reviewed; b) where acceptable, were approved; c) were communicated; and hereto, d) changes to deliverables were managed; e) changes to [institutional] process assets were managed; f) changes to project documents were managed; and vii) changes to the Project Management Plan were managed.</p> <p>xii) all the project related activities, or project phase related activities, or contract related activities have been completed successfully.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                              |  | Distinction: | <ul style="list-style-type: none"> <li>The distinction therefore between the essential be-cause and the coincidental be-cause that is found in the following variations: (a) that which is completely necessary against that which happens by chance. To this effect it is clear that the essential elements contained in Public Project Integration Management include xii distinct properties as a continuation of the ancillary process that commenced as Direct and Manage, as well as Monitor and Control the Project Work; and (b) in which Direct, Manage, Monitor and Control of the public project is extremely important in a particular situation or for a particular activity against that which is unplanned, but that incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.</li> </ul> |
|                                                              |  | Proximate:   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

**PROJECT INTEGRATION MANAGEMENT: 1. DEVELOP A PROJECT CHARTER**

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Distinction between proximate and remote</b> | <p>The distinction therefore between the remote be-cause and the proximate be-cause will be found in the following variations: (a) that which is remote from something against that which is near to something; and (b) that which is far away in time and not closely related to something against that which is nearest in time and order to something, but that incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and represents that which determines a distinct reason to an object.</p> | <b>Remote:</b>      | <ul style="list-style-type: none"> <li>▪ Much earlier on in this section of Chapter 3 where the study considers a superimposed position of Project Integration Management onto a teleological meta-theory, it was noted that there is an underlying connectedness between the teleological, ontological and epistemological spheres of philosophy that the researcher/author will highlight as and when it occurs. This is one of those particular moments where the relation or interconnectedness between a teleological and an epistemological interface is recognised. Whilst the quest revolved solely on the teleological aspect, in a very natural manner, epistemology came into the explication and delivered evidence of the importance of knowledge in the search for an object's purpose.</li> </ul> |
|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Distinction:</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                 | <p>The distinction therefore between the actual be-cause and the potential be-cause will be found in the following variations: (a) stating and emphasising the fact or comment of that which is really true against predicting or propounding a future state but that incite a reason, an action, phenomena or condition with reasonable grounds for execution, cognitive or mental responsiveness or attentiveness, which presents itself as a principle aim or movement that can be preserved or promoted, and</p>                                                                                                                                                               | <b>Actual:</b>      | This type of property is only describable if there is a real public project at hand in which the Public Project Integration Management delivered results, negative or positive.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Potential:</b>   | A successfully delivered Public Project Integration Management that played a significant role in the type of audit report that is issued to the government institution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Distinction:</b> | The distinction between public project success or failure is critically important since it carries either commendable or devastating results for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



| PROJECT INTEGRATION MANAGEMENT: 1. DEVELOP A PROJECT CHARTER |                                                                  |  |                                                                                           |
|--------------------------------------------------------------|------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------|
| <b>Distinction between actual and potential</b>              | represents that which determines a distinct reason to an object. |  | government, the public institution, and ultimately the well-being of a nation's citizens. |

**Source:** PMBOK (2017:69-127)

With reference to Table 3.3 above, the same process of deconstruction would have to be followed with all the other six processes that are included in Public Project Integration Management in order to ultimately determine that which is either specific or generic, co-incident or essential, proximate or remote and finally actual or potential be-causes to the project.

### 3.5 THE TELEOLOGICAL DESCRIPTION OF PUBLIC ADMINISTRATION AS A SCIENCE

P[p]ublic A[a]dministration, in its ontic expression, reflects three distinct manifestations, that of a science, that of an art and that of a craft. As explicated in Chapters 1, 2 and 4, each of these ontic expressions has a very unique purpose and teleological intent that it fulfils within both the academic discipline and related practice. Based on the gargantuan nature of each of the aforementioned ontic expressions, it would do an injustice to these ontic expressions if an attempt was made to address all of them in one study. Subsequently, within a recognition that each one of the three ontic expressions always need to be understood in the context of the other two ontic expressions, since they do not only subsist in their own right but they also subsist in tandem with each other, and within each other.

Since the primary purpose of this study is to understand the well-spring of Public Administration theory and meta-theories and since Chapters 1 – 4 of this study all point in the direction of a field of study's science as a primary source of theory, the Tables that follow investigate the teleological description in the context of hylomorphism to understand the purpose behind each nodal entity in the corporeal morphology of a science, after which a

collective purpose of the teleological intent of P[p]ublic A[a]dministration as a science is presented.

Before venturing into a comprehensive tabular description of the teleological intent of Public Administration as a science, it is important to note that there will be largely unexplored areas that requires intensive research efforts (observation, experiment, logical reasoning amongst others) post this study. What follows is thus merely a building block in the process of establishing an initial teleological intent of Public Administration as a science. Table 3.4 thus follows by exploring the matter out of which each nodal entity in the corporeal morphology of Public Administration as a science exists.

**Table 3.4      Material be-cause, “that out of which Public Administration as a science subsists”**

| Public Administration as a science: Material be-cause |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                          | Descriptors                | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Quotidian science</b>                              | <b>Specific matter</b>     | Tradition bound logical reasoning; Receptor of phenomena, anomalies and <i>noumena</i> that emanate from both an external and an internal environment to the discipline's science; Statistical methods; experimental templates; a scientific methodology; Instruments, scientific gauges and tools, that all stem from one or more paradigms and that is based on protective membrane in the process of solving P[p]ublic A[a]dministration phenomena, anomalies and <i>noumena</i> . Scientific theories of P[p]ublic A[a]dministration. In many instances, the afore mentioned remain to be unknown in P[p]ublic A[a]dministration. |
|                                                       | <b>Generic matter</b>      | Logical reasoning; Receptor of phenomena, anomalies and <i>noumena</i> that emanate from both an external and an internal environment to the discipline's science; Statistical methods; experimental templates; a scientific methodology; Instruments, scientific gauges and tools, that all stem from one or more paradigms and that is based on protective membrane in the process of solving discipline related phenomena, anomalies and <i>noumena</i> . Scientific theories to the field of study. In many instances, the afore mentioned remain to be unknown.                                                                  |
|                                                       | <b>Coincidental matter</b> | Dissimilar variables; dissimilar theological worldviews and philosophical presuppositions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                       | <b>Essential matter</b>    | The field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                       | <b>Proximate matter</b>    | Relevant theories from related sciences such as Politics; Policy studies; Sociology; Philosophy; Anthropology; History; Psychology; and Management Sciences, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Public Administration as a science: Material be-cause |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                          | Descriptors         | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                       |                     | Comprehensive descriptions of all the ontic expressions of the field of study which is in this case is the science, the art and the craft of P[public A]dministration.                                                                                                                                                                                                                                                                                                                                                                           |
|                                                       | Remote matter       | Field of studies related to the Natural Sciences and Engineering. Elements from the external environment to P[public A]dministration as a science.                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                       | Potential matter    | Unique to every study undertaken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                       | Actual matter       | Largely unexplored landscape.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Paradigm/s                                            | Specific matter     | Meta-physical sense; Sociological sense; Artefact or Construct sense; present an exemplum/s.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                       | Generic matter      | Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                       | Coincidental matter | Novel phenomena, anomalies and <i>noumena</i> that renders the paradigm/s incapable of addressing scientific questions and which has as a result, a revolutionary process that follows towards the establishment of a new paradigm.                                                                                                                                                                                                                                                                                                              |
|                                                       | Essential matter    | Field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                       | Proximate matter    | Meta-physical sense; Sociological sense; Artefact or Construct sense; present an exemplum/s.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                       | Remote matter       | Shift in <i>zeitgeist</i> ; transformation in globally dominant scientific and philosophical presuppositions.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                       | Potential matter    | Scientific revolution; Paradigm shift; New paradigm/s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                       | Actual matter       | Largely unexplored landscape.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Extraordinary science                                 | Specific matter     | Tradition shattering logical reasoning, receptors of phenomena, anomalies and <i>noumena</i> that emanate from both an external and an internal environment to the discipline's science, statistical methods, experimental templates, a scientific methodology, instruments, scientific gauges and tools, in the process of solving P[public A]dministration phenomena, anomalies and <i>noumena</i> . Scientific theories of P[public A]dministration. In many instances, the afore mentioned remain to be unknown in P[public A]dministration. |
|                                                       | Generic matter      | Novel circumstances.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                       | Coincidental matter | Novel ideas and novel forms of research.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                       | Essential matter    | Knowledge of the field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.                                                                                                                                                                                                                                                                                                                                                                  |
|                                                       | Proximate matter    | Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads.<br>All the ontic expressions of the field of study which is in this case the art and craft of Public Administration.                                                                                                                                                                                                                                                                                     |
|                                                       | Remote matter       | Theories from other academic disciplines.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Public Administration as a science: Material be-cause |                     |                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                          | Descriptors         | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                                                   |
|                                                       | Potential matter    | Undetermined until invention occurs.                                                                                                                                                                                                                                                        |
|                                                       | Actual matter       | Largely unexplored landscape.                                                                                                                                                                                                                                                               |
| Protective membrane                                   | Specific matter     | Field of study's theories; 'Rheostat system' to keep P[p]ublic A[a]dministration as a science in a state of equilibrium; Mechanisms that severs paradigms from quotidian science, should such paradigms no longer direct the quotidian science.                                             |
|                                                       | Generic matter      | Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology, a 'Rheostat system' to keep the science in a state of equilibrium; mechanism that severs quotidian science from a paradigm. |
|                                                       | Coincidental matter | -                                                                                                                                                                                                                                                                                           |
|                                                       | Essential matter    | Field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.                                                                                                                              |
|                                                       | Proximate matter    | All the ontic expressions of the field of study which is in this case the art and craft of Public Administration.                                                                                                                                                                           |
|                                                       | Remote matter       | -                                                                                                                                                                                                                                                                                           |
|                                                       | Potential matter    | -                                                                                                                                                                                                                                                                                           |
|                                                       | Actual matter       | Largely unexplored landscape.                                                                                                                                                                                                                                                               |
| Nucleus                                               | Specific matter     | The Philosophy of science; the History of science                                                                                                                                                                                                                                           |
|                                                       | Generic matter      | Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.                                                                                                                             |
|                                                       | Coincidental matter | -                                                                                                                                                                                                                                                                                           |
|                                                       | Essential matter    | Field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.                                                                                                                              |
|                                                       | Proximate matter    | All the ontic expressions of the field of study which is in this case the art and craft of Public Administration.                                                                                                                                                                           |
|                                                       | Remote matter       | -                                                                                                                                                                                                                                                                                           |
|                                                       | Potential matter    | -                                                                                                                                                                                                                                                                                           |
|                                                       | Actual matter       | Largely unexplored landscape.                                                                                                                                                                                                                                                               |
| Nucleus triads                                        | Specific matter     | Philosophy; Meta-physics, Teleology; Ontology; Epistemology; Methodology; Axiology; Ikanology etc.                                                                                                                                                                                          |
|                                                       | Generic matter      | Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.                                                                                                                             |
|                                                       | Coincidental matter | Novel theories.                                                                                                                                                                                                                                                                             |
|                                                       | Essential matter    | Field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.                                                                                                                              |

| Public Administration as a science: Material be-cause |                         |                                                                                                                              |
|-------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                          | Descriptors             | Distinct elements that aim to illuminate the nodal entity                                                                    |
|                                                       | <b>Proximate matter</b> | All the ontic expressions of the field of study which is in this case the art and craft of Public Administration.            |
|                                                       | <b>Remote matter</b>    | The effects that transformation and change in an external landscape have on the individual entities in the knowledge triads. |
|                                                       | <b>Potential matter</b> | Theoretical bases.                                                                                                           |
|                                                       | <b>Actual matter</b>    | Largely unexplored landscape..                                                                                               |

**Source:** Masterman (1970); Lakatos (1978); Kuhn (1962; 2012); and Hacking (2012)

It is evident from the Table 3.4 above that each nodal entity in the anatomy of Public Administration as a science has its own unique but also shared, describable matter, whether it be classified as specific, generic, coincidental, essential, proximate, remote, potential or actual. In combination the matter to each individual nodal entity will establish the data from which the process of hylomorphism will commence that support each nodal entity.

Table 3.5 assists in the identification of the efficient or moving be-cause or the skills and competence that scientists will require to transform each nodal entity's matter into a specific form. The latter is thus the second step in the process of hylomorphism towards establishing the purpose of Public Administration as a science.

**Table 3.5 Efficient or moving be-cause, “that from which the origin or motion of rest comes”**

| Public Administration as a science: Efficient or moving be-cause |                                           |                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                                     | Descriptors                               | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                       |
| <b>Quotidian science</b>                                         | <b>Specific skills and competence</b>     | Skills and competence of the discipline itself; scientific research and scientific methodology that related to the discipline. Problem solving skills.                                                                                                          |
|                                                                  | <b>Generic skills and competence</b>      | Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology. |
|                                                                  | <b>Coincidental skills and competence</b> | Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.                                                                                                                                      |
|                                                                  | <b>Essential skills and competence</b>    | Deep knowledge of the essence, the purpose and the functioning of a paradigm/s in the specific field of study in its meta-physical, sociological and artefact or construct senses.                                                                              |

| Public Administration as a science: Efficient or moving be-cause |                                           |                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                                     | Descriptors                               | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                       |
|                                                                  | <b>Proximate skills and competence</b>    | Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.                                                                                                      |
|                                                                  | <b>Remote skills and competence</b>       | Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences; Knowledge and insight into the external world of practice.                                                             |
|                                                                  | <b>Potential skills and competence</b>    | Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.                                                                                                             |
|                                                                  | <b>Actual skills and competence</b>       | All of the above.                                                                                                                                                                                                                                               |
| <b>Paradigm/s</b>                                                | <b>Specific skills and competence</b>     | Skills and competence of the discipline itself; scientific research and scientific methodology that related to the discipline. Skills and competence in the meta-physical, sociological and artefact or construct sense of a paradigm.                          |
|                                                                  | <b>Generic skills and competence</b>      | Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology. |
|                                                                  | <b>Coincidental skills and competence</b> | Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.                                                                                                                                      |
|                                                                  | <b>Essential skills and competence</b>    | Deep knowledge of the essence, the purpose and the functioning of a paradigm/s in the specific field of study in its meta-physical, sociological and artefact or construct senses.                                                                              |
|                                                                  | <b>Proximate skills and competence</b>    | Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.                                                                                                      |
|                                                                  | <b>Remote skills and competence</b>       | Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences; Knowledge and insight into the external world of practice.                                                             |
|                                                                  | <b>Potential skills and competence</b>    | Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.                                                                                                             |
|                                                                  | <b>Actual skills and competence</b>       | All of the above.                                                                                                                                                                                                                                               |
| <b>Extraordinary science</b>                                     | <b>Specific skills and competence</b>     | Skills and competence of the discipline itself; scientific research and scientific methodology that related to the discipline. Innovation skills.                                                                                                               |
|                                                                  | <b>Generic skills and competence</b>      | Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology. |
|                                                                  | <b>Coincidental skills and competence</b> | Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.                                                                                                                                      |

| Public Administration as a science: Efficient or moving be-cause |                                           |                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                                     | Descriptors                               | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                       |
|                                                                  | <b>Essential skills and competence</b>    | Deep knowledge of the essence, the purpose and the functioning of a paradigm/s in the specific field of study in its meta-physical, sociological and artefact or construct senses.                                                                              |
|                                                                  | <b>Proximate skills and competence</b>    | Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.                                                                                                      |
|                                                                  | <b>Remote skills and competence</b>       | Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences; Knowledge and insight into the external world of practice.                                                             |
|                                                                  | <b>Potential skills and competence</b>    | Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.                                                                                                             |
|                                                                  | <b>Actual skills and competence</b>       | All of the above.                                                                                                                                                                                                                                               |
| <b>Protective membrane</b>                                       | <b>Specific skills and competence</b>     | Skills and competence of the discipline itself; scientific research and scientific methodology that related to the discipline.                                                                                                                                  |
|                                                                  | <b>Generic skills and competence</b>      | Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology. |
|                                                                  | <b>Coincidental skills and competence</b> | Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.                                                                                                                                      |
|                                                                  | <b>Essential skills and competence</b>    | Deep knowledge of the essence, the purpose and the functioning of the various theories and mechanisms that are present in the specific field of study.                                                                                                          |
|                                                                  | <b>Proximate skills and competence</b>    | Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.                                                                                                      |
|                                                                  | <b>Remote skills and competence</b>       | Knowledge and insight into the presence of the protective membrane in each nodal entity in the anatomy of a science and its relation to that nodal entity.                                                                                                      |
|                                                                  | <b>Potential skills and competence</b>    | Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.                                                                                                             |
|                                                                  | <b>Actual skills and competence</b>       | All of the above.                                                                                                                                                                                                                                               |
| <b>Nucleus</b>                                                   | <b>Specific skills and competence</b>     | Skills and competence of the discipline itself; scientific research and scientific methodology that related to the discipline. The Philosophy and the History of the science within an academic discipline.                                                     |
|                                                                  | <b>Generic skills and competence</b>      | Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology. |

| Public Administration as a science: Efficient or moving be-cause |                                           |                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                                     | Descriptors                               | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                                                                                             |
|                                                                  | <b>Coincidental skills and competence</b> | Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.                                                                                                                                                                                                            |
|                                                                  | <b>Essential skills and competence</b>    | Deep knowledge of the essence, the purpose and the functioning of the nucleus as it is present in each nodal entity of a science, and as such has a deep influence on all nodal entities.                                                                                                                                             |
|                                                                  | <b>Proximate skills and competence</b>    | Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.                                                                                                                                                                            |
|                                                                  | <b>Remote skills and competence</b>       | Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences; Knowledge and insight into the external world of practice                                                                                                                                    |
|                                                                  | <b>Potential skills and competence</b>    | Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.                                                                                                                                                                                   |
|                                                                  | <b>Actual skills and competence</b>       | All of the above.                                                                                                                                                                                                                                                                                                                     |
| <b>Nucleus triads</b>                                            | <b>Specific skills and competence</b>     | Skills and competence of the discipline itself; scientific research and scientific methodology that related to the discipline. Skills and competence of all the knowledge triads, the specific properties of the knowledge triads, the theories that emanate from these triads and the theory development that these triads manifest. |
|                                                                  | <b>Generic skills and competence</b>      | Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.                                                                       |
|                                                                  | <b>Coincidental skills and competence</b> | Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.                                                                                                                                                                                                            |
|                                                                  | <b>Essential skills and competence</b>    | Deep knowledge of the essence, the purpose and the functioning of a paradigm/s in the specific field of study in its meta-physical, sociological and artefact or construct senses.                                                                                                                                                    |
|                                                                  | <b>Proximate skills and competence</b>    | Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.                                                                                                                                                                            |
|                                                                  | <b>Remote skills and competence</b>       | Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences; Knowledge and insight into the external world of practice                                                                                                                                    |
|                                                                  | <b>Potential skills and competence</b>    | Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.                                                                                                                                                                                   |
|                                                                  | <b>Actual skills and competence</b>       | All of the above.                                                                                                                                                                                                                                                                                                                     |

**Source:** Masterman (1970); Lakatos (1978); Witt (2001:255); Leunissen (2010:11); Kuhn (1962; 2012); and Hacking (2012)



Table 3.5 illuminates the fact that the active manifestation of each of the nodal entities in the corporeal morphology of a science requires that the scholar, scientist and/or practitioner of Public Administration as a science set the above outlined skills and competence into motion. Table 3.5, similarly highlights that each nodal entity in the anatomy of a science requires both very specific and generic skills and competence from the scholar, scientist and/or practitioner of Public Administration as a science.

Table 3.6 follows by revealing the formal be-cause of each of the nodal entities and as such completes the cycle of hylomorphism. Witt (2001:255) and Leunissen (2010:11) respectively describe the Formal be-cause as a meta-physical description of being, in other words, in the case of this study, a meta-physical description of each nodal entity in the anatomy of a science and a proper description of what being is to be, in other words, what is the fully formed description of each of the nodal entities in the anatomy of a science.

**Table 3.6 Formal be-cause, “what is it to be?”**

| Public Administration as a science: Formal be-cause |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                        | Descriptors       | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                                                                                                                                                                                                       |
| Quotidian science                                   | Specific form     | A tradition bound entity that presents solutions to phenomena, anomalies and <i>noumena</i> , posed by the external worlds to both P[p]ublic A[a]dministration, in which the entity is directed by the meta-physical, sociological and artefact or construct senses within discipline related paradigm/s, to which Quotidian science is founded on P[p]ublic A[a]dministration as a science's Protective Membrane, Nucleus and Nucleus triads . |
|                                                     | Generic form      | Tradition bound scientific practice that includes research and the application of scientifically founded research methodology.                                                                                                                                                                                                                                                                                                                  |
|                                                     | Coincidental form | May present methods and theories to solve other phenomena, anomalies and noumena.                                                                                                                                                                                                                                                                                                                                                               |
|                                                     | Essential form    | Contribution to the discipline's order and theory development                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                     | Proximate form    | Novel insight into longstanding phenomena, anomalies and <i>noumena</i> .                                                                                                                                                                                                                                                                                                                                                                       |
|                                                     | Remote form       | May present insight into phenomena, anomalies and noumena that disciplines in the external environment to Public Administration as a science present, and contribute to the theory of other disciplines.                                                                                                                                                                                                                                        |
|                                                     | Potential form    | May present solutions to future phenomena, anomalies and <i>noumena</i> .<br>May present areas of novel research.                                                                                                                                                                                                                                                                                                                               |
|                                                     | Actual form       | All the above                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Paradigm/s                                          | Specific form     | A scientific Paradigm/s that presents <i>exemplums</i> against which Quotidian science can function; and that display a meta-physical, sociological and artefact or construct sense description. The Paradigm is encased in a cycle that reflects the effectiveness of the Paradigm itself against the potential to offer a tradition of problem solving, and as                                                                                |

| Public Administration as a science: Formal be-cause |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                        | Descriptors              | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                     |                          | such may even reflect as anywhere in the cycle of a scientific revolution.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                     | <b>Generic form</b>      | A meta-physical, sociological and artefact or construct description that guides Quotidian science in its practice.                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                     | <b>Coincidental form</b> | May present as more than one paradigm at a particular moment in time, particular in the social sciences.                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                     | <b>Essential form</b>    | At least one meta-physical, sociological and artefact or construct description that directs Quotidian science to achieve its objectives.                                                                                                                                                                                                                                                                                                                                                                             |
|                                                     | <b>Proximate form</b>    | May present the field of study's first fully fledged paradigm.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                     | <b>Remote form</b>       | The Paradigm may guide sciences in the external environment to the field of study to solve phenomena, anomalies and <i>noumena</i> .                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                     | <b>Potential form</b>    | A fully fledged Paradigm/s that effectively and efficiently support Quotidian scientists to solve phenomena, anomalies and noumena in the discipline.                                                                                                                                                                                                                                                                                                                                                                |
|                                                     | <b>Actual form</b>       | All the above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Extraordinary science</b>                        | <b>Specific form</b>     | Extraordinary science that present novel inventions, novel theory and P[p]ublic A[a]dministration related innovation.                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                     | <b>Generic form</b>      | Extraordinary science that present novel inventions, novel theory and discipline related innovation.                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                     | <b>Coincidental form</b> | Extraordinary science that present unexpected intelligence to the discipline.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                     | <b>Essential form</b>    | Extraordinary science that present scientifically determined theoretically based intelligence to P[p]ublic A[a]dministration.                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                     | <b>Proximate form</b>    | Extraordinary science that present development in the scientifically determined theoretically based intelligence to P[p]ublic A[a]dministration.                                                                                                                                                                                                                                                                                                                                                                     |
|                                                     | <b>Remote form</b>       | Extraordinary science that present development in the scientifically determined theoretically based intelligence of an external scientific community.                                                                                                                                                                                                                                                                                                                                                                |
|                                                     | <b>Potential form</b>    | Extraordinary science present major scientific development in P[p]ublic A[a]dministration.                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                     | <b>Actual form</b>       | There is currently underactive scientific activity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Protective membrane</b>                          | <b>Specific form</b>     | <p>Present all the scientific theories that are relevant to P[p]ublic A[a]dministration.</p> <p>Present mechanism that sever a Paradigm from Quotidian science, should the Paradigm not offer sufficient support in solving phenomena, anomalies and <i>noumena</i> in P[p]ublic A[a]dministration.</p> <p>Present a Rheostat system that manages the equilibrium in P[p]ublic A[a]dministration as a science.</p> <p>Carries all the universally accepted theories of P[p]ublic A[a]dministration as a science.</p> |
|                                                     | <b>Generic form</b>      | <p>Present all the scientific theories that are relevant to a field of study.</p> <p>Present mechanism that sever a Paradigm from Quotidian science, should the Paradigm not offer sufficient support in solving phenomena, anomalies and <i>noumena</i> in a discipline and its practice.</p>                                                                                                                                                                                                                       |

| Public Administration as a science: Formal be-cause |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                        | Descriptors              | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                     |                          | <p>Present a Rheostat system that manages the equilibrium in field of study as a science.</p> <p>Carries all the universally accepted theories of a discipline and its practice.</p>                                                                                                                                                                                                                                                                                                                                 |
|                                                     | <b>Coincidental form</b> | Unknown, requires further research.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                     | <b>Essential form</b>    | <p>Present all the scientific theories that are relevant to P[p]ublic A[a]dministration.</p> <p>Present mechanism that sever a Paradigm from Quotidian science, should the Paradigm not offer sufficient support in solving phenomena, anomalies and <i>noumena</i> in P[p]ublic A[a]dministration.</p> <p>Present a Rheostat system that manages the equilibrium in P[p]ublic A[a]dministration as a science.</p> <p>Carries all the universally accepted theories of P[p]ublic A[a]dministration as a science.</p> |
|                                                     | <b>Proximate form</b>    | <p>Present all the scientific theories that are relevant to P[p]ublic A[a]dministration.</p> <p>Present mechanism that sever a Paradigm from Quotidian science, should the Paradigm not offer sufficient support in solving phenomena, anomalies and <i>noumena</i> in P[p]ublic A[a]dministration.</p> <p>Present a Rheostat system that manages the equilibrium in P[p]ublic A[a]dministration as a science.</p> <p>Carries all the universally accepted theories of P[p]ublic A[a]dministration as a science.</p> |
|                                                     | <b>Remote form</b>       | Unknown, requires further research.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                     | <b>Potential form</b>    | A carrier of P[p]ublic A[a]dministration scientifically validated theories, a Rheostat system within P[p]ublic A[a]dministration as a science and because there are no Paradigms in P[p]ublic A[a]dministration as a science, there is also no need to present the mechanisms that could sever such paradigms from the science of P[p]ublic A[a]dministration.                                                                                                                                                       |
|                                                     | <b>Actual form</b>       | Unknown, requires further research.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Nucleus</b>                                      | <b>Specific form</b>     | The Nucleus presents the Philosophy of P[p]ublic A[a]dministration as a science; as well as the History of P[p]ublic A[a]dministration a science.                                                                                                                                                                                                                                                                                                                                                                    |
|                                                     | <b>Generic form</b>      | The Nucleus presents the Philosophy of a science; as well as the History of a science.                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                     | <b>Coincidental form</b> | Unknown, requires further research.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                     | <b>Essential form</b>    | The Nucleus presents the Philosophy of P[p]ublic A[a]dministration as a science; as well as the History of P[p]ublic A[a]dministration a science.                                                                                                                                                                                                                                                                                                                                                                    |
|                                                     | <b>Proximate form</b>    | The Philosophy and the History of P[p]ublic A[a]dministration as a science.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                     | <b>Remote form</b>       | Unknown, requires further research.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                     | <b>Potential form</b>    | Unknown, requires further research.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Public Administration as a science: Formal be-cause |                   |                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                        | Descriptors       | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                                                                   |
|                                                     | Actual form       | Unknown, requires further research.                                                                                                                                                                                                                                                                         |
| Nucleus triads                                      | Specific form     | The Nucleus triads presents the philosophical bedrock of the science that includes comprehensive descriptions of the Teleology, Ontology, Epistemology, Methodology amongst others that respective fully describe and enlighten a distinct feature of P[public A[administration as a science.               |
|                                                     | Generic form      | The Nucleus triads presents the philosophical bedrock of the science that includes comprehensive descriptions of the Teleology, Ontology, Epistemology, Methodology amongst others that respective fully describe and enlighten a distinct feature of a science.                                            |
|                                                     | Coincidental form | Results that edge directions will deliver, i.e., the Teleology of the Ontology of P[public A[administration as a science and/or the Ontology of the Teleology of P[public A[administration as a science. Amongst others, these two variations will deliver very different scientific philosophical results. |
|                                                     | Essential form    | The Nucleus triads presents the philosophical bedrock of the science that includes comprehensive descriptions of the Teleology, Ontology, Epistemology, Methodology amongst others that respective fully describe and enlighten a distinct feature of P[public A[administration as a science.               |
|                                                     | Proximate form    | The Nucleus triads presents the philosophical bedrock of the science that includes comprehensive descriptions of the Teleology, Ontology, Epistemology, Methodology amongst others that respective fully describe and enlighten a distinct feature of P[public A[administration as a science.               |
|                                                     | Remote form       | The intelligence that may emanate from this knowledge will have an impact on closely related fields of study such as Politics, Sociology, Management sciences etc.                                                                                                                                          |
|                                                     | Potential form    | An expanded network of P[public A[administration knowledge triads that explicate the philosophical bedrock of the field of study and its practice.                                                                                                                                                          |
|                                                     | Actual form       | Currently, the surface of episteme that is available to an understanding of P[public A[administration has barely been scratched.                                                                                                                                                                            |

**Source:** Witt (2001:255); Couclelis (2009:4); Leunissen (2010:11); Kuhn (1962; 2012); and Hacking (2012)

The ultimate form that each of the afore included nodal entities has adopted reiterates or underscores the individuality of nodal entities in the anatomy of Public Administration as a science and similarly, the relatedness between nodal entities in Public Administration as a science. Each nodal entity in its unique teleological intent fulfils an inimitable purpose in the body of Public Administration as a science.

Table 3.7 follows by explicating the final purpose that each nodal entity fulfils beyond its final form and intent in the context of other nodal entities, and beyond Natural Teleology (Witt, 2001:255) towards Meta-physical Teleology as an abstract understanding of the intent that each nodal entity aims to achieve.

**Table 3.7 Final be-cause, “that for the sake of which”**

| Public Administration as a science: Final be-cause |                            |                                                                                                                                                                                                                                                                         |
|----------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                       | Descriptors                | Distinct elements that aim to illuminate the nodal entity                                                                                                                                                                                                               |
| Quotidian science                                  | Specific final purpose     | Scientific order in P[p]ublic A[a]dministration as a science.                                                                                                                                                                                                           |
|                                                    | Generic final purpose      | Scientific order.                                                                                                                                                                                                                                                       |
|                                                    | Coincidental final purpose | A recognition of the pluralistic range of influencers on P[p]ublic A[a]dministration as a science from varying variables to varying worldviews.                                                                                                                         |
|                                                    | Essential final purpose    | A recognition of the role that discipline specific theories, meta-theories, scientific laws, Philosophy of science; History of science, Knowledge triads, Methodology and a philosophical bedrock contribute to P[p]ublic A[a]dministration as a science.               |
|                                                    | Proximate final purpose    | Discipline related theory development.                                                                                                                                                                                                                                  |
|                                                    | Remote final purpose       | Theoretical contributions to sciences in the external world to P[p]ublic A[a]dministration as a science.                                                                                                                                                                |
|                                                    | Potential final purpose    | Requires additional research to make a conclusive inference.                                                                                                                                                                                                            |
|                                                    | Actual final purpose       | Requires additional research to make a conclusive inference.                                                                                                                                                                                                            |
| Paradigm/s                                         | Specific final purpose     | A paradigm/s that informs not only Quotidian science but also scientists of P[p]ublic A[a]dministration about the meta-physical, sociological and artefact or construct sense descriptions and a vivid recognition of the paradigm/s position in a revolutionary cycle. |
|                                                    | Generic final purpose      | A deeply embedded connection between a science and the properties of the paradigm/s and the manner in which it influences an interpretation of the philosophical and historical description of a science.                                                               |
|                                                    | Coincidental final purpose | The spectrum of worldviews, theological and philosophical and how it influences the ultimate interpretation of research results.                                                                                                                                        |
|                                                    | Essential final purpose    | P[p]ublic A[a]dministration as a science is directed by a recognised paradigm.                                                                                                                                                                                          |
|                                                    | Proximate final purpose    | P[p]ublic A[a]dministration as a science is directed by a recognised paradigm.                                                                                                                                                                                          |
|                                                    | Remote final purpose       | A guide to sciences beyond P[p]ublic A[a]dministration as a science.                                                                                                                                                                                                    |

| Public Administration as a science: Final be-cause |                            |                                                                                                                    |
|----------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                       | Descriptors                | Distinct elements that aim to illuminate the nodal entity                                                          |
|                                                    | Potential final purpose    | Requires additional research to make a conclusive inference.                                                       |
|                                                    | Actual final purpose       | Requires additional research to make a conclusive inference.                                                       |
| Extraordinary science                              | Specific final purpose     | Novel inventions, novel theory, novel meta-theories in P[p]ublic A[a]dministration as a science.                   |
|                                                    | Generic final purpose      | Novel inventions, novel theories and meta-theories as well as discipline related innovation.                       |
|                                                    | Coincidental final purpose | Unexpected intelligence to the discipline is presented.                                                            |
|                                                    | Essential final purpose    | Scientifically determined theoretically based intelligence to P[p]ublic A[a]dministration.                         |
|                                                    | Proximate final purpose    | Development in the scientifically determined theoretically based intelligence to P[p]ublic A[a]dministration.      |
|                                                    | Remote final purpose       | Development in the scientifically determined theoretically based intelligence of an external scientific community. |
|                                                    | Potential final purpose    | Requires additional research to make a conclusive inference.                                                       |
|                                                    | Actual final purpose       | Requires additional research to make a conclusive inference.                                                       |
| Protective membrane                                | Specific final purpose     | Enable future scientific problem solving in P[p]ublic A[a]dministration as a science.                              |
|                                                    | Generic final purpose      | Enable future scientific problem solving in a science.                                                             |
|                                                    | Coincidental final purpose | Unknown, requires further research.                                                                                |
|                                                    | Essential final purpose    | Enable future scientific problem solving in a science.                                                             |
|                                                    | Proximate final purpose    | Enable future scientific problem solving in P[p]ublic A[a]dministration as a science.                              |
|                                                    | Remote final purpose       | Unknown, requires further research.                                                                                |
|                                                    | Potential final purpose    | Requires additional research to make a conclusive inference.                                                       |
|                                                    | Actual final purpose       | Requires additional research to make a conclusive inference.                                                       |
| Nucleus                                            | Specific final purpose     | Presents the wisdom and history of P[p]ublic A[a]dministration a science.                                          |
|                                                    | Generic final purpose      | Presents the wisdom and history of a science.                                                                      |

| Public Administration as a science: Final be-cause |                            |                                                                                                                           |
|----------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Nodal entity                                       | Descriptors                | Distinct elements that aim to illuminate the nodal entity                                                                 |
|                                                    | Coincidental final purpose | Unknown, requires further research.                                                                                       |
|                                                    | Essential final purpose    | Presents the wisdom and history of P[public A[administration a science.                                                   |
|                                                    | Proximate final purpose    | The Philosophy and the History of P[public A[administration as a science.                                                 |
|                                                    | Remote final purpose       | Unknown, requires further research.                                                                                       |
|                                                    | Potential final purpose    | Unknown, requires further research.                                                                                       |
|                                                    | Actual final purpose       | Unknown, requires further research.                                                                                       |
| Nucleus triads                                     | Specific final purpose     | The philosophical bedrock of P[public A[administration as a science, directs this field of study in meta-physical wisdom. |
|                                                    | Generic final purpose      | The philosophical bedrock of a science, directs the field of study in meta-physical wisdom.                               |
|                                                    | Coincidental final purpose | Unknown, requires further research.                                                                                       |
|                                                    | Essential final purpose    | Unknown, requires further research.                                                                                       |
|                                                    | Proximate final purpose    | Unknown, requires further research.                                                                                       |
|                                                    | Remote final purpose       | Unknown, requires further research.                                                                                       |
|                                                    | Potential final purpose    | A metaphysical description of P[public A[administration as a science.                                                     |
|                                                    | Actual be-cause            | Unknown, requires further research.                                                                                       |

**Source:** Witt (2001:255); Couclelis (2009:4); Leunissen (2010:11); Kuhn (1962; 2012); and Hacking (2012)

Emanating from Table 3.7 are the dominating final teleological intents that reveals a minimalistic structure behind the purpose of having a science in a field of study. The minimalist final purpose of Quotidian science is noted as that it instils order in the field of study as science is practised in a discipline against a range of influencers that varies from variables to worldviews, theories, meta-theories, scientific laws, instruments, the discipline's philosophy and history of science as well as a philosophical bedrock in an attempt to establish scientific solutions to phenomena, anomalies and *noumena*. Quotidian science's final purpose includes a distinct contribution towards discipline related theory development. The final purpose and as such answer to the question why a science should include a paradigm or paradigms in its anatomy reveals that a paradigm is not only of quintessential significance to direct Quotidian science, a paradigm also presents a deeply embedded connection between the properties of

a paradigm and the manner in which scientific results are interpreted, which is confirmed by Gruening (2001:1 – 25). The final purpose of Extraordinary science is to demonstrate the critical importance of novel, discipline related inventions, theories, meta-theories, unexpected scientifically determined theoretical intelligence in the developmental process of a field of study's science. The teleological intent of the Protective Membrane is found in the enabling position that it establishes for the field of study's science to fulfil its most prominent role, which is to establish theories and meta-theories and to solve phenomena, anomalies and *noumena* herewith. The Protective Membrane thus enables a science to practice science within the parameters of its scientific laws and theories. The final purpose of the Nucleus as nodal entity in the anatomy of a science is to enlighten scientific practices within the field of study with the Philosophy and History of the science. The Nucleus triads present a series of triangles that display an enormous potential for theory development in a field of study, but the most primary teleological intent of the Nucleus triads is to present the field of study with a particular anchor or philosophical bedrock.

Against the backdrop of a synopsis of a science's final teleological purpose, it could therefore be inferred that the final teleological intent of P[ublic] A[dministration] as a science, to which the latter is but one of this discipline's ontic expressions would want to include Quotidian science into the anatomical description of its science, since the very essence of Quotidian science effects order in the academic discipline and it sets the tone which outlines the strictures within which science in the discipline is practiced. Hereto such scientific practice will contribute largely towards P[ublic] A[dministration]'s theory development. The teleological intent behind an inclusion of a paradigm in Public Administration as a science's anatomy, pivots on both the quintessential significance of a paradigm that directs Quotidian science, and a deeply embedded connection between the properties of a paradigm and the manner in which scientific results are interpreted against varying worldviews. The teleological intent of Extraordinary science in the anatomy of P[ublic] A[dministration] as a science is to demonstrate the critical importance of novel, discipline related inventions, theories, meta-theories, unexpected scientifically determined theoretical intelligence in the developmental process of a field of study's science. The teleological intent of the Protective Membrane in P[ublic] A[dministration] as a science, is found in the enabling position that it establishes for this field of study's science to fulfil its most prominent role, which is to establish theories, meta-theories and to solve phenomena, anomalies and *noumena*. The Protective Membrane in the corporeal morphology of P[ublic] A[dministration] as a science enables this science to practice science within the parameters of its own scientific laws and theories. The final purpose of the Nucleus in Public Administration as a science and as nodal entity in the anatomy of a science, is to enlighten scientific practices within the field of study with the Philosophy and



History of the science. The Nucleus triads of P[p]ublic A[a]dministration as a science present a series of triangles that display an enormous potential for theory development in this field of study, but the most primary teleological intent of the Nucleus triads is to present the field of study with a particular anchor or philosophical bedrock.

In the context of the material, the efficient or moving, the formal and the final purposes as teleological descriptions to P[p]ublic A[a]dministration as a science, the process of hylomorphism plays a significant role in the transformation of matter into form. In other words, from the 'out of which' to the 'by means of what?' to 'what is it to be?'. Tables 3.8 – 3.13 accentuates the process of hylomorphism respectively amongs Quotidian science, A Paradigm/s, Extraordinary science, The Protective Membrane, the Nucleus and the Nucleus triads as nodal entities in the corporeal morphology of a science. Table 3.8 provides a synopsis of the teleological intent of Quotidian science within the anatomy of Public Administration as a science.

**Table 3.8: The teleological intent of Quotidian science within the anatomy of Public Administration as a science**

| The teleological intent of Public Administration as a science |                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               | Hylomorphism                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                          | Final be-cause                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                               | Matter                                                                                                                                                                                                                                                                                                                                                                     | into                                                                                                                                                                                                                                                                                                                                                         | form                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                               | Material be-cause                                                                                                                                                                                                                                                                                                                                                          | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                 | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                               |                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Quotidian science</b>                                      | <ul style="list-style-type: none"> <li>▪ Tradition bound logical reasoning; Receptor of phenomena, anomalies and noumena that emanate from both an external and an internal environment to the discipline's science; Statistical methods; experimental templates; a scientific methodology; Instruments, scientific gauges and tools, that all stem from one or</li> </ul> | <ul style="list-style-type: none"> <li>▪ Skills and competence of the discipline itself; scientific research and methodology that related to the discipline. Problem solving skills.</li> <li>▪ Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-</li> </ul> | <ul style="list-style-type: none"> <li>▪ A tradition bound entity that presents solutions to phenomena, anomalies and noumena, posed by the external worlds to both P[p]ublic A[a]dministration, in which the entity is directed by the meta-physical, sociological and artefact or construct senses within discipline related paradigm/s, to which Quotidian science is founded on P[p]ublic</li> </ul> | <ul style="list-style-type: none"> <li>▪ Scientific order in P[p]ublic A[a]dministration as a science.</li> <li>▪ Scientific order.</li> <li>▪ A recognition of the pluralistic range of influencers on P[p]ublic A[a]dministration as a science from varying variables to varying worldviews.</li> <li>▪ A recognition of the role that discipline specific theories, metat-theories,</li> </ul> |

# The teleological intent of Public Administration as a science

| Hylomorphism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Matter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Material be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Final be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>more paradigms and that is based on protective membrane in the process of solving P[p]ublic A[a]dministration phenomena, anomalies and noumena. Scientific theories of P[p]ublic A[a]dministration. In many instances, the afore mentioned remain to be unknown in P[p]ublic A[a]dministration.</p> <ul style="list-style-type: none"> <li>Logical reasoning; Receptor of phenomena, anomalies and noumena that emanate from both an external and an internal environment to the discipline's science; Statistical methods; experimental templates; a scientific methodology; Instruments, scientific gauges and tools, that all stem from one or more paradigms and that is based on protective membrane in the process of solving discipline related</li> </ul> | <p>theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</p> <ul style="list-style-type: none"> <li>Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.</li> <li>Deep knowledge of the essence, the purpose and the functioning of a paradigm/s in the specific field of study in its meta-physical, sociological and artefact or construct senses.</li> <li>Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.</li> <li>Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences;</li> </ul> | <p>A[a]dministration as a science's Protective Membrane, Nucleus and Nucleus triads.</p> <ul style="list-style-type: none"> <li>Tradition bound scientific practice that includes research and the application of scientifically founded research methodology.</li> <li>May present methods and theories to solve other phenomena, anomalies and noumena.</li> <li>Contribution to the discipline's order and theory development</li> <li>Novel insight into longstanding phenomena, anomalies and noumena.</li> <li>May present insight into phenomena, anomalies and noumena that disciplines in the external environment to Public Administration as a science present, and contribute to the theory of other disciplines.</li> <li>May present solutions to future</li> </ul> | <p>scientific laws, Philosophy of science; History of science, Knowledge triads, Methodology and a philosophical bedrock contribute to P[p]ublic A[a]dministration as a science.</p> <ul style="list-style-type: none"> <li>Discipline related theory development.</li> <li>Theoretical contributions to sciences in the external world to P[p]ublic A[a]dministration as a science.</li> <li>Requires additional research to make a conclusive inference.</li> <li>Requires additional research to make a conclusive inference.</li> </ul> |

| The teleological intent of Public Administration as a science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                        |                                                                                                                                                            |                |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|
| Hylomorphism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                        |                                                                                                                                                            |                |  |
| Matter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | into                                                                                                                                                                                                                                                                                                   | form                                                                                                                                                       |                |  |
| Material be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Efficient or Moving<br>be-cause                                                                                                                                                                                                                                                                        | Formal be-cause                                                                                                                                            | Final be-cause |  |
| <div></div> <p>phenomena, anomalies and noumena. Scientific theories to the field of study. In many instances, the afore mentioned remain to be unknown.</p> <ul style="list-style-type: none"> <li>▪ Dissimilar variables; dissimilar theological worldviews and philosophical presuppositions.</li> <li>▪ The field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.</li> <li>▪ Relevant theories from related sciences such as Politics; Policy studies; Sociology; Philosophy; Anthropology; History; Psychology; and Management Sciences, etc.</li> <li>▪ Comprehensive descriptions of all the ontic expressions of the field of study which is in this</li> </ul> | <p>Knowledge and insight into the external world of practice.</p> <ul style="list-style-type: none"> <li>▪ Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.</li> <li>▪ All of the above.</li> </ul> | <p>phenomena, anomalies and noumena.</p> <ul style="list-style-type: none"> <li>▪ May present areas of novel research.</li> <li>▪ All the above</li> </ul> |                |  |

| The teleological intent of Public Administration as a science |                                                                                                                                                                                                                                                                                                                                                                            |                              |                 |                |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------|----------------|
|                                                               | Hylomorphism                                                                                                                                                                                                                                                                                                                                                               |                              |                 |                |
|                                                               | Matter                                                                                                                                                                                                                                                                                                                                                                     | into                         | form            |                |
|                                                               | Material be-cause                                                                                                                                                                                                                                                                                                                                                          | Efficient or Moving be-cause | Formal be-cause | Final be-cause |
|                                                               | <p>case is the science, the art and the craft of P[p]ublic A[a]dministration.</p> <ul style="list-style-type: none"> <li>Field of studies related to the Natural Sciences and Engineering. Elements from the external environment to P[p]ublic A[a]dministration as a science.</li> <li>Unique to every study undertaken</li> <li>Largely unexplored landscape.</li> </ul> |                              |                 |                |

**Source:** Witt (2001:255); Couclelis (2009:4); Kuhn (1962; 2012); and Hacking (2012)

A synopsis of the process of hylomorphism as well as a precis of the final purpose in Quotidian science presented in Table 3.8 leads the study to a brief outline of the teleological intent of a Paradigm/s within the anatomy of Public Administration as a science, presented in Table 3.9 that follows.

**Table 3.9: The teleological intent of a Paradigm/s within the anatomy of Public Administration as a science**

| The teleological intent of Public Administration as a science |                                                                                                                                                |                                                                                                                                                       |                                                                                                                                       |                                                                                                                                                           |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               | Hylomorphism                                                                                                                                   |                                                                                                                                                       |                                                                                                                                       |                                                                                                                                                           |
|                                                               | Matter                                                                                                                                         | into                                                                                                                                                  | form                                                                                                                                  |                                                                                                                                                           |
|                                                               | Material be-cause                                                                                                                              | Efficient or Moving be-cause                                                                                                                          | Formal be-cause                                                                                                                       | Final be-cause                                                                                                                                            |
| Paradigm/s                                                    | <ul style="list-style-type: none"> <li>Meta-physical sense; Sociological sense; Artefact or Construct sense; present an exemplum/s.</li> </ul> | <ul style="list-style-type: none"> <li>Skills and competence of the discipline itself; scientific research and scientific methodology that</li> </ul> | <ul style="list-style-type: none"> <li>A scientific Paradigm/s that presents exemplums against which Quotidian science can</li> </ul> | <ul style="list-style-type: none"> <li>A paradigm/s that informs not only Quotidian science but also scientists of P[p]ublic A[a]dministration</li> </ul> |

# The teleological intent of Public Administration as a science

| Hylomorphism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Matter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Material be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Final be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</li> <li>Novel phenomena, anomalies and noumena that renders the paradigm/s incapable of addressing scientific questions and which has as a result, a revolutionary process that follows towards the establishment of a new paradigm.</li> <li>Field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.</li> <li>Meta-physical sense; Sociological sense; Artefact or Construct sense;</li> </ul> | <ul style="list-style-type: none"> <li>related to the discipline. Skills and competence in the meta-physical, sociological and artefact or construct sense of a paradigm.</li> <li>Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</li> <li>Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.</li> <li>Deep knowledge of the essence, the purpose and the functioning of a paradigm/s in the specific field of study in its meta-physical, sociological and artefact or construct senses.</li> </ul> | <ul style="list-style-type: none"> <li>function; and that display a meta-physical, sociological and artefact or construct sense description. The Paradigm is encased in a cycle that reflects the effectiveness of the Paradigm itself against the potential to offer a tradition of problem solving, and as such may even reflect as anywhere in the cycle of a scientific revolution.</li> <li>A meta-physical, sociological and artefact or construct description that guides Quotidian science in its practice.</li> <li>May present as more than one paradigm at a particular moment in time, particular in the social sciences.</li> <li>At least one meta-physical, sociological and artefact or construct description that directs Quotidian</li> </ul> | <ul style="list-style-type: none"> <li>about the meta-physical, sociological and artefact or construct sense descriptions and a vivid recognition of the paradigm/s position in a revolutionary cycle.</li> <li>A deeply embedded connection between a science and the properties of the paradigm/s and the manner in which it influences an interpretation of the philosophical and historical description of a science.</li> <li>The spectrum of worldviews, theological and philosophical and how it influences the ultimate interpretation of research results.</li> <li>P[public Administration as a science is directed by a recognised paradigm.</li> <li>P[public Administration</li> </ul> |

| The teleological intent of Public Administration as a science                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                      |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Hylomorphism                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                      |      |
| Matter                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                      | form |
| Material be-cause                                                                                                                                                                                                                                                                                    | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Final be-cause                                                                                                                                                                                                                                                                                                                       |      |
| <ul style="list-style-type: none"> <li>present an exemplum/s.</li> <li>▪ Shift in zeitgeist; transformation in globally dominant scientific and philosophical presuppositions.</li> <li>▪ Scientific revolution; Paradigm shift; New paradigm/s.</li> <li>▪ Largely unexplored landscape.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.</li> <li>▪ Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences;</li> <li>Knowledge and insight into the external world of practice.</li> <li>▪ Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.</li> <li>▪ All of the above.</li> </ul> | <ul style="list-style-type: none"> <li>science to achieve its objectives.</li> <li>▪ May present the field of study's first fully fledged paradigm.</li> <li>▪ The Paradigm may guide sciences in the external environment to the field of study to solve phenomena, anomalies and noumena.</li> <li>▪ A fully fledged Paradigm/s that effectively and efficiently support Quotidian scientists to solve phenomena, anomalies and noumena in the discipline.</li> <li>▪ All the above.</li> </ul> | <ul style="list-style-type: none"> <li>as a science is directed by a recognised paradigm.</li> <li>▪ A guide to sciences beyond P[p]ublic A[a]dministration as a science.</li> <li>▪ Requires additional research to make a conclusive inference.</li> <li>▪ Requires additional research to make a conclusive inference.</li> </ul> |      |

**Source:** Masterman (1970); Witt (2001:255); Couclelis (2009:4); Leunissen (2010:11); Kuhn (1962; 2012); and Hacking (2012)

Table 3.9 presented a summary of the process of hylomorphism notable in a Paradigm as nodal entity in the corporeal morphology of a science. Table 3.10 thus follows by highlighting the teleological intent of Extraordinary science within the anatomy of Public Administration as a science.

**Table 3.10: The teleological intent of Extraordinary science within the anatomy of Public Administration as a science**

| The teleological intent of Public Administration as a science |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               | Hylomorphism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                               | Matter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                               | Material be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Final be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Extraordinary science                                         | <ul style="list-style-type: none"> <li>▪ Tradition shattering logical reasoning, receptors of phenomena, anomalies and noumena that emanate from both an external and an internal environment to the discipline's science, statistical methods, experimental templates, a scientific methodology, instruments, scientific gauges and tools, in the process of solving P[p]ublic A[a]dministration phenomena, anomalies and noumena. Scientific theories of P[p]ublic A[a]dministration. In many instances, the afore mentioned remain to be unknown in P[p]ublic A[a]dministration.</li> <li>▪ Novel circumstances.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Skills and competence of the discipline itself; scientific research and scientific methodology that related to the discipline. Innovation skills.</li> <li>▪ Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</li> <li>▪ Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.</li> <li>▪ Deep knowledge of the essence,</li> </ul> | <ul style="list-style-type: none"> <li>▪ Extraordinary science that present novel inventions, novel theory and P[p]ublic A[a]dministration related innovation.</li> <li>▪ Extraordinary science that present novel inventions, novel theory and discipline related innovation.</li> <li>▪ Extraordinary science that present unexpected intelligence to the discipline.</li> <li>▪ Extraordinary science that present scientifically determined theoretically based intelligence to P[p]ublic A[a]dministration.</li> <li>▪ Extraordinary science that present development in the scientifically determined theoretically based intelligence to</li> </ul> | <ul style="list-style-type: none"> <li>▪ Novel inventions, novel theory, novel meta-theories in P[p]ublic A[a]dministration as a science.</li> <li>▪ Novel inventions, novel theories and meta-theories as well as discipline related innovation.</li> <li>▪ Unexpected intelligence to the discipline is presented.</li> <li>▪ Scientifically determined theoretically based intelligence to P[p]ublic A[a]dministration.</li> <li>▪ Development in the scientifically determined theoretically based intelligence of an external scientific community.</li> </ul> |

# The teleological intent of Public Administration as a science

| Hylomorphism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Matter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | form                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                          |
| Material be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                      | Final be-cause                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>▪ Novel ideas and novel forms of research.</li> <li>▪ Knowledge of the field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.</li> <li>▪ Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads.</li> <li>▪ All the ontic expressions of the field of study which is in this case the art and craft of Public Administration.</li> <li>▪ Theories from other academic disciplines.</li> <li>▪ Undetermined until invention occurs.</li> <li>▪ Largely unexplored landscape.</li> </ul> | <ul style="list-style-type: none"> <li>the purpose and the functioning of a paradigm/s in the specific field of study in its meta-physical, sociological and artefact or construct senses.</li> <li>▪ Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.</li> <li>▪ Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences; Knowledge and insight into the external world of practice.</li> <li>▪ Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary</li> </ul> | <ul style="list-style-type: none"> <li>P[p]ublic A[a]dministration.</li> <li>▪ Extraordinary science that present development in the scientifically determined theoretically based intelligence of an external scientific community.</li> <li>▪ Extraordinary science present major scientific development in P[p]ublic A[a]dministration.</li> <li>▪ There is currently underactive scientific activity.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Requires additional research to make a conclusive inference.</li> <li>▪ Requires additional research to make a conclusive inference.</li> </ul> |



| The teleological intent of Public Administration as a science |                                                                                                                           |                 |                |  |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|--|
| Hylomorphism                                                  |                                                                                                                           |                 |                |  |
| Matter                                                        | into                                                                                                                      | form            |                |  |
| Material be-cause                                             | Efficient or Moving be-cause                                                                                              | Formal be-cause | Final be-cause |  |
|                                                               | <ul style="list-style-type: none"> <li>research initiatives may manifest as result.</li> <li>All of the above.</li> </ul> |                 |                |  |

**Source:** Witt (2001:255); Leunissen (2010:11); Kuhn (1962; 2012); and Hacking (2012)

The process of hylomorphism as well as a summation of the final purpose of Extraordinary science presented in Table 3.10 leads the study to a brief outline in Table 3.11 of the teleological intent of a Protective membrane within the anatomy of Public Administration as a science.

**Table 3.11 The teleological intent of a Protective membrane within the anatomy of Public Administration as a science**

| The teleological intent of Public Administration as a science                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                        |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Hylomorphism                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                        |  |
| Matter                                                                                                                                                                                                                                                                                                                                                                                  | into                                                                                                                                                                                                                                                                                                                                  | form                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                        |  |
| Material be-cause                                                                                                                                                                                                                                                                                                                                                                       | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                          | Formal be-cause                                                                                                                                                                                                                                                                                                                               | Final be-cause                                                                                                                                                                                                                                                                                                                                         |  |
| <b>Protective membrane</b> <ul style="list-style-type: none"> <li>Field of study's theories; 'Rheostat system' to keep P[p]ublic A[a]dministration as a science in a state of equilibrium; Mechanisms that severs paradigms from quotidian science, should such paradigms no longer direct the quotidian science.</li> <li>Field of study's theories; scientific laws; meta-</li> </ul> | <ul style="list-style-type: none"> <li>Skills and competence of the discipline itself; scientific research and scientific methodology that related to the discipline.</li> <li>Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws;</li> </ul> | <ul style="list-style-type: none"> <li>Present all the scientific theories that are relevant to P[p]ublic A[a]dministration.</li> <li>Present mechanism that sever a Paradigm from Quotidian science, should the Paradigm not offer sufficient support in solving phenomena, anomalies and noumena in P[p]ublic A[a]dministration.</li> </ul> | <ul style="list-style-type: none"> <li>Enable future scientific problem solving in P[p]ublic A[a]dministration as a science.</li> <li>Enable future scientific problem solving in a science.</li> <li>Unknown, requires further research.</li> <li>Enable future scientific problem solving in a science.</li> <li>Enable future scientific</li> </ul> |  |

The teleological intent of Public Administration as a science

| Hylomorphism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Matter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                         |
| Material be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Final be-cause                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology, a 'Rheostat system' to keep the science in a state of equilibrium; mechanism that severs quotidian science from a paradigm.</li> <li>-</li> <li>Field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.</li> <li>All the ontic expressions of the field of study which is in this case the art and craft of Public Administration.</li> <li>-</li> <li>-</li> </ul> | <ul style="list-style-type: none"> <li>meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</li> <li>Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.</li> <li>Deep knowledge of the essence, the purpose and the functioning of the various theories and mechanisms that are present in the specific field of study.</li> <li>Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.</li> <li>Knowledge and insight into the presence of the protective membrane in each nodal entity in the anatomy of a science and its</li> </ul> | <ul style="list-style-type: none"> <li>Present a Rheostat system that manages the equilibrium in P[p]ublic A[a]dministration as a science.</li> <li>Carries all the universally accepted theories of P[p]ublic A[a]dministration as a science.</li> <li>Present all the scientific theories that are relevant to a field of study.</li> <li>Present mechanism that sever a Paradigm from Quotidian science, should the Paradigm not offer sufficient support in solving phenomena, anomalies and noumena in a discipline and its practice.</li> <li>Present a Rheostat system that manages the equilibrium in field of study as a science.</li> <li>Carries all the universally accepted theories of a discipline and its practice.</li> <li>Unknown, requires further research.</li> </ul> | <ul style="list-style-type: none"> <li>problem solving in P[p]ublic A[a]dministration as a science.</li> <li>Unknown, requires further research.</li> <li>Requires additional research to make a conclusive inference.</li> <li>Requires additional research to make a conclusive inference.</li> </ul> |

| The teleological intent of Public Administration as a science |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Hylomorphism                                                  |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |
| Matter                                                        | into                                                                                                                                                                                                                                                                     | form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |
| Material be-cause                                             | Efficient or Moving be-cause                                                                                                                                                                                                                                             | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Final be-cause |
|                                                               | <ul style="list-style-type: none"> <li>relation to that nodal entity.</li> <li>Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.</li> <li>All of the above.</li> </ul> | <ul style="list-style-type: none"> <li>Present all the scientific theories that are relevant to P[public Administration.</li> <li>Present mechanism that sever a Paradigm from Quotidian science, should the Paradigm not offer sufficient support in solving phenomena, anomalies and noumena in P[public Administration.</li> <li>Present a Rheostat system that manages the equilibrium in P[public Administration as a science.</li> <li>Carries all the universally accepted theories of P[public Administration as a science.</li> <li>Present all the scientific theories that are relevant to P[public Administration.</li> <li>Present mechanism that sever a Paradigm from Quotidian science, should the Paradigm not offer sufficient support in solving phenomena,</li> </ul> |                |

| The teleological intent of Public Administration as a science |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |
|---------------------------------------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Hylomorphism                                                  |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |
| Matter                                                        | into                            | form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                |
| Material be-cause                                             | Efficient or Moving<br>be-cause | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Final be-cause |
|                                                               |                                 | <p>anomalies and noumena in P[p]ublic A[a]dministration.</p> <ul style="list-style-type: none"> <li>▪ Present a Rheostat system that manages the equilibrium in P[p]ublic A[a]dministration as a science.</li> <li>▪ Carries all the universally accepted theories of P[p]ublic A[a]dministration as a science.</li> <li>▪ Unknown, requires further research.</li> <li>▪ A carrier of P[p]ublic A[a]dministration scientifically validated theories, a Rheostat system within P[p]ublic A[a]dministration as a science and because there are no Paradigms in P[p]ublic A[a]dministration as a science, there is also no need to present the mechanisms that could sever such paradigms from the science of P[p]ublic A[a]dministration.</li> </ul> |                |

| The teleological intent of Public Administration as a science |                              |                                                                                       |                |  |
|---------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------|----------------|--|
| Hylomorphism                                                  |                              |                                                                                       |                |  |
| Matter                                                        | into                         | form                                                                                  |                |  |
| Material be-cause                                             | Efficient or Moving be-cause | Formal be-cause                                                                       | Final be-cause |  |
|                                                               |                              | <ul style="list-style-type: none"> <li>Unknown, requires further research.</li> </ul> |                |  |

**Source:** Lakatos (1978); Witt (2001:255); and Leunissen (2010:11)

Table 3.11 presented the process of hylomorphism in the Protective Membrane of Public Administration as a science, as well as the final purpose to this nodal entity. Table 3.12 that follows presents the teleological intent of a Nucleus within the anatomy of Public Administration as a science.

**Table 3.12: The teleological intent of a Nucleus within the anatomy of Public Administration as a science**

| The teleological intent of Public Administration as a science |                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hylomorphism                                                  |                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                  |
| Matter                                                        | into                                                                                                                                                                                                                                                                                                                                                                                                      | form                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                  |
| Material be-cause                                             | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                              | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                        | Final be-cause                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Nucleus</b>                                                | <ul style="list-style-type: none"> <li>The Philosophy of science; the History of science</li> <li>Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</li> <li>-</li> <li>Field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and</li> </ul> | <ul style="list-style-type: none"> <li>Skills and competence of the discipline itself; scientific research and methodology that related to the discipline. The Philosophy and the History of the science within an academic discipline.</li> <li>Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories;</li> </ul> | <ul style="list-style-type: none"> <li>The Nucleus presents the Philosophy of P[p]ublic A[a]dministration as a science; as well as the History of P[p]ublic A[a]dministration a science.</li> <li>The Nucleus presents the Philosophy of a science; as well as the History of a science.</li> <li>Unknown, requires further research.</li> <li>The Nucleus presents the Philosophy of</li> </ul> | <ul style="list-style-type: none"> <li>The Nucleus presents the Philosophy of P[p]ublic A[a]dministration as a science; as well as the History of P[p]ublic A[a]dministration a science.</li> <li>The Nucleus presents the Philosophy of a science; as well as the History of a science.</li> <li>Unknown, requires further research.</li> <li>The Nucleus presents the Philosophy of</li> </ul> |

| The teleological intent of Public Administration as a science                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                               |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Hylomorphism                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                               |  |
| Matter                                                                                                                                                                                                                                      | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | form                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                               |  |
| Material be-cause                                                                                                                                                                                                                           | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Formal be-cause                                                                                                                                                                                                                                                                                                                                                               | Final be-cause                                                                                                                                                                                                                                                                                                                                                                |  |
| <p>Knowledge triads, Methodology, philosophical bedrock.</p> <ul style="list-style-type: none"> <li>All the ontic expressions of the field of study which is in this case the art and craft of Public Administration.</li> <li>-</li> </ul> | <p>scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</p> <ul style="list-style-type: none"> <li>Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.</li> <li>Deep knowledge of the essence, the purpose and the functioning of the nucleus as it is present in each nodal entity of a science, and as such has a deep influence on all nodal entities.</li> <li>Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.</li> <li>Knowledge and insight into disciplines that subsist in the field of study's external world such as other</li> </ul> | <p>P[public] Administration as a science; as well as the History of P[public] Administration a science.</p> <ul style="list-style-type: none"> <li>The Philosophy and the History of P[public] Administration as a science.</li> <li>Unknown, requires further research.</li> <li>Unknown, requires further research.</li> <li>Unknown, requires further research.</li> </ul> | <p>P[public] Administration as a science; as well as the History of P[public] Administration a science.</p> <ul style="list-style-type: none"> <li>The Philosophy and the History of P[public] Administration as a science.</li> <li>Unknown, requires further research.</li> <li>Unknown, requires further research.</li> <li>Unknown, requires further research.</li> </ul> |  |

| The teleological intent of Public Administration as a science |                   |                                                                                                                                                                                                                                                                                                                                     |                 |                |
|---------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|
|                                                               | Hylomorphism      |                                                                                                                                                                                                                                                                                                                                     |                 |                |
|                                                               | Matter            | into                                                                                                                                                                                                                                                                                                                                | form            |                |
|                                                               | Material be-cause | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                        | Formal be-cause | Final be-cause |
|                                                               |                   | <ul style="list-style-type: none"> <li>social and management sciences; Knowledge and insight into the external world of practice</li> <li>Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.</li> <li>All of the above.</li> </ul> |                 |                |

**Source:** Witt (2001:255); Leunissen (2010:11); Kuhn (1962; 2012); and Hacking (2012)

Table 3.12 presented a synopsis of the process of hylomorphism and the final purpose of the Nucleus as nodal entity in the corporeal morphology of Public Administration as a science. Hereto, Table 3.13 follows by outlining the teleological intent of the Nucleus triads within the anatomy of Public Administration as a science.

**Table 3.13: The teleological intent of the Nucleus triads within the anatomy of Public Administration as a science**

| The teleological intent of Public Administration as a science |                                                                                                                |                                                                                                                           |                                                                                                            |                                                                                                            |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|                                                               | Hylomorphism                                                                                                   |                                                                                                                           |                                                                                                            |                                                                                                            |
|                                                               | Matter                                                                                                         | into                                                                                                                      | form                                                                                                       |                                                                                                            |
|                                                               | Material be-cause                                                                                              | Efficient or Moving be-cause                                                                                              | Formal be-cause                                                                                            | Final be-cause                                                                                             |
|                                                               |                                                                                                                |                                                                                                                           |                                                                                                            |                                                                                                            |
| <b>Nucleus triads</b>                                         | <ul style="list-style-type: none"> <li>Philosophy; Meta-physics, Teleology; Ontology; Epistemology;</li> </ul> | <ul style="list-style-type: none"> <li>Skills and competence of the discipline itself; scientific research and</li> </ul> | <ul style="list-style-type: none"> <li>The philosophical bedrock of P[p]ublic A[a]dministration</li> </ul> | <ul style="list-style-type: none"> <li>The philosophical bedrock of P[p]ublic A[a]dministration</li> </ul> |

The teleological intent of Public Administration as a science

| Hylomorphism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Matter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Material be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Efficient or Moving be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Formal be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Final be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Methodology; Axiology; Ikanology etc.</li> <li>Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</li> <li>Novel theories.</li> <li>Field of study's theories; scientific laws; meta-theories; Philosophy of science; History of science and Knowledge triads, Methodology, philosophical bedrock.</li> <li>All the ontic expressions of the field of study which is in this case the art and craft of Public Administration.</li> <li>The effects that transformation and change in an external landscape have on the individual entities in the knowledge triads.</li> <li>Theoretical bases.</li> </ul> | <ul style="list-style-type: none"> <li>scientific methodology that related to the discipline. Skills and competence of all the knowledge triads, the specific properties of the knowledge triads, the theories that emanate from these triads and the theory development that these triads manifest.</li> <li>Research skills; What constructs a theory; What constructs a meta-theory; Research methodology; Field of study's theories; scientific laws; meta-theories; Paradigm/s; Philosophy of science; History of science; and Knowledge triads; scientific methodology.</li> <li>Skills, knowledge and insight into properties that subsist in the external worlds to both the discipline and its practice.</li> <li>Deep knowledge of the essence,</li> </ul> | <ul style="list-style-type: none"> <li>as a science, directs this field of study in meta-physical wisdom.</li> <li>The philosophical bedrock of a science, directs the field of study in meta-physical wisdom.</li> <li>Unknown, requires further research.</li> <li>Unknown, requires further research.</li> <li>Unknown, requires further research.</li> <li>A meta-physical description of P[p]ublic A[a]dministration as a science.</li> <li>Unknown, requires further research.</li> </ul> |  | <ul style="list-style-type: none"> <li>as a science, directs this field of study in meta-physical wisdom.</li> <li>The philosophical bedrock of a science, directs the field of study in meta-physical wisdom.</li> <li>Unknown, requires further research.</li> <li>Unknown, requires further research.</li> <li>Unknown, requires further research.</li> <li>A meta-physical description of P[p]ublic A[a]dministration as a science.</li> <li>Unknown, requires further research.</li> </ul> |



| The teleological intent of Public Administration as a science |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |                |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|
| Hylomorphism                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |                |
| Matter                                                        | into                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | form            |                |
| Material be-cause                                             | Efficient or Moving<br>be-cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Formal be-cause | Final be-cause |
|                                                               | <ul style="list-style-type: none"> <li>▪ Largely unexplored landscape..</li> <li>▪ the purpose and the functioning of a paradigm/s in the specific field of study in its meta-physical, sociological and artefact or construct senses.</li> <li>▪ Deep knowledge and insight into the specific field of study and its practice; The internal world of both the discipline and the science in the discipline.</li> <li>▪ Knowledge and insight into disciplines that subsist in the field of study's external world such as other social and management sciences; Knowledge and insight into the external world of practice</li> <li>▪ Once the aforementioned skills have reached an advanced level, interdisciplinary and multidisciplinary research initiatives may manifest as result.</li> </ul> |                 |                |

| The teleological intent of Public Administration as a science |                                                                     |                 |                |
|---------------------------------------------------------------|---------------------------------------------------------------------|-----------------|----------------|
| Hylomorphism                                                  |                                                                     |                 |                |
| Matter                                                        | into                                                                | form            |                |
| Material be-cause                                             | Efficient or Moving<br>be-cause                                     | Formal be-cause | Final be-cause |
|                                                               | <ul style="list-style-type: none"> <li>All of the above.</li> </ul> |                 |                |

**Source:** Witt (2001:255); Couclelis (2009:4); Leunissen (2010:11); Kuhn (1962; 2012); and Hacking (2012)

Chapter 3 ultimately culminates in a portion of an understanding of the teleological intent or purpose behind each nodal entity in the anatomy of Public Administration as a science. Science, as one of the ontic expressions to P[p]ublic A[a]dministration, presents only a part of the ontological description that both this academic discipline and its practice deserves. With reference to Chapter 2, Figures 2.6 and 2.7, the data that is reflected in the Tables above, which underscores hylomorphism and the final purpose of each nodal entity in the corporeal morphology of Public Administration as a science, it needs to be documented that these details do not yet sketch the full picture of the role and purpose of a science in Public Administration as a science. The motivation behind this statement is embedded in the fact that no reference is made in the above tables to the science as it functions in both the art and the craft of [p]Public A[a]dministration. In order to obtain a holistic understanding of the role of science in P[p]ublic A[a]dministration, comprehensive investigations in all the ontic expressions of P[p]ublic A[a]dministration are required. Hence the qualification that this study merely scratches the tip of an iceberg called P[p]ublic A[a]dministration as a science.

### 3.6 CONCLUSION

Chapter 3 enlightened this study with the distinct linguistic and academic meaning of Teleology and Teleological intent, up to and including a meta-theory that guides the properties that have to be considered in determining the teleological intent of any aspect that may be included in P[p]ublic A[a]dministration as field of study and as practice. What is of significant value, perhaps even beyond the borders of Teleology in the discipline of Public Administration is the critical importance of linguistic interpretation to any phenomenon. The latter predetermines the end-result in a significant way. This observation is evident from Vlastos' (1969:294) reflection on the use and linguistic interpretation between cause and be-cause.

Hereto, if effective causal examination is the source of knowledge (Aristotle, 71 b 9-11; and 94 a 20; and Falcon, 2015:75-91), then Teleology consists of the attributes to contribute to the discipline of Public Administration of which it has been said that the study of Public

Administration is ontologically and epistemologically burdened (Raadschelders, 2013:287). Furthermore, if the purpose of the four *aitias* (causes) is to establish the *to dia ti* (the be-causes) through *vis a fronte* (reverse causation), then Public Administration may not only expand and deepen its extant, inherent truths, knowledge, theory and disciplinary categories, which from its traditional, classical viewpoint rested upon five assumptions which Peters (2003:8, 9) identifies as follows: (a) an assumption of self-sufficiency; (b) an assumption of direct-control; (c) an assumption of upward accountability; (d) an assumption of uniformity; and (e) an assumption of a public service system, it may also obtain causal knowledge and subsequent predictive capacity.

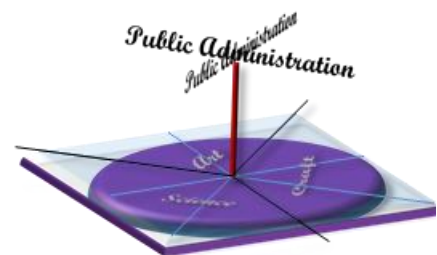
Chapter 4 follows by explicating the theories that are ultimately included and interpreted in a meta-theory of Ontology. The primary teleological intent or final be-cause of considering an ontological meta-theory in P[p]ublic A[a]dministration is to obtain an enhanced understanding of the nature of this field of study as being. Having deliberated upon Teleology and the contribution that a Teleological meta-theory may infuse into Public Project Integration Management, this study continues by considering the scholarly contributions that clarify Ontology and its position in Public Administration as science.

# Chapter 4

## (APEX II) - BEING IN ITS SOURCE, STATE, EXPRESSION AND CONDITION: THE DISCIPLINE OF PUBLIC ADMINISTRATION AS SCIENCE'S ONTIC MAINSPRING AND PHYSIOGNOMIES

*“... all creatures of this sensible world lead the mind of the one contemplating and attaining wisdom to the eternal God; for they are shadows, echoes, and pictures, the traces [footprints], simulacra, and reflections of that First Principle, most powerful, wisest, and best.”*

*St Bonaventure, Itinerarium Mentis ad Deum, II.11*



## **CHAPTER 4: (APEX II) - BEING IN ITS SOURCE, STATE, EXPRESSION AND CONDITION: THE DISCIPLINE OF PUBLIC ADMINISTRATION'S ONTIC MAINSPRING AND PHYSIOGNOMIES**

### **4.1 INTRODUCTION**

In addition to the holistic process of establishing the teleological intent behind Public Administration as a science, and presenting a meta-theory that guides this process, Chapter 3 also presented a snapshot of the results emanating from the application of Teleology onto one of the ten knowledge areas of Project Management namely, Project Integration Management. The latter categorically resorts under Public Administration as a Craft. The teleological description or pinnacle of Chapter 3 however is the application of the teleological meta-theory to Public Administration as a science. The rationale behind establishing Public Administration as a science's teleological intent is to understand the purpose of the science in Public Administration as a field of study.

The context of the knowledge triad (Teleology, Ontology and Epistemology as primary edges or apices), that was introduced in Chapter 1, sketched the milieu within which Chapter 2 deliberated upon the anatomy and physiology of a science, and within which Chapter 3 determined a meta-theory that denoted a study of teleological intent. The purpose of the teleological meta-theory was to uncover the fundamental intent of Public Administration as a science. The primary objective therefore of Chapter 4, is to present a meta-theory that explicate the nature of being and existence, and as such, the nature of being and existence of Public Administration as a science. Chapter 1 presented the research questions and objectives that are relevant to Chapter 4, respectively as follows:

#### **4.1.1 Research questions, Apex II – Ontology (the nature of being and existence):**

- What are the relevant theories and scientific explications that would guide this study towards the compilation of an Ontological meta-theoretical framework, in which the latter guides the systematic construction of being (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish such an object's nature of being?
- What are the meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework that represents being (Public Administration as the object in itself), or

similarly, Public Administration in its state, source, expression and condition, in order to establish the discipline's nature of being?

#### **4.1.2 Research objectives. Apex II – Ontology (the nature of being and existence):**

- Presented, identified, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of an Ontological meta-theoretical framework, in which the latter directed the systematic construction of being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish the object's nature of being.
  - A constructed and presented Ontological meta-theoretical framework, in which the latter directed the systematic construction of being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish such an object's nature of being.
- A presented analysed and interpreted Ontological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against an Ontological meta-theoretical framework, that represented being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish the academic discipline's nature of being.

The primary teleological intent of Chapter 4 therefore is to determine the substance of an ontic meta-theory that has the capacity to direct an investigation into the nature and existence of Public Administration as a science. To this effect, Chapter 4 includes primary topical aspects that would inform an ontic meta-theory such as religious worldviews, with a distinct focus on the religious worldviews extant in the Republic of South Africa. Additional topical aspects include Cultural, Ethical, Philosophical, Scientific, Political, Economic, Sociological, Legal and Psychological perspectives that all stem from an individual's religious worldviews. Chapter 4 similarly re-considers the content of Chapter 2, Figure 2.33, Finding the positional relation between Meta-physics and Transcendental. Ultimately, Chapter 4 will present an ontic meta-theory that will play a fundamental role in the final configuration of Public Administration as a science.

Henry (2002) respectively confirm the point of departure to ontological investigations. Henry (2002:23) postulates the following: “[t]he vision that informs traditional African philosophy, that generates its fundamental questions is a religious one.” Henry (2002:23) claims that “[i]t is precisely the religions’ horizons, which provide the ontology, and the ontology itself can be

further engaged through the devices of Analytic Philosophy.” Analytic Philosophy, which is also referred to as Linguistic Philosophy, has thus far played a majestic role in this study, to which the rest of this dissertation will be no different. It is therefore of substantial importance to briefly explicate the principle on which Analytic Philosophy is based. Martinich and Sosa (2001:1) postulate a principle of Analytic Philosophy as that human beings can only present a persuasive case to the action or process of thinking, once they have conducted an analysis of the syntactic expression of philosophical, provisional and hypothetical affiliations between ideas that are declared in an exegetic arrangement. In light of Henry (2002:23), Martinich and Sosa’s (2001:1) assertions, it is thus appropriate to commence with an Analytic Philosophical investigation of Religious worldviews, and in particular the religious worldviews as they manifest in the Republic of South Africa, since this is the empirical footing of this study. In order to ultimately determine the ontic nature of Public Administration as a science, it is an unavoidable route to consider the dynamic factors that precede the elucidation of a being’s ontic status.

Section 4.2 thus follows by systematically considering the different religious worldviews as they manifest in the Republic of South Africa. The religious worldviews of South Africa then present the array of perspectives through which researcher’s, scholars’, public servants’, political figures and citizens’ create their realities, truths and beliefs. These perspective include: cultural; ethical; philosophical; scientific; political; economic; social; legal; and psychological perspectives. Hereafter, a branch of Philosophy, namely Meta-physics introduces a number of the social ‘laws’ by means of which Public Administration as a science needs to be considered.

#### **4.2 DYNAMIC FACTORS THAT PRECEDE THE ELUCIDATION OF PUBLIC ADMINISTRATION AS A SCIENCE’S ONTIC STATUS**

As point of departure, Section 4.2 highlights the dynamic factors such as religious worldviews and presuppositions that stem from such individual worldviews. These presuppositions include philosophical, psychological, political, economic, cultural, legal, scientific premises, amongst many more. A discussion of these aforementioned landscapes ultimately leads to the construction of a meta-theory that reflects as a theory of theories against which the ontic status of Public Administration will be illuminated.

#### **4.2.1 Religious worldviews as a default point of departure**

True to the recurring application of Analytical Philosophy as points of departure throughout this study, Durkheim (2001:46) explains religion as that it is: i) a coalesced belief system and practices that are related to a distinct community's sacrosanct things; ii) things that are singled out within the ambit of encompassed proscriptions, beliefs and practices; iii) in which such a coalesced belief system unify its advocates into a single moral people. Examples of such coalesced belief systems and practices, sacrosanct things and encompassed proscriptions becomes visible in the Serer religion of Senegal, the religion of the Gbe people (Ewe & Fon), Vodun in Togo and Ghana, Yoruba and Igbo in Nigeria and Akan in Ghana and the Ivory Coast (Asante & Mazama, 2009). In contrast, Marx (2012:42) argues that: "[r]eligion is the sigh of the oppressed creature, the heart of the heartless world, just as it is the spirit of a spiritless situation"; "Religion is only the illusionary sun which revolves round man, as long as he does not revolve round himself." (Marx, 2012:42); and, "[r]eligion is the foundation of the state, as it is the most necessary condition for every social association not aimed merely at attaining some ulterior aim" (Marx, 2012:22). Hereto, Sire (2020:24) explains that if human beings opt to believe that to find responses to the fundamental questions that drive worldviews would result in duplicitous activities or intelligent perversity, only affirm the fact that the particular individual did not escape having a worldview, but in his/her core has adopted a nihilist worldview. There is thus no renunciation from that which human beings believe sub-consciously, since our deeds and endeavours will ultimately reveal the subliminal.

An important observation that needs to be noted is that within the ambit of a discourse on worldviews, scholars enter into a mindfulness of underlying worldviews from which scholars produced their academic artefacts. A simultaneous awareness is evoked that the intelligence shared through such artefacts will in every instance rest on the one worldview that an author would call her or his own. An extract from Nelson's scholarly contribution below is one such an example. Nelson (2013:23-25) readies the scholar, in part, to worldviews with a prime understanding of three distinct concepts recognised as Reality, Truth and Beliefs, in which these three conceptions shape the foundational intelligence of our understanding of worldview, both as concept and as concrete reality, but with Christian Theism as angle of incidence. Christian Theism is highlighted here, since this is the religious foundation from which Nelson (2013) constructs his reality. In pursuit of explaining Reality, Nelson (2013:23) highlights the following physiognomies: a) Reality includes everything that subsists, both in the transcendental and sensible domains; b) Reality embodies facts, and in doing so, is in its entirety free from the manipulation of emotions and/or sentiments; c) Reality subsists whether human beings' five senses aid the perception or not; d) Human beings depend on the empirical



(sense perception) to yield knowledge on the subject of Reality. However, such intelligence is indisputable only to a certain degree, based on the following two arguments- “none of us perceive everything”, “we often only see what we are looking for”, and, humans do experience “optical illusions”. To understand the latter, Seckel (2004:9) explains that the visual cortex, as the largest system in the human brain, accepts optic illusions in order to validate credible images; and e) Even though there are some entities that are not instantaneously sensible, the majority of reality is intelligible through the senses. With reference to Truth, Nelson (2013:24) highlights the physiognomies of Truth as follows: a) Truth refers to declarations that are in absolute agreement with Reality; b) Based on the absolute agreement between Truth and Reality, Truth is liberated from human beings’ personal or cultural predilections; c) “If God is indeed the source of all truth, then all truth is God’s truth”. “[A]ll truth in every discipline is worthy of attention, for it all ultimately comes from God”. And thus, “Truth in a discipline” and field of practice such as Public Administration in its three ontic expressions, “originates with God”. “If a discipline” such as Public Administration and the science therein “is true, it is true because God makes it true”. The third concept or pillar in human beings’ understanding of worldview is recognised as Belief. Nelson (2013:25) explains Belief as follows: a) Beliefs are declarations or “truth claims” (presuppositions) about Reality that are generally accepted *a priori*, as factually correct; b) Beliefs are more extensive than mere opinion; c) Beliefs are all “truth claims” even though they may be unsubstantiated; d) Beliefs refer to human beings’ intrinsic convictions *vis-à-vis* the world and morality. In this light, the investigation at hand immediately directs to an inquiry such as: What are the presuppositions of Public Administration as a science? e) Nelson’s (2013:25) presentation clarifies that a discipline and practice such as Public Administration has to commence with working assumptions that consider the following: i) “The objectivity of an external world”. To this statement, the external worlds to both Public Administration as an academic discipline and public administration as a practice have been presented in Chapter 1, Figure 1.1. Building on that which became highlighted in Figure 1.1, as the external worlds to P[p]ublic A[a]dministration, it is interpreted as that the external worlds to this field of study and its practice exist as impartial and independent of P[p]ublic A[a]dministration; ii) “The possibility of knowledge”. The teleological intent behind this entire study is to seek the possibility of new knowledge that enriches P[p]ublic A[a]dministration’s body of knowledge; iii) “The reliability of sense perception”. The latter poses an entire philosophical dilemma to which Alston (1993:2) writes “... the reliability of the ways in which we form beliefs is obviously an issue of the greatest moment, not only for philosophical reflection but also for the conduct of life. It is of the first importance to us, both theoretically and practically, that our beliefs be true.”; iv) “The law of non-contradiction.” The latter is also known as the principle of non-contradiction (PNC), which confirms that in logic, opposing propositions will not both be true at the same time and in the same sense (Gottlieb,

2019:183 - 209). Gottlieb (2019:183) states that Aristotle viewed PNC as a principle that: “is necessary for anyone to have, who knows any of the things that are” (Metaph. IV 3, 1005b15); and v) “the principle of uniformity”, in which the latter two presuppositions strongly remind of two principles in Meta-physics. Chapter 4 will in a future Section elaborate on the principles of Meta-physics, firstly as observed through the lenses of a Western worldview, and secondly from an African perspective that respectively suggests the principle of uniformity as opposed to pluri-formity and universalism as opposed to pluri-versalism (Mawere & Mubaya, 2016:27, 28); f) “None of the presuppositions can be proven, but without them, scientific study is impossible”; g) Beliefs are classified either as presupposed or as accepted on the basis of authority, in which the latter has an impeccable record of reliability, honesty and competence; and, h) There is a continuum extant within the ambit of beliefs that has a bearing on both personal beliefs and scientific inferences. To this effect, it becomes possible to notice that human beings’ religious worldview influences their cultural, ethical, philosophical, scientific, political, economic, social, legal and psychological perspectives.

Olthius (1989:115-120) and Carr (2016:5) advise that “[a] worldview is a framework or a set of fundamental beliefs through which human beings view the world and our calling and future ... it is the integrative and interpretive framework by which order and disorder are judged; it is the standard by which reality is managed and pursued; it is the set of hinges on which all of our everyday thinking and doing turns.” “[I]t is only the assumption of a worldview-however basic or simple-that allows us to think at all” (Taylor, 2007:13). Hereto, a deconstructed rendition of an ontic description of worldview as concept, commences with the recognition that a worldview is a fundamental allegiance between the manner in which humans conduct themselves and a proclivity of the heart (Aaron, 2013:85, 87, 92; Huffman, 2013:9, 20, 37; Muska, 2013:107, 108; Nelson, 2013:23; Schultz, 2013:52); Such an allegiance is either articulated by means of a narrative or an arrangement of conjectures in which such conjectures could adapt the positions of being wholly true, partially true or entirely false; Human beings’ worldview furthermore possess conscious or unconscious, perpetual or mercurial configurations of such an individual’s rudimentary composition of reality; These features thus shape the parameters within which human beings’ live, move and have their being (Sire, 2015:112, 133-135).

Within the precincts of Durkheim (2001:46), Marx (2012:22, 42), Aaron (2013:85, 87, 92), Huffman (2013:9, 20, 37), Muska’s (2013:107, 108), Nelson (2013:23), Schultz (2013:52), and Sire’s (2015:112, 133-135), contributions to an understanding of the concept religious worldview, this study’s foundational insight into this concept is documented as that here are three pillars upon which a religious worldview rests, which has been identified as Reality, Truth and Beliefs; Hereto, every religious worldview displays a distinguishable narrative to the

manner in which Reality, Truth and Beliefs are observed and portrayed; Therefore, respective conceptualisations that explicate Reality, Truth and Beliefs, as well as a description of each pillar's defining physiognomies, are fundamental elements of worldviews; Relation indicators between Reality, Truth and Beliefs are indicative of, and highlight the associations that subsist between these three worldview pillars; Insight into a distinctive account of Beliefs as truth claims, or presuppositions, expresses the intrinsic convictions about the world and morality in it; Beliefs, as expressed in worldviews, are grounded in Meta-physical laws.

In order to narrow the vast array of religious associations, so that it has a particular relevance to this study, Chapter 4 largely focusses and includes the identified religions extant in the Republic of South Africa. A depiction of South Africa's religious affiliation profile discloses an additional stratum to the narrative of a recognisably diverse nation. Statistics South Africa (2014) made the following percentages public as a reflection of the religious affiliation stratum that represents the citizens of the Republic of South Africa as it was captured during a 2013 General Household Survey and published in 2014. Table 4.1 below reflects these citizen counts and percentages.

**Table 4.1      A General Household Survey that was conducted in 2013 to determine the religious affiliations of South African citizens**

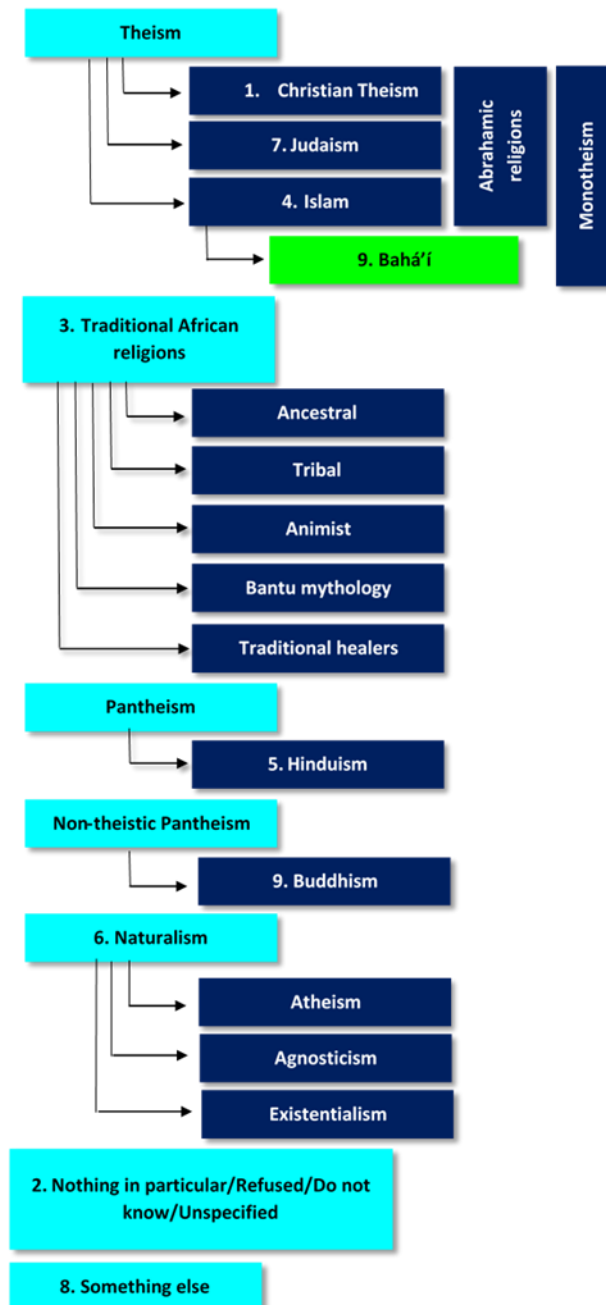
| Religious affiliations |                                                                    | N                 | %            |
|------------------------|--------------------------------------------------------------------|-------------------|--------------|
| 1.                     | Christian                                                          | 44 602 155        | 84.2         |
| 2.                     | Nothing in particular / Refused / Do not know / Unspecified        | 3 902 715         | 7.4          |
| 3.                     | Ancestral, Tribal, Animist, or other Traditional African religions | 2 626 015         | 5.0          |
| 4.                     | Islam                                                              | 1 042 043         | 2.0          |
| 5.                     | Hindu                                                              | 529 471           | 1.0          |
| 6.                     | Atheist and Agnostic                                               | 112 972           | 0.2          |
| 7.                     | Jewish                                                             | 101 544           | 0.2          |
| 8.                     | Something else                                                     | 48 084            | 0.1          |
| 9.                     | Buddhist and Bahá'í                                                | 16 992            | 0.0          |
|                        | <b>TOTAL:</b>                                                      | <b>52 981 990</b> | <b>100.0</b> |

**Source:**      Statistics South Africa (2014)

Considering the religious affiliations amongst South African citizens as it is reflected in Table 4.1, it is obvious that this study has to consider the array of realities, truths and beliefs as it is shaped by the following religions and orientations: a) Theism/Abrahamic religions/Monotheism that include Christian Theism, Judaism and Islam as Abrahamic religions, and Bahá'í as a Monotheist religion; b) Traditional African religions that include Ancestral, Tribal, Animist, Bantu mythology and Traditional healers; c) Pantheism that includes Hinduism; d) Naturalism that includes Atheism, Agnosticism and Existentialism; e) Nihilism that includes Existential nihilism and Absurd nihilism; f) Non-theism that includes Buddhism, amongst others; g) Nothing in particular/Refused/Do not know/Unspecified; and h) Something else such as Postmodernism. Emanating from these religious and/or non-religious origins, the following paragraphs will briefly establish an understanding of the most prominent religious standpoints that are evident in the Republic of South Africa.

Figure 4.1 provides a visual depiction of the diversity in religious worldviews, extant in the Republic of South Africa as it was recorded in 2014. In reflection upon the year that is assigned to the last General Household Survey in the Republic of South Africa, the author wishes to note that the only available, topical statistics from Statistics SA is at this point already obsolete. Considering the advent of the Fourth Industrial Revolution and the reality of the collection of real-time data, outdated data that is reflected here may be a thing of the past as government departments adopt the technology that comes with Industry 4.0. The numbering that is reflected in Figure 4.1 has reference to the numerical sequence as it appears in Table 4.1, A General Household Survey that was conducted in 2013 to determine the religious affiliations of South African citizens.

**Figure 4.1: Religious worldviews in the Republic of South Africa as recorded in 2014**



**Source:** Author's perspective as adopted from Statistics South Africa (2014)

Based on the 2014 published findings of Statistics South Africa (Statistics South Africa, 2014), the following paragraphs will apply analytical philosophy, with the particular aim to establish linguistic clarity in the context of this study on each of the terms that shapes the religious ambit within the Republic of South Africa. The paragraphs that follow will therefore also serve to shed light on the fact that human beings' cultural perspective (cognitive culture and social culture), ethical perspective, philosophical perspective within a geographical prefix (African

philosophical genres, Middle Eastern philosophical genres, Eastern philosophical genres and Western philosophical genres), scientific perspective, political perspective, economic perspective, sociological perspective, legal perspective and psychological perspective, all stem from an individual's religious worldview, in which case the latter thus shapes the individual's perception of, and outlook on life. The paragraphs that follow will in addition, attempt to clearly display the manner in which individuals' religious worldviews determine their cultural, ethical, philosophical, scientific, political, economic, sociological, legal and psychological perception of reality, truth and belief. Paragraph 4.2.1 therefore follows with an explanation of Theism, the Abrahamic religions, Monotheism and the Bahá'í faith.

### **4.3 PHILOSOPHICAL PERSPECTIVES OR PRESUPPOSITIONS THAT EMANATE FROM VARYING WORLDVIEWS**

As mentioned on many occasion before in this study, Sire (2015:56) explains that human beings' worldviews are the way in which individuals live, move and have their being. Hereto, different worldviews pre-empt different perspectives or presuppositions, since such presuppositions represent the properties of a worldview (Bishop, Funck, Mosier, Walton & Lewis, 2018:46). Prior to an investigation into each of the religious worldviews, particularly as they present in the Republic of South Africa, this study documents a short explanation to each of the perspectives or presuppositions that stem from human beings' worldviews. A first reflection will follow on cultural presuppositions. Parrish (2019:13) states that "... whatever the reigning worldview of a culture at a particular time will be the most significant mould of the institutions, morals and mores of that culture"; and "[i]t is the very difference in the presuppositions that the opposed worldviews have that allows for argumentation as to which is the most coherent explanation, and which gives the best account of why reality exists in the manner that it does." This study then continues to investigate the substance of each of the nine presuppositions that flow from divergent worldviews.

#### **4.3.1 Cultural perspectives or presuppositions**

Of interest to this study is the fact that Umeh and Andranovich (2005:106) argue the following: i) that culture is not only critically important in a society, it similarly plays an imperative role, internally, in public administration institutions. The immediate significance of Umeh and Andranovich's (2005:106) argument is the impact that this realisation has on the discipline of Public Administration. Such realisation implies that Public Administration as field of study should not only focus on the internal public institutional culture, but that it should similarly stimulate a deep awareness and interest among scholars of this discipline in societal culture.

“[A]s an independent influence on administrative workplace performance, if culture is simply taken for granted rather than critically examined in terms of how it conditions a society’s expectations of its relationship among and between different departments within a government, then positive effective change will not occur; ii) culture appears to disguise far more than it reveals; iii) the three-pronged relationship between the African state, African politics and African society is highly charged with complexity. Cultural variables highlight significant evidences in the process of comprehending both the convolution at hand as well as the ontic disposition of public administration in the context of an African state. Samovar, Porter and McDaniel (2010:49) informs that “[a] culture’s deep structure, its unconscious assumptions about how the world operates, is what unifies a culture, makes each culture unique, and explains the ‘how’ and ‘why’ of a culture’s collective action.” Samovar, Porter and McDaniel (2010:49) also apprises: i) that the mainstay of every culture presents that culture’s social organisations; ii) it is these very social organisations that citizens turn to for instruction on the significance of life, as well as methods “for living [and being in] that life”; iii) similar to the fact that the primary intent behind human survival is cooperation, so, the social arrangement of groups is the teleological intent behind collaboration; iv) human beings’ potential to firstly commit to function in a contributory manner in sizable groups, and secondly, to harmonise the collective pursuits to obtain predetermined outcomes, is potentially the most critical property of human adaptation (Bates & Plog, 1990:19); v) every culture has distinct social organisations that vehemently promote the adaptation process, whilst presenting strictures within which such members are required to behave; vi) the three most prominent and influential social institutions are recognised as- the family structure, the state (inclusive of communities), and religion or a social grouping’s worldview.

It is within this brief description of the critical role that cultural perceptions play as it stems from individual religious worldviews, that P[ublic] A[dministration] at large and P[ublic] A[dministration] as a science, as it resorts within a state, finds connection in the investigation towards an ontic meta-theory of Public Administration as a science. Following cultural perspectives is a description of the ethical perspectives as its well-spring emanates from a religious worldview.

#### **4.3.2 Ethical perceptions or presuppositions**

Rohan (2017:75) and the English Oxford Dictionary (2020) advise that ethics, which is similarly referred to as moral philosophy is conceptualised as that it encapsulates “the moral principles that govern a person’s behaviour or conducting of an activity.” A fundamental intelligence therefore of moral principles are of critical importance to fully grasp the extent of ethical

perceptions that stem from an individual's worldview. Abelzart (2014:195) informs that moral principles firstly establish a future-oriented psychological connection between an individual's present person or being and the individual's future being; moral principles therefore sustains the individual's identity over time; by embracing a particular set of moral principles, an individual, whether a P[p]ublic A[a]dministration scholar, practitioner or a citizen, such an individual has made a lasting commitment to act in a distinct manner, despite the situation or circumstances; moral principles inform the construct of an individual's identity as different from others.

Farmer (2010:144 - 145) explicates that ethical perspectives present the normative predisposition in terms of how human beings ought to conduct themselves and ought to act; as normative predisposition, ethical perspectives often stand in unambiguous disparity to the manner in which human beings truly conduct themselves and act; there needs to be a distinctive differentiation between ethical perspectives and the provisions and prohibitions of the law, since legal provisions and prohibitions may not in all circumstances be ethical. An immediate example that comes to the forefront are Acts and laws that constructed, upheld and justified a system of *apartheid*; in the context of ethical perspectives, Scott David Hume's Law stated that "an ought can never be derived from an is."; Searle (1964:44) remarked that "no set of descriptive statements can entail an evaluative statement without the addition of at least one evaluative statement."; Hume's perspective on ethics, which is based on his "empiricist theory of the mind" presents four theses as follows- i) "reason alone cannot be a motive to the will, but rather is the slave of the passions"; ii) "moral distinctions are not derived from reason"; iii) "moral distinctions are derived from the moral sentiments: feelings of approval (esteem, praise) and disapproval (blame) felt by spectators who contemplate a character trait or action; and "while some virtues and vices are natural, others, including justice, are artificial" (Cohon, 2018).

In a normative understanding of the internal environment of P[p]ublic A[a]dministration, ethics ought to be an inherent, non-negotiable property of both this discipline and its practice. This study continues by investigating philosophical perspectives as it is rooted in a religious worldview.

### **4.3.3 Philosophical perspectives or presuppositions**

Sire (2015) explicitly relates philosophical perspectives as it stems from worldviews by means of the following seven questions: i) "What is prime reality? The really real?"; ii) "What is the nature of external reality, that is, the world around us?"; iii) "What is a human being?"; iv) "What



happens to a person at death?"; v) "Why is it possible to know anything at all?"; vi) "Wow do we know what is right and wrong?"; vii) "What is the meaning of human history?" All seven these questions contain meta-physical or ontic properties since they are all questions that relate to the nature of being. Wolters (1983:15) present five fundamental models that explicate the relationship between worldviews and philosophy as follows: i) "Worldview repels philosophy." An unescapable tension subsists between the two polarities in the worldview – philosophy relationship, that stems from Existentialism. These two poles are recognised as theoretical philosophy and existential worldviews and no attempts should be made to settle the paradoxical tension between them; ii) "Worldview crowns philosophy." Worldviews are Philosophy's highest manifestation, since the teleological intent (the final be-cause) of Philosophy is to answer the extraordinary questions of meaning and value, and the only manner in which these questions could be addressed is by means of considering worldviews; iii) "Worldview flanks philosophy." Worldviews and scientific Philosophy should be appreciated as completely separate entities, at all times, to which scientific Philosophy's neutrality and value-free nature may never be jeopardised; iv) "Worldview yields philosophy." Worldviews are not the outcomes of Philosophy, instead, Philosophy is produced by and gives expression to Worldviews; and v) "Worldview equals philosophy." Considering the latter statement, worldviews are relegated to scientific Philosophy and hereto assume the traditional claims and universal validity that only scientific Philosophy has the capacity to do.

On numerous occasions, Chapter 2 of this study reiterated the relation between philosophy and Public Administration as a science. Since varying worldviews as points of origin in individuals' nature of being has a distinct connection to philosophical perspectives, dependent on the individual's worldview, and since science "as a process of generating theories to account for straightforward facts" (DeWitt, 2010:17) has a resilient relation to Philosophy, the relations that Public Administration as a science has with Philosophy and with religious worldviews becomes perceptible. Worldviews and its influential relation to scientific perspectives follows.

#### **4.3.4 Scientific perspectives or presuppositions**

Gauch (2009:674) introduces the seven pillars of science as follows: i) Realism. Both The American Association for the advancement of Science (1990:17) and Gauch (2009:674) explain that science's teleological intent is fundamentally to establish an understanding of the empirical world, which truly subsists; ii) Presuppositions. Some of science's fundamental assumptions are stated as the world presents orderly patterns, and the world is logical and intelligible; iii) Evidence. In order for any scientist to make inferences about any phenomenon,

evidence stands as a non-negotiable requirement; iv) Logic. Rational, scientifically based thoughts pivot upon principles of logical reasoning that ties phenomenal evidence and assumptions with suppositions; v) Limits. Science presents unambiguous limitations, which is particularly prominent in the Social Sciences. For example, science is not able to make either moral or aesthetic judgements and since P[p]ublic A[a]dministration often requires the aforementioned discernments, the value of having a pluralistic ontic expression in P[p]ublic A[a]dministration becomes valued; vi) Universality. The matter of universality has been discussed at length in Chapter 2. P[p]ublic A[a]dministration, based on the nation under investigation may find it extremely complex to display aspects of scientific universality. For example, public trust as phenomena may be investigated in a European or an American ambit. The inferences made may be different in its entirety from exactly the same study's inferences as it was conducted in Rwanda, Burundi or the Republic of South Africa; and vii) Worldview. In addition to science's teleological intent to contribute to novel knowledge is the aspiration to add intelligence to worldviews.

The influence that a particular worldview will have on science as perspective or presupposition will manifest as follows: Depending on an individual's worldview, human beings may either believe in Scientific creationism, Theistic evolution or chemical / accidental evolution (Williams, 2018:353). Scientific creationism is conceptualised as an acknowledgement that God created the universe and everything in it in six days, and on the seventh day, He rested. Science and all geological evidences validate the factual truths as it appears in Genesis in the Holy Bible (Giberson & Yerxa, 2002:85). Theistic evolutionists believe that there is a God and that in one way or another, He is responsible for the creation (the material universe and all related life) (Sober, 2008:112). Hereto biological evolution as a mere development in the creation (Sober, 2008:i, 366). Atheistic evolution is described by Sober (2020:63) as that all of creation bursted into existence and there is no transcendental explanation linked to the event. According to DeBenedictis (2014:380), life as is known in a contemporary setting, "evolved from a single cell through random mutations into complex life."

The manner in which human beings' worldviews present has an influence on the way in which they perceive science. Public Administration as a science is no different and will similarly be influenced by the researching scientists' worldviews. The following perspective or proposition that is fundamentally influenced by worldviews is the political perspectives or presuppositions.

#### 4.3.5 Political perspectives or presuppositions

The Cambridge Dictionary (2020) introduce politics as that it carries properties of governmental activities, law-making institutions, individuals that influence a nation's governance and of course power. The range of presuppositions that is therefore of significance to this study in terms of worldviews and political presuppositions concerns exactly the aforementioned terminology.

Stack (1969:30 – 39) informs that: i) it is firstly a worldview and then the basic political presumptions related to the worldview that guide the “construction, form and intent of political theories”; ii) a human being's nature and a meta-physical conceptualisation of a human being and his/her place in the cosmos and hereto, the ultimate aim of existence; iii) political theory should never be perceived as separate from a particular historical context. Hereto, concrete matter such as a socio-political, socio-economic, socio-cultural, religious, legal, philosophical circumstances of the time will unequivocally influence the content of political theory. In other words, the *zeitgeist* that is recognisable in a particular spatio-temporal setting has a notable influence on the shape and content of a political theory. The nature of such a *zeitgeist* will be notable in amongst others, the academic artefacts of the time; iv) political perspectives and presuppositions address human assumptions that concerns human beings and their nature; v) political perspectives and presuppositions address similarly speak to the most appropriate form of government and governance. In its ontic nature, the complexity vis-à-vis human beings and the most suitable form of government and governance raises exponentially since at the point of departure, the individual that asked the question already views the world, human beings, government and governance in a particular way; vi) Nietzsche remarked- “[m]an cannot judge the value of the whole of existence since he cannot attain a vantage point outside of existence in order to do so.”; vii) if perceived from Hobbes and Machiavelli's point of view, the declaration dictates that in essence, human beings are “egotistical, selfish, acquisitive beings that are primarily motivated by self-interest.” Needless to mention, the political theories that were constructed by Hobbes and Machiavelli will undoubtedly display robust signs of coerciveness that pivots on power. In the context of their presuppositions the State has to be organised around a powerful central authority, i.e., “it is essential that covenants are backed by the sword.”; viii) “if a political theory that pivots on presumptions is to be viable, if it is to be more than just a literary exercise, it must have relevance to the needs, aspirations and goals of human beings in the present.” The author is reminded here that even Stack's (1969:32) observation hinges upon his own presuppositions and political worldview.

In the context of Stack's (1969) factual description of political presuppositions, the larger issue at hand is, what are the political presuppositions that construct, form and determine the intent to African democratic states such as the Republic of South Africa? The riposte hereto lies in an analysis of the constructors of African democracy's worldviews and accompanying presuppositions. Hereto, the question similarly arises, what may the influence be of political worldviews and presuppositions on P[public] A[administration] and fundamental to this study, on Public Administration as a science. The latter inquiry will be two pronged since political worldviews and presuppositions will greatly affect the types of phenomena that an external environment present to Quotidian and even Extraordinary scientists. Hereto, it will also have an impact on the *noumena* that scientists of Public Administration will have to address.

Following political presuppositions, this study considers economic presuppositions to which Fabel and St. John (2007:104), Eisenstein (2011:xx) and Jakobsen (2017:41) introduces the departing dilemma that a disjuncture between the current economic system and an outdated mechanistic paradigm makes it almost unattainable to elucidate and resolve phenomena related to "money, energy, education, health, water, soil, climate politics, the environment and more."

#### **4.3.6 Economic perspectives and presuppositions**

Brutzkus (2018) explain economic presuppositions as follows: i) in the context of a capitalist society, the citizens' rights have been declared; ii) this decree thus runs in unison with the fundamental principles of capitalism, which are- "free competition, free organisation of consumption, free labour and the principle of private property." In contrast, Brutzkus (2018) explain that Socialism i) does not offer citizens individual or political freedom; ii) Communists outright discard these freedoms and perceive it as traditions of the bourgeois; iii) Socialism points out that Capitalism attempts to hide the fact that the poverty stricken are repressed by the wealthy; iv) society structures an economic system based on a "unitary development plan; v) economic life and development are both dependent upon and governed by the will of a society.

Many modern democracies have moved away from the bourgeois principle and have made concerted efforts to address abject poverty. Evidence hereof in the Republic of South Africa exist in the Constitution, 1996 (RSA, 1996) and accompanying Bill of Rights as well as the National Development Plan: Vision for 2020 (NDP, 2011).

The value of an understanding of economic presuppositions that emanate from varying worldviews whilst investigating P[p]ublic A[a]dministration and in particular Public Administration as a science is immeasurable in terms of establishing solutions to politico-economic phenomena. In the process of recognising the presuppositions that emanate from varying worldviews on route to establishing an ontic meta-theory as well as an ontic understanding of Public Administration as a science, the investigation will not be complete if the political, economic and society triad has not been fully considered. The study thus continues by considering sociological perspectives and presuppositions.

#### **4.3.7 Sociological perspectives and presuppositions**

Segre (2014:3) explains the character of a sociological presupposition as follows: i) sociological presuppositions' ontic description falls into the meta-physical category, that examines the fundamental nature of reality; ii) based on sociological presuppositions' ontic description, there is no manner in which these presuppositions can be empirically validated; iii) sociological presuppositions do contribute to novel theories; iv) the manner in which sociological presuppositions contribute to the production of new theories is by inciting and directing the concepts and beliefs that subsist in the empirical domain; v) presuppositions are the primary inciter of paradigms and research programmes in every fields of study. Based on the latter characteristic, it is of critical importance to commence with a cognitive inquiry as to what the presuppositions of P[p]ublic A[a]dministration and relevant to this study, Public Administration as a science may be. The latter will be pristine point of departure in the recognition and description of P[p]ublic A[a]dministration paradigms; vi) presuppositions are furthermore establishing the barometer for standards of truth and validity that reinforces each field of study's research programmes; vii) presuppositions' teleological intent is to persuade; viii) presuppositions are critical pillars in the process of investigating sociological matters; and ix) the aforementioned statement has reference to the entire range of analytical levels.

Telofski (2010:111) identifies four sociological presuppositions as follows: i) the primary intent of human life is to experience happiness; ii) human beings are inherently good, which lies in stark contrast to Hobbes and Machiavelli's point of view; iii) history develops as part of an infinite process; and iv) everything comprises of matter, which implies that materialism has an important role to play, since it encapsulates the cycle of happiness that derives from labour. Telofski (2010:111) notes the fact that the fourth presupposition places itself dead centre in Newagism as worldview. The fourth presupposition may therefore not be an inherent belief that is shared equally by all.

One of the primary influencing entities in P[ublic A]dministration's external environment, and by implication Public Administration as a science is respectively Sociology as academic discipline and the sociological dimension. The research programmes that have to be noted as critically important in P[ublic A]dministration both as field of study and as practice is firstly a solid knowledge of Sociology and the sociological dimension and secondly a solid knowledge of the worldviews and presuppositions that incite, shape and direct both this discipline and its presence as domain in any nation. The rationale behind the latter statement is based on the fundamental reciprocal impact that P[ublic A]dministration has on society and society has on P[ublic A]dministration. The transition between social and legal presuppositions immediately presents thoughts on the varying worldviews and their implications on varying legal presuppositions.

#### **4.3.8 Legal perspectives and presuppositions**

Wróblewski (1985:294) asserts that there are three typical groupings of presuppositions in legal reasoning, which are outlined as follows: i) "rule presuppositions"; ii) "fact presuppositions"; and iii) "value presuppositions". Wróblewski (1985:294) furthermore notes that the properties of these presuppositions vary, based on the type of reasoning that is applicable in the circumstances; the most prominent features of each of the aforementioned groupings of presuppositions are summarised respectively in the following manner: i) "rule presuppositions"- are commonly relevant to judicial interpretive reasoning; relates to the distinct characteristics of legal language, reasoning and system; occur mostly in legal reasoning in that legal rules are formulated in an ambiguous manner to which such legal rules will be an integral part of a legal system; "legal statements will be justified by rules of legal reasoning or are accepted as axioms of a given discourse"; and that the "principle of non-contradiction" will play a major role in legal reasoning. Wróblewski (1985:294, 295) describes ii) "fact presuppositions"- as that they are primarily concerned with Ontology, the nature of human beings and society; as that there are fundamental assumptions about human beings and society; as that it includes viewpoints on the epistemological bridge between legal reasoning and general cultural notions and foci, which has particular inherent properties that illustrates distinct forms of life; as despite having limitations, carries within it the ability to incite features of legal reasoning such as directives of legal reasoning, legal language and a legal system; as that every reasoning in practical discourse illuminates the existence of an array of different domains of reality. "Value presuppositions"- is in its entirety concerned with Axiology or the study of values; When considering the properties embedded in values, validation techniques and general associations, legal reasoning presupposes a fundamental arrangement of values that buttress "the justification of statements in legal discourse".

Beyond the shadow of a doubt, the role that legality, the rule of law and a legal framework play in the ambit of P[p]ublic A[a]dministration and similarly in Public Administration as a science receives an unambiguous certainty. Everything that occurs in the field of study, its science and its related practice does so within the strictures of laws, acts and legal border-posts. It is thus of significant importance that every scholar, scientist and practitioner of P[p]ublic A[a]dministration carries knowledge of rule, fact and value presuppositions within the ambit of Public Administration as a science.

The final perspective or presupposition that this study presents reflects upon Psychological presuppositions. Hereto, Stalnaker (1975:31) informs that the interaction does not lie between a presupposition and a statement, but rather between a presupposition and an individual. "A person's presuppositions are the propositions whose truth he takes for granted, often unconsciously, in a conversation, inquiry or deliberation" (Stalnaker, 1975:31). The latter statement strengthens the viewpoint that different presuppositions flow from different worldviews, which thus concretises the relation between an individual's worldview and his/her presuppositions about matters of culture, ethics, philosophy, science, politics, economy, society, law and psychology.

#### **4.3.9 Psychological perspectives and presuppositions**

Klempe (2014:41) informs that the fundamental psychological presupposition is the drive to construct a strategy through which living a comfortable and good life, can be achieved; Fuller (2008:xi) informs that psychological theories pivot on refutable presuppositions; Conventional presuppositions display a basic relation to the tactics and methodologies that both push towards an achievement of the aims of the investigation and that simultaneously direct such a psychological investigation; examples of specific presuppositions include- the belief that "unmasking the unconscious, reveals important facts about an individual's motivation", "that a description of actual life situations brings otherwise neglected dimensions of behaviour into view", "and that a consideration of human potential is important for a complete understanding of people's actions"; presuppositions paves the way through which the domain of human behaviour can be investigated; a psychological theory establishes its unique limitations by means of presuppositions; the validity of any psychological theory is located within these limitations and presuppositions; there is no limitation on the number of authentic theoretical spaces. Kukla (2001:231) distinguish between grounded and ungrounded presuppositions and as such, describe grounded psychological presuppositions as that they are perceptibly true and they simultaneously "impose a priori constraints upon all scientific theories";

ungrounded psychological presuppositions “are beliefs in contingent propositions without any empirical or rational warrant (Kukla, 2001:221).

It is noticeable how the brief scholarly contributions of Kukla (2001), Fuller (2008) and Klemple (2014), reminds of an assured association that exists between Psychology and P[ublic A]dministration and then by implication, Public Administration as a science. The National Development Plan: Vision 2030 (RSA, 2011: Foreword) concretises the latter statement as follows: “At the core of this plan is a focus on capabilities; the capabilities of people and of our country and of creating the opportunities for both. The capabilities that each person needs to live the life that they desire differs, but must include education and skills, decent accommodation, nutrition, safe communities, social security, transport and job opportunities. The capabilities that the country needs to enable citizens to thrive include a capable state, leadership from all sectors of society, a pact for mutual sacrifice and trust.”

Whilst comprehending that these distinct perspectives or presuppositions stem from human beings’ worldviews, the study continues by systematically explaining each of the religious worldviews as it shapes the basis from which every human being live, move and have their being. Chapter 4 thus continues by explicating Theism and Monotheism as religious worldview.

#### **4.4 PHILOSOPHICAL PERSPECTIVES OR PRESUPPOSITIONS THAT ARE RELATED TO A SELECTION OF THEOLOGICAL WORLDVIEWS, EXTANT IN THE REPUBLIC OF SOUTH AFRICA**

Section 4.4 introduces a selection of theological worldviews that are extant in the Republic of South Africa’s religious landscape. Hereto it will become evident that every religious worldview displays distinct perspectives or presuppositions in terms of distinct angles of incidence. The Section commences by considering Theism / Monotheism, and hereto the presuppositions that stem from Christian Theism, Islam, Judaism and the Bahá’í faith that all stem from Abrahamic religions.



#### **4.4.1 Theism / Monotheism**

The following paragraph will commence by considering Abrahamic religions and thereafter the Bahá'í faith. Each religion has its own unique angle of incidences, which this study refers to pressuppositions to human events.

The birthplace of Theism and Monotheism is widely accepted as the Middle-East (MacQueen, 2013:05). At the onset, a linguistic distinction between Theism and Monotheism denotes that Theism is understood as the assertion that God indubitably exists (Lataster, 2018:26), and, Monotheism is appreciated as that only one God exists (Koch, 2007:205). The Abrahamic religions, Christian Theism, Judaism and Islam find their relation in three particular elements, which are highlighted as follows: a) each of these three religions share a Middle Eastern origin and history; b) each of these three religions believe in one God only (Silk, 2015:79; Ramadan, 2015:601); and c) Firestone (2015:3) asserts that Christian Theism, Judaism and Islam are referred to as the Abrahamic religions, since these religions profoundly associate with Abraham as the father of Monotheist truth, who in addition had an exemplary relationship with God. Hereto, Firestone (2015:19) maintains that the significance of Abraham to these three religions is explained as follows: to Christian Theists, Abraham is the quintessential reflection of faith in God; in Judaism, Abraham's devotion to God's commandments is highly admired and therefore relentlessly pursued; and in Islam, Abraham typifies absolute deference and obedience to God. In addition to the Abrahamic religions, the Bahá'í Faith also resorts under Monotheism and will therefore be included as a sub-paragraph under Section 4.2.1.

The author needs to state that the content of the Tables that follows may appear reductionist, and that each of these Tables has the capacity to singlehandedly be a voluminous study. However, since the focus of this study aims towards an explication of Meta-physics and the construction of a meta-theory that explicates Ontology and more specific, the nature of being and existence of Public Administration as a science. The content therefore of these Tables merely serve as informative notes that support the argument of how dissimilar and diverse human beings' religious worldviews, emanating pressuppositions and ultimately the construction of the content to a philosophical enquiry may be.

##### **4.4.1.1 Christian Theism (Abrahamic religion)**

A brief account of Christian Theism's beliefs reveal that this religious worldview has a distinct understanding of God as one, triune God (Lee, 1980:22; Lee, 1995:3; Hart, 2010:128), of man, as created in God's image, and of a relationship between God and man. Christian Theists

believe that: “God is both transcendent and immanent” (McDowall, 1915:150; Anderson, 2008:41; Jones, 2012:113); “God is both personal and infinite” (Thomas, 1983:38; Sire, 2014:188, 319); God created, sustains and controls the world (Samples, 2007:92); “God has made Himself personally known in Jesus Christ” (Atkinson, 1997:19); Through Jesus Christ’s death, resurrection and ascension as King of the universe, humanity, who is made in His image, is redeemed from their punishment of death for rejecting God and is given eternal life (Moore, 2018:1622); There are two schools of Thought: a) “[M]an is saved by faith alone (Ferrier, 2010:82); and b) Man is saved by faith and good works (Christian Legalists), (Koenig & Shohaib, 2014:63). Herein, the Holy Bible plays a critical role as the Word of God (Schmidt, 2012:141; Wantang, 2015:18). To Christian Theists, reality subsists both in the transcendent or spiritual reality and the substance, matter or material reality (Boni, 2019:132). Brazier (2013:22) maintains that the universe as material reality and as it is observed by mankind had a definite beginning and will in future have an assured end. Truth as far as Christian Theists are concerned, includes the fact that human beings can only know God through revelation (Dag, 2017:10), whereas truth concerning the material world is obtained by means of: a) revelation; b) sense perception; and c) rational thought (Peterson, 2020:47, 48, 51). Moral values in the context of Christian Theism are impartial manifestations of an absolute moral Being, which is God (Shipton, Coetzee & Takeuchi, 2013). What follows is a summarised version of how Christian Theists’ religious worldview determines their cultural, ethical, philosophical, scientific, political, economic, sociological, legal and psychological perception of reality, truth and belief. Since all of these aforementioned worldviews are in some or another way elements of Public Administration, by briefly understanding each element, the influence that it has on Public Administration becomes evident.

**Table 4.2      The essential outcomes of Christian Theists’ perception of reality, truth and belief**

| Elements                                                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cultural perception</b> of reality, truth and belief | <p>“The relationship between faith and culture is a complex one, however, also because (according to Christian faith) humans and culture-making processes are infected by sin, which grace is meant to heal through faith.” (O’Callaghan, 2017:31). Culture is classified and briefly explained below in terms of cognitive and social culture:</p> <p><b>Cognitive culture:</b> Cognitive culture represents the mental and symbolic depictions of individuals’ reality. Hereto, Ivanovic (2008:18) informs that cognitive culture comprises of collective beliefs and intelligence of what the world is perceived to be. Bilalov (2014:112) asserts that: a) ethnic and sacred rights or symbols are products of tradition, and that the most</p> |

| Elements                                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               | <p>prominent element of the sacred rights or symbols in cognitive culture is faith; b) The focal point of cognitive culture includes the properties of the philosophy of knowledge and cognition, which in turn primarily concentrate on the parameters of intersubjective knowledge in the material world and, on the physiognomies of the configuration of knowledge gained through first-hand experience as well as religious knowledge; c) The culture of thinking is classified as a dominant property of cognitive culture that orders the subservience of thought, reasoning and intellect to “formal and logic rules, or logical thinking”; d) the inherent elements of cognitive culture relates to “mistakes, error, lie, deceit, prejudices, the critical stance, provided by logical and structural thinking offsets and pitfalls.”</p> <p><b>Social culture:</b> The compatibility and relationships between dissimilar races. Zalewski (2012:11) includes the following facts into an understanding of social culture: a) “social culture is an organised way of life, which is based on a common tradition, and conditioned by a common environment”; b) “It is therefore not identical with the concept of civilization, which involves a high degree of conscious rationalization, nor with society itself, since a culture normally includes a number of independent social units.” Culture is an arrangement of “customs, traditions, beliefs, values, social norms, language, symbols, religion, various institutions, art, sciences, technologies, leisure activities, media, everyday habits, automatic social behaviour such as greetings and farewells, the whole created environment including cities ... Culture is essentially a group product.”</p> |
| <p><b>Ethical perception of reality, truth and belief</b></p> | <p>Rosebrough (2002:291) states that Christians view morality as both objective and transcendent. O’Callaghan (2017:28-29) explains Christian Theists’ perception of reality, truth and belief in terms of ethics as follows:</p> <ul style="list-style-type: none"> <li>a) “The dignity of every human being, each one of which is ‘made in the image of God’” (Gen, 1:26), (Bible, 2006:3).</li> <li>b) “A special emphasis on human freedom and free choice, and therefore on personal responsibility, conscience and the possibility of being punished and rewarded.”</li> <li>c) “The sanctity of human life, which should be respected and cared for at every stage, again because humans are made in the image of God. Murder is considered illicit: Whoever sheds the blood of man, by man shall his blood be shed; for God made man in His own image (Gen 9:6), (Bible, 2006:16). Respect for life from beginning to natural end is central to Biblical belief.”</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Elements                                                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                           | <p>d) "A culture of righteousness and guilt as distinct from one of honour and shame. The former, linked to hearing and accusation, is typical of the Bible and is rooted in the person's relationship to God. The latter is common in societies where people are seen to behave well or badly, thus incurring in honour or shame before the community."</p> <p>e) "The significance of marriage as a fundamental matrix of society. There is a close bond in the Bible between Monotheism and monogamy, between fidelity to one's spouse and fidelity to God who is faithful. God's blessings are meant to be passed on from one generation to the next through marriage and family."</p> <p>f) "The covenantal character of society, rooted in the covenant God established with His people. It is lived out in terms of human solidarity, of a common belongingness. And as a result, citizens are seen to have collective responsibility for the workings of society; society is a moral and not just a political achievement; and the fate of society is dependent on how it treats its most vulnerable members.</p> <p>g) "[A]ll human power, all political authority, is subject to the transcendent authority of the Divine. In practical terms this means there are moral limits to the exercise of power, and right is sovereign over might. Despotism and totalitarianism are excluded."</p> |
| <b>Philosophical perception within a geographical prefix</b> of reality, truth and belief | <p>Greek thought or philosophy.</p> <p>Christian religion is the origin of morality that gratifies both the principles of reason and the elimination of obscurantism and fanaticism (Habermas, 2005:164 cited by O'Callaghan, 2017:33).</p> <p>A continuum between realism and relativism subsists within which positivism, post-positivism, interpretivism and constructivism determines the arena within which Christian Theists feel comfortable.</p> <div style="text-align: center;"> <p><b>Positivism</b></p> <p>Realism ← <b>Post-positivism</b> → Relativism</p> <p><b>Interpretivism</b></p> <p><b>Constructivism</b></p> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Scientific perception</b> of reality, truth and belief                                 | <p>There is a distinct teleological intent behind the creation. Subsequently, the universe has a definite beginning and a definite end. God created man with a distinct purpose. Man did not evolve from a micro-organism. Of particular interest here is the meta-physical principle that: the cause is always greater than the effect, which if it said that man evolved from a micro-organism implies quite the opposite.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Elements                                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Political perception</b> of reality, truth and belief     | The fundamental purpose of the state is to instil justice, freedom and order.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Economic perception</b> of reality, truth and belief      | The two most essential principles that the Bible presents are documented here as follows: i) God is the sole proprietor of all land, property and possessions (Leviticus 25:23; Job 41:11; Psalms 24 1 – 2; & Hagai 2:8), and human beings are only given stewardship over this matter. A stewardship of property. God owns everything but He has given man the responsibility to take care of His property and to prosper. In the parable reflected in Matthew 25, (Bible, 2006:1538 - 1541), it is clear that not everybody will receive the same amount of talents. The emphasis is not on the number of talents received but rather on what an individual does with the talents; and, ii) Exodus 21 – 23 presents evidence of God's involvement and presentation of boundaries in the socioeconomic activities in the spatio-temporal epoch of the Bible. The New Testament offers the new covenant, the covenant with Jesus, which is the new covenant that is inextricably connected to justice. The latter requires contemporary Christians to uphold distributive justice and to hold each human being as absolutely worthy of respect, worth and justice" (Smith, 2001:434). |
| <b>Sociological perception</b> of reality, truth and belief  | Home, church, state, in that order. If society is ailing, first fix the home then the church and then the state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Legal perception</b> of reality, truth and belief         | <p>Roman law shapes the fundamental scaffold for civil law, the most popular Western legal system of the 21<sup>st</sup> century.</p> <p>Biblical and Natural law</p> <p>"Natural law" is defined as "a body of law or a specific principle held to be derived from nature and binding upon human society in the absence of, or in addition to positive law." Natural law is revealed through the biblical source and is natural, meaning it is above mankind. We have no ability to change natural laws.</p> <p>"Positive law" is defined as "law established or recognised by governmental authority".</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Psychological perception</b> of reality, truth and belief | Dualism, human beings have a dual nature, body and spirit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Public Administration</b>                                 | The fundamental principle between Christian Theism and P[p]ublic A[a]dministration is documented in Matthew 20:27, 28, (Bible, 2006) “ <sup>27</sup> And whosoever will be chief among you, let him be your servant: <sup>28</sup> Even as the Son of man came not to be ministered unto, but to minister, and to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Elements                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | give his life a ransom for many.” In addition, the Holy Bible, as Word of God, is explicitly clear in terms of: the manner in which ethics need to be observed in P[p]ublic A[a]dministration; the manner in which care needs to be taken of people (citizens) in general, the poor, the sick, the widows and the children; taxes;                                                                                        |
| <b>Public Administration as a science</b> | There is a wonder, an awe and a distinct order to the manner in which God reveals “the intellectual and practical activity encompassing the systematic study of the structure and behaviour of the physical and natural world through observation and experiment (Oxford Dictionary, Lexico, 2020)” to human beings. In this, God’s omnipotence becomes known to man. Public Administration as a science is no different. |

**Source:** Smith (2001:434); Rosebrough (2002:291); Habermas (2005:164); Bible (2006); Ivanovic (2008:18); Zalewski (2012:11); Bilalov (2014:112); O’Callaghan (2017:28, 29, 31 & 33); Oxford Dictionary Lexico (2020)

Whilst studying P[p]ublic A[a]dministration as a science, the importance of understanding Christian Theism and so all the other religious worldviews and related presuppositions that follow, is significant since this knowledge concretises an understanding of the manner in which 84,2% (Statistics SA, 2014) of the South African population (citizens and public servants), lives, moves and have their being (Sire, 2015:56). In addition to Christian Theism, citizens, according Statistics South Africa (2014) also opted to select nothing in particular, refused to give an answer, do not know or left the inquiry as unspecified. The Table that follows considers the presuppositions as they emanate from the latter view on religion.

In the United States of America, individuals that opted to select nothing in particular, refused to give an answer, do not know or left the inquiry as unspecified, are recognised as “nones” (Roberts & Yamane, 2012:113); Individuals that identify themselves as “nones” may not be confused with atheists or agnostics, since these individuals identify themselves as having no religious preferences or affiliations; Such individuals’ “religious identity is therefore not connected with a particular religious’ group’s identity”. Thiessen and Wilkens-Laflamme (2020) informs that in particular contexts, individuals that select the nothing in particular, refused to provide an answer, do not know or who left the selection perception of reality, truth and belief as unspecified such individuals have adopted a twofold option, for example their option includes both religion and culture; There are circumstances in which individuals’ religion, ethnicity and culture are blended in order to acknowledge their ethnical and cultural identity.

#### 4.4.1.2 Islam

Ahmed (2016:6) explicate Islam as both a theoretical object and analytical category that has to represent the expansive and complex nature, and the occasional outright contradiction that are enfolded in this historical phenomenon; Islam is also an account within the context of an idea and reality of divine engagement and communication between human beings and Muhammad, the Messenger of God. The Table that follows thus gives a minimalist insight into the presuppositions that emanate from Islam as religion.

**Table 4.3 The essential outcomes of citizens that selected their religious views as Islam, that reflects their perception of reality, truth and belief**

| Elements                                                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cultural perception</b> of reality, truth and belief                                   | Younos (2013:3) explains that in Islam, human beings forms an integral part of a universal system, and a universal system forms an integral part of every human being; as such, the conceptualisation of culture becomes a natural phenomenon; human culture similarly represents itself as a phenomenon of growth; Islamic culture is certainly not a static conceptual principle, but is rather in a continuous state of movement, growth and development; Muslim culture can therefore never be seen as a static tradition or ritual, rather, Muslim culture changes within the context of a given spatio-temporality; Islamic anthropology shares three perceptions of culture as follows- idealism, behaviourism and holism; Hereto, idealism is perceived as <i>Tawhid</i> , oneness with God, man and universe and represent the shared ways of thinking. Behaviourism represents the notion of following the traditions of Prophet Mohammed. Holism implies obedience to the guidance of the Qur'an as the fundamental character of thinking and to "follow in the footsteps of the Messenger." |
| <b>Ethical perception</b> of reality, truth and belief                                    | Muḥaqqiq (2004:67) distinguishes between philosophical and religious ethics and explains that philosophical ethics pivots on reason, whilst religious ethics hinges on traditions that are passed down from generation to generation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Philosophical perception within a geographical prefix</b> of reality, truth and belief | Islamic philosophy refers to investigations of the most broad questions, just as in a Western context, but within the ambit of Islamic belief and practice (Jackson, 2014:6).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Scientific perception</b> of reality, truth and belief                                 | Iqbal (2007:xvi – xvii) stresses the fact that: "neither nature, nor science, nor their mutual relationships are conceived uniformly across religious traditions, or even within a single tradition over centuries." "Most                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Elements                                                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                    | <p>philosophers of science agree that what we now term science is not a label that can be evenly applied to the investigation of nature in all eras and all civilisations: that is the term science (however one defines it) rests on a number of conceptual presuppositions, peculiar to that civilisation, formed by the social, cultural and historical ethos of that specific civilisation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Political perception</b> of reality, truth and belief</p>    | <p>Esposito and El-Din Shahin (2013:6) clarifies that recently, Islam has positioned itself “into two diametrically opposed orientations”; these orientations include- i) “an increasing involvement in the democratisation process by mainstream movements after the success of pro-democracy popular uprisings in toppling autocratic regimes”; and ii) “a growing inclination towards violence by fringe groups.”</p> <p>The afore described are endeavours amongst Muslim individuals to redesign the socio-political, socio-economic and socio-cultural landscape in Muslim society that are adherent to the strictures of Islam.</p>                                                                                                                                                                                                                                                      |
| <p><b>Economic perception</b> of reality, truth and belief</p>     | <p>Islam economics include: “economic behaviour in Islamic perspective; the economic problem of man in the perspective of the Qur’an and the Sunnah; the Islamic economic system” in which it makes attempts to conceptualise “basic axioms, values and institutions of the system; applications of rules of Shari’a for preventing injustice, managing material resources and meeting human needs; unlimited human wants with scarce resources for achieving <i>falah</i>.” (Hasan, 2020).</p>                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>Sociological perception</b> of reality, truth and belief</p> | <p>Salvatore (2016:6, 7) conceptualises the sociology of Islam as that it has the capacity to: support sociology in general and religion in particular; present a more powerful and less Eurocentric version of sociology and religion; “the key to reappraising religion as a compound of knowledge articulated through the prism of civility (be it the source of social cohesion or mobilisation) is to distinguish between a rather institutional notion of religion, which alternatively coincides with its authorities, creeds, and practices and its rather creative, and in this sense eminently rational meta-institutional impetus”; display the type of creative power that can result in “the manifestation of forms of social knowledge” that has the ability to innovate, construct, reconstruct and assemble novel human institutions that serve an array of societal needs.</p> |
| <p><b>Legal perception</b> of reality, truth and belief</p>        | <p>Griffel (2007:vi) informs that Islamic law is commonly referred to as Shari’ah; Shari’a has a distinct angle of incidence to legal aspects such as civil liberties, gender, ethnic and religious diversity, tolerance and violence, freedom of expression and the relationship between the earthly and the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



| Elements                                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                              | consecrated; Muslim fundamentalists propound that the Shari'a and its supporting pillars, the Qur'an and ḥ ū , establish divine law that directs every segment of Muslim life, and as such Muslim societies and Muslim states "in the most perfect and everlasting way."                                                                                                                                     |
| <b>Psychological perception</b> of reality, truth and belief | Swaid (2016:2) presents Psychology as an intellectual investigation and analytical presentation of the human mind, human behaviour and human propensities; Psychology in Islam, is to gather intelligence of the human mind, behaviour and propensities in light of Divine Scriptures, and the teachings of the Messengers of Islam; Islam thus incorporates an element of spirituality in human psychology. |
| <b>Public Administration</b>                                 | Dreschler (2013:332) points to the fact that the <i>Nizam al-Muk</i> (1018 – 1092) and his <i>Siyāstnāma</i> (The Book of State Art / of Governance), (1960) presents a unique way of perceiving state administration, other than the generally accepted Western manner of public administration.                                                                                                            |
| <b>Public Administration as a science</b>                    | -                                                                                                                                                                                                                                                                                                                                                                                                            |

**Source:** Muḥaqqiq (2004:67); Griffel (2007:vii); Iqbal (2007:xvi – xvii); Dreschler (2013:332); Esposito and El-Din Shahin (2013:6); Younos (2013:3); Jackson (2014:6); Salvatore (2016:6, 7); Swaid (2016:2); and Hasan (2020)

The brief depiction of Islamic or Muslim informed presuppositions that are highlighted in the Table above, enlightens scholars of Public Administration as a science that the manner in which Muslim scholars may construct the ontic substance of Public Administration as a science, may in its entirety be wholly different to any of the other theological worldviews and their propositions.

#### 4.4.1.3 Hinduism

Sivasankaran (2020) explain Hinduism as a form of religion that is as old as eternity and the creation of the universe; Hereto, the *VETHAMS* (Tamil) and *VEDAS* (Sanskrit) hold the codes upon which the Hindu faith pivots; These "codes were given to *BRAHMA*, the creation aspect of *BRAHMAN* (the formless, nameless, non-dual, consciousness, without which nothing exists)."; celestial *RISHIs* (sages) presented these codes to human beings, with the assistance of human sages and saints; the *VETHAMS* and *VEDAS* ("that which is heard and not borne of the mind") are the codes of conduct according to which human beings should live their lives; the four *VEDAS*, i) *RIGVEDAM*, ii) *SAMAVEDAM*, iii) *YAJURNEDAM*, and iv) *TAHRVAVEDAM*, also known as *SANATHAN DHARMA* (eternal righteous actions) are

voluminous treaties, which provides detailed instructions “of how human beings should live their lives on earth in the most righteous manner”; Hinduism presents no strict hierarchical order against which Hinduism should be practiced, hence, Hinduism presents many sects that resort under this religion.

#### 4.4.1.4 Secularism

The Philosophy of Secularism, which the Cambridge Dictionary (2020) explain as that secularist adherents insist on the absolute separation between theological matters and the socio-cultural, socio-economic, socio-political and political economic matters of the state; Philosophical ideologies, moralities and doctrines are thus solely considered from a viewpoint that the material world present, which shifts the focus wholly from a religious and eternal angle of incidence to the spatio-temporal terrestrial.

Lee and Bullivant (2016) conceptualise Atheism as “the absence of belief” or “active disbelief” or “belief in the falsity” of the claim that there is a God or even gods; In its Philosophical extension, Atheists are robust proponents of Positivism, Logical positivism (which is similarly referred to as Logical empiricism) that in its collective state is referred to as Neo-positivism (Garrett, 2018:329); Herein, proponents of Neo-positivism adopt the Epistemology or Theory of Knowledge and Truth that declares scientific knowledge (that which stems from direct observation and logical proof as the only means through which scientific statements can be wholly accepted as knowledge and truth) is the only form of true knowledge and as such, all meta-physical doctrines are rejected as false (LeDrew, 2016:58). Lee (2017:69, 70) introduces New Atheism as a cultural movement that had its origins in the mid-1900s of which its advocates base their belief system on amongst others, the scholarly contributions of: Richard Dawkins (1941); Daniel Dennett (1942); Christopher Hitchens (1949); A.C. Grayling (1949); and Sam Harris (1967). According to Lee (2017:69, 70), the exponents of New Atheism present an extremist secularist agenda that supports amongst other, aspects that include the following: i) “the marginalisation of religion”, whether such religion pivots on Enlightenment Rationalist declarations or not, in which an emphasis is placed on the discord between reason and religion; Hereto, moral concerns in terms of religious institutions and authorities are similarly in question; and ii) a reverence for the accomplishments and sublimity of Western scientific contributions. Makumba (2006:81) postulates that “the primacy of the intellect is affirmed over that of being, which consists in the abandonment of the meta-physics of being, then the ascent to God becomes impossible and the descent to Atheism takes over”; “Once the *cogito ergo sum* (I think, therefore I am), [(Descartes, 2006:46)] becomes the absolute beginning, without any presuppositions, the passage to transcendence of the subsistent Being

is blocked.” As a particularly interesting fact, Makumba (2006:81) highlights Descartes’ attempt to entirely eliminate presuppositions with his *cogito ergo sum* statement to allow man to be the point of departure as opposed to God; The only result that Descartes established herewith was the initiation of Atheism; Every human being has presuppositions, whether Christian Theist, Muslim or Atheist; The latter statement is confirmed later in Makumba’s (2006:81) work when he states the following: “His (Karl Marx) rejection of God and religion is purely humanist and thus his Atheism was a cultural presupposition to bring about total human liberation.” Makumba (2006:81) endows the scholar of Public Administration to understand that modern Atheism has three fundamental pillars upon which it rests. These pillars are identified as: i) “Immediacy or immediateness”- Atheism becomes the starting point of the human being’s self-affirmation, which inherently becomes the individual’s culture. Hereto, the non-existence of God establishes the springboard from which all other socio-cultural activities emanate. The aforementioned springboard, by design thrusts human beings into a humanitarian environment; ii) “Universality”- Atheism is universal since it shapes the mould of existence differently by for instance getting rid of elitist excessive ‘baggage’ by means of adopting distinct socio-economic and socio-cultural, socio-political structures within the state; and iii) “Positivity and Constructivity”- Hereto, Atheists understand that individuals have to take complete ownership over themselves, which has a distinct relation to the manner in which individual’s denial of the existence and knowledge of God subsist in both the individual and societal sense. Gray (2018) introduces the scholar to seven types of Atheism, which he records as follows: i) “The New Atheism”; ii) “Secular Humanism”; iii) “Science as religion”- “Evolutionary humanism”, “Mesmerism”, “Dialectical materialism”, and “Contemporary transhumanism”; iv) “Modern political religions”- “Jacobinism”, “Communism”, “Nazism” and “Evangelical liberalism”. What used to be understood as Atheism, God cast aside, now appears to be the collective expression of fundamental variants within one religious worldview. Notably, each of Gray’s (2018) seven types of Atheism will present their unique presuppositions against the listed nine presuppositions. For example, in Secular Humanism, issues of a humanitarian nature will feature at the top of an agenda, whereas to Atheists that have adopted science as religion, everything departs from scientific measurement.

#### 4.4.1.5 Judaism (Abrahamic religion)

Solomon (2014:1) writes: “You are reading a book written in the English language. The English language is not neutral. It evolved in a Christian civilisation; it comes ready loaded with a cargo of Christian concepts and assumptions. As Christianity was born out of a conflict within 1<sup>st</sup>-century Judaism, and defined itself as against Judaism, it is difficult from within a Christian culture and language to look at Judaism with the innocence with which you might look at say,

Shinto or Buddhism. Just think of some of the offensive overtones which have been carried in English by the simple word ‘Jew’.” According to Brittanica (2020), the Hebrew Bible, that are similarly referred to as the Hebrew Scriptures, the Old Testament or Tanakh, presents three sections that are respectively known as: i) the Torah (Teaching), which is also referred to as the “Pentatteuch”, or the “Five Books of Moses”; ii) the “Nevi’im” that refers to the Prophets; and iii) the “Ketuvim”, which is similarly called the “Writings”, which in total contains 24 books. Dorff (1998:127) sketches the following narrative to explain the Jewish perception of God as follows: “Whenever I am asked if I believe in God, I respond, ‘Tell me what you mean by God and I’ll tell you if I believe in that God. On this issue, I insist that God transcends human understanding and language. That is what makes God God. To believe that human beings can comprehend God is idolatry, the cardinal Jewish sin.” In this light, Table 4.4 will present a brief description of the perceptions that flow from Judaism.

**Table 4.4      The essential outcomes of Judaism’s perception of reality, truth and belief**

| Elements                                                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cultural perception</b> of reality, truth and belief                                   | The dominant establishment stemming from a society’s activity reflects a created culture that fosters such a society’s primary ideals (Schweid, 2008:1).                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Ethical perception</b> of reality, truth and belief                                    | Sherwin (1991:1, 118) informs that ethics in Judaism “presumes certain theological premises.” Just like Theology, Jewish ethics is never a <i>creatio ex nihilo</i> , since it always pivots on that which came before.”                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Philosophical perception within a geographical prefix</b> of reality, truth and belief | Tirosh-Rothschild (1997:479) informs that science had the ability to explicate the systems and methods of the created universe, however science was not able to explain the religious vocation of Israel. Religion was subsequently viewed as superior to science and impenetrable by scientific method. Hereto, Philosophy became progressively immaterial to the Jewish religion. The results of these events ensured that there was now no connection between the Jewish religion and science. The fundamental enterprise of modern Jewish philosophers was thus to salvage Jewish Philosophy. |
| <b>Scientific perception</b> of reality, truth and belief                                 | Even though science had the capacity to enlighten the processes of the created universe, in the Jewish religion, science takes a back seat since it can explain very little about the religious vocation of Israel (Tirosh-Rothschild (1997:479).                                                                                                                                                                                                                                                                                                                                                 |
| <b>Political perception</b> of reality, truth and belief                                  | Isaacs (2011:21) writes that “[s]overeignty summons Jews and Judaism to flag of national and political responsibility.” “As the national religion of                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Elements                                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                              | Israel, Judaism must meet the standards of political and moral accountability that are required of those who wield power.”                                                                                                                                                                                                                                                                                                  |
| <b>Economic perception</b> of reality, truth and belief      | As Editor, Satlow (2018) directs a book that is evident from the 1 <sup>st</sup> to the last pages that an Economic perspective in the Jewish community is in its entirety based in the principles of the Old Testament in the Bible. This includes “Lending to the poor”, “Sabbatical and Jubilee Years”, “Tithes”, “Sabbatical years”, amongst many more that all have its foundations in the Old Testament of the Bible. |
| <b>Sociological perception</b> of reality, truth and belief  | Cahnman (2007:73) points out that “a sociology of the Jews does not exist yet.” The majority of Jews request for an explanation of social phenomena such as <i>Kvutzot</i> in Palestine, anti-Semitism in the USA, Hitler’s treatment of the Jews amongst many more.                                                                                                                                                        |
| <b>Legal perception</b> of reality, truth and belief         | The authority of Jewish law is embedded in both the values that are laid bare whilst encountering reality, and from heredities practiced in Jewish communities in reaction to such values (Dorff, 1998:127). Hereto, the ten Commandments given by God to Moses on Mount Sinai play a significant role.                                                                                                                     |
| <b>Psychological perception</b> of reality, truth and belief | Four of the most prominent scholars of Psychology were of Jewish descent. They are recognised as Sigmund Freud, Max Wertheimer, Abraham Maslow and Naom Chomsky (Rich, 2008). Hood Jr., Hill and Spilka (2018:10) informs that religious groupings in Judaism varies from Orthodox to Conservative to Reform Jews. But a broad history of the economic and social narrative of Judaism exists only                          |

**Source:** Sherwin (1991:1, 118); Tirosh-Rothschild (1997:479); Dorff (1998:127); Cahnman (2007:73); Rich (2008); Schweid (2008:1); Isaacs (2011:21); Hood Jr., Hill and Spilka (2018:10); Satlow (2018)

Against the backdrop of Judaists fundamental viewpoint of reality, truth and belief, the following section introduces the *Bahá’í* faith as a religion that subsists in the Republic of South Africa and therefore influences the way human beings view the world.

#### 4.4.1.6 The *Bahá’í* faith

Noguchi (2006:285) introduces the *Bahá’í* faith as that it has its origins in the middle of the 19<sup>th</sup> century, when *Bahá u lláh* classified the myriad of world religions as sequential steps that subsist in a single divine plan. Hereto, *Bahá u lláh* declared all the different nations as

belonging to a single world and family; human beings have been created as honourable, principled and moral beings, which all share a similar purpose, which is “to know and worship God” (Noguchi, 2006:285). Table 4.5 shares brief factual details of the presuppositions that emanate from the *Bahá’í* faith.

**Table 4.5      The essential outcomes of a *Bahá’í* perception of reality, truth and belief**

| Elements                                                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cultural perception</b> of reality, truth and belief                                   | The dominant establishment stemming from a society’s activity reflects a created culture that fosters such a society’s primary ideals (Schweid, 2008:1).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Ethical perception</b> of reality, truth and belief                                    | Schaefer (2004:1, 3) informs that the <i>Bahá’í</i> “hierarchy of virtues pivots on a series of meta-physical suppositions; “God is the source of absolute moral values”; Every human being is in absolute control of his/her instincts and actions to which they stand morally responsible; A human being’s righteous conduct will be rewarded in the hereafter; <i>Bahá’í</i> ethics is organised by means of two complementary ethical instructions- the first is teleological in nature (i.e., has the purposeful intent of (“an ethic of virtue, aiming at good deeds”; and present “a praiseworthy character”); - the second is deontological in nature that presents (“laws, commandments and prohibitions”); the <i>Bahá’í</i> presents three potential categories of virtues, that represents “virtues to God, oneself, and others” “the virtues of the Path”, and “the worldly virtues”; Hereto ‘justice’ is observed as the significantly important. Ethics and law stem from similar philosophical presuppositions Schaefer (2007:xii). |
| <b>Philosophical perception within a geographical prefix</b> of reality, truth and belief | Stiles (1984:86) propound that the <i>Bahá’í</i> faith has a more comfortable relation to a classification as philosophy, than what it has as religion; The <i>Bahá’í</i> philosophy promotes bigger freedom for both women and men and in addition dissuades religious extremism and ignorance. Schaefer (2007:10) states that the source of the nucleus of philosophy emanates from the Prophets; <i>Bahá u lláh</i> (Arabic for “the glory of God”), (Lepard, 2008:17), distinctly holds Socrates, Plato and Aristotle in high regard with reference to knowledge; and <i>Bahá u lláh</i> and <i>Abdu’l-Bahá</i> regards Aristotle’s works as the most suitable philosophical conduit to give expression to the <i>Bahá’í</i> faith.                                                                                                                                                                                                                                                                                                             |
| <b>Scientific perception</b> of reality, truth and belief                                 | Khursheed (1997:107) informs that the act of scientific research is a “singular human activity”; If devoid of the unique human characteristics of “conscious intelligence and free will”, science will prove to be impossible; A relation between the <i>Bahá’í</i> faith’s perception of science and Western                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Elements                                                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                             | <p>Philosophy, is recognised in the <i>Bahá'í</i> faith's similarity to the Rationalist tradition and vice versa; To human beings that construct their theological viewpoint on the <i>Bahá'í</i> faith, the ontic nature of science is in essence derived from "supernatural powers of the mind", and "it is naturally linked to other creative spheres of human activity"; Science, art and craft as domains are often referred to in the same realms; Hereto, <i>Bahá u lláh</i> states that the general term knowledge includes sciences, arts and crafts; The sciences, arts and crafts are all constructed from "the unique creative powers of the mind and therefore share a natural unity"; These three spheres have no exact borders, since they are all included in the realm of knowledge, which <i>Bahá'í's</i> are obliged to attain; Science is similarly connected to deep philosophical reflection and cosmological mysteries; Science is perceived as a revelation from God; And "the universe is filled with knowledge and signs of God".</p>                                                                               |
| <b>Political perception</b> of reality, truth and belief    | <p>Noninterventionism in politics is a primary principle of the <i>Bahá'í</i> faith. "If any person wishes to speak of government affairs, or to interfere with the order of government, others must not combine with him, because the Cause of God is withdrawn entirely from political affairs; (<i>Bahá'í</i> World Faith, cited in <i>Bahá'í</i> News, 1945:4", cited in Van den Hoonaard, 1996:257)."</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Economic perception</b> of reality, truth and belief     | <p>Momen (2012) informs that based on the <i>Bahá'í</i> faith, current economic affairs are approached in an erroneous fashion, since the principles that direct such understanding is in its entirety wrong. Three of these myths are identified as that: i) human beings' happiness and content will not be the resultants of individual wealth; ii) No perpetual benefits will stem from the act of ensuring that one part of a population has abundant wealth against the rest of the world that lives in abject poverty; iii) Economists make an incorrect assumption when formulating economic theories on the basis of materialistic principles, that such theories will have the ability to resolve economic phenomena. Economic phenomena are in their innermost core, spiritual in being, which implies that such phenomena can only be rectified by resolving issues such as injustices, corruption and self-interest. The <i>Bahá'í</i> faith therefore proclaim that economic phenomena will not be resolved through the application of urbane and erudite economic theories, complex legislation or political manipulation.</p> |
| <b>Sociological perception</b> of reality, truth and belief | <p>McMullen (2014:167) propound that the <i>Bahá'í</i> faith globally focusses on: i) education, particularly with respect to the faith itself and the values that it promotes as well as issues of "racial unity, equality of women and men, human rights and sustainable development"; ii) social services such as</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Elements                                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                              | literacy programmes, programmes in agricultural improvement as well as medical clinics. Buck (2020) highlights a phenomena that the <i>Bahá'í</i> faith identifies as the “human predicament”, which encapsulates a deep seated dissent in amongst the human race, which has infiltrated the social fibre from family relations to international relations.                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Legal perception of reality, truth and belief</b>         | The authority of Jewish law is embedded in both the values that are laid bare whilst encountering reality, and from heredities practiced in Jewish communities in reaction to such values (Dorff, 1998:127). Hereto, the ten Commandments given by God to Moses on Mount Sinai play a significant role.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Psychological perception of reality, truth and belief</b> | Maloney (2006:121) explains that: i) the <i>Bahá'í</i> faith comprises of two levels of existence namely the “material realm” and the “spiritual realm”. Continuous “change and decay” represents the material realm and “wholeness and perpetuity” represents the spiritual realm; ii) the <i>Bahá'í</i> faith similarly include “a multidimensional unity of self, recognising the biological, psychological, spiritual, moral and transcendental/teleological aspects” of human life; iii) Individuals are subsequently characterised as having a dual nature, recognised as the material self and the spiritual self. A human being's higher nature “is capable of gaining supremacy over the lower material self with the purpose of reflecting divine attributes”. |
| <b>Public Administration as a science</b>                    | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Public administration as a science</b>                    | In his last days, the Báb constructed instructions upon which the <i>Bahá'í</i> state's administration had to pivot. These instructions included: i) the manner in which public affairs need to be conducted; ii) maintaining peace and order; iii) directing economic activity; iv) directing socio-cultural institutions such as “marriage, divorce and inheritance”; as well as v) foreign relations (Hatcher & Martin, 2002:25).                                                                                                                                                                                                                                                                                                                                     |

**Source:** Stiles (1984:86); Van den Hoonaard (1996:257); Khursheed (1997:107); Dorff (1998:127); Hatcher and Martin (2002:25); Schaefer (2004:1, 3); Maloney (2006:121); Schaefer (2007:xii, 10); Lepard (2008:17); Schweid (2008:1); Momen (2012); McMullen (2014:167); and Buck (2020)

In a conclusive summary, and based on the brief inserts included in Table 4.5, followers of the Bahá'í faith, whom are referred to as *Bahá'ís*' presuppositions pivot on the principles that are encrypted in this Iranian, Arabic religion. Similar to Christian theists, *Bahá'ís* also confirm Jesus as the Son of God. The way in which *Bahá'ís* thus live, move and have their being is distinctly shaped by their theological worldview.



The fact that theological worldviews shape the fundamental basis against which human beings have their being is particularly reminiscent of Sire's (2015:56) statement that is often referred to in this study. It is thus in the context of the afore identified South African religious and non-religious theological worldviews, and the distinct presuppositions that each worldview presents as premise, that academic scholars and public servants of P[ublic] A[dministration] in the Republic of South Africa will perform and implement such scientific research. Highly dependent on individual worldviews, follow the certainty or renunciation of the existence of meta-physics. Based on the author's worldview and subsequent acknowledgment of the meta-physical, it is appropriate to include a discussion on meta-physics and its position in the ontic meta-theory that is ultimately applied to determine the ontological status of Public Administration as a science.

Section 4.4 that follows therefore focus on meta-physics, as Hegel (2004:202) describes it, "meta-physics is nothing but the range of universal thought-determinations, and as it were, the diamond net into which we bring everything to make it intelligible." Moore (2012:1) introduces meta-physics as that it is "the most general attempt to make sense of things." Hereto, Moore (2012:2) highlights concepts that are strongly associated with the concept and description of meta-physics; These concepts are firstly recognised as: "existence; relation; quantity; order; number; time; change; and causation". Secondly, these concepts evoke a set of inquiries such as: what is the highest level of general validity or force concerning the ability of Public Administration as a science to interact with a physical or mental reality, as an ontic property or characteristic of being? What is the highest level of general validity or force concerning the ability of Public Administration as a science to display the manner in which properties or elements within the science are connected to each other, or the way in which Public Administration as a science is connected to other sciences, or the manner in which the science itself affect or has relevance to other things as an ontic property or a characteristic of Public Administration as a science and as a being? Some of these inquiries have already been addressed in Chapter 2 of this study during an investigation of the corporeal morphology and physiology of a science.

#### **4.5 META-PHYSICS**

*Hē noēsis noēseōs noēsis* (Meta-physics, XII.9, 1074B33-4), "[Thinking,] if it is the most excellent, thinks itself and is the thinking of thinking, thinking" (Fuller, 1907:171; Aristotle, 2013: XII, 9; Hegel, 2019:xxxix). Hereto, Aristotle presents the primary source or the fundamental ontological well-spring of everything as the "Prime Mover", the "Unmoved Mover", or the collective universal *kinēsis*, "that which moves without being moved", (*ho ou*

*kinoúmenon kineîn*), (Meta-physics, XII, 1072a). In this light, the Greek term *kinēsis* cannot have the exact same meaning as the post-modern term kinesis, since kinesis is explained as “an undirected movement... in response to an external stimulus” (English Oxford Living Dictionaries, 2019: online) and *kinēsis* is related to the “Prime Mover” that is incited by itself and not an external force (Meta-physics, XII, 1072a). In his Meta-physics, Aristotle thus presents the fundamental structure of a meta-physical statement that gives impetus to the ontic argument posed in Chapter 4. In this context, if Aristotle could employ the aforementioned depiction to pronounce the innermost being of thinking itself, what would become known to humanity if the same structure had to be applied to Public Administration as a science? That is, Public Administration as a science, if it is the most excellent, [public administrative science] itself, and is the [scientific Public Administration] of [scientific Public Administration], [scientific Public Administration]. In the quest to ultimately understand an ontological account of Public Administration’s innermost being, Chapter 4 thus continues by considering the scholarly contributions of Aristotle, Ramsay (1870), amongst many others, in order to ultimately construct a meta-theory that carries the intelligence through which the innermost being and thus the nature of Public Administration as a science is enlightened.

During an interview that Robert Lawrence Kuhn (2020) conducted respectively with Colin McGinn (University of Manchester), Peter van Inwagen (University of Rochester), Phillip Clayton (Harvard Divinity School) and George Lakoff (Berkeley), the following insights with reference to Meta-physics became illuminated: McGinn (2020) stated that Meta-physics equips human beings with a comprehensive perception of reality; In Physics and Biology, Physicists will inform human beings of the kind of things that subsist. Hereto an immediate inquiry arises, what will scholars of Public Administration as a science reveal as things that subsist? McGinn (2020) continues by stating that Meta-physics similarly informs human beings of the things that exist, but does so on a much larger scale; The fundamental categories that envelops things that subsists are identified as the material world, the mental world and the abstract world to which numbers, propositions, theory, meanings and logic belong; McGinn (2020) refers to the aforementioned as the “tripartite distinction”; The Meta-physical questions that emanate from these distinctions are, “which one of the categories in the tripartite distinctions is the most fundamental category? Does reality only divide into these three categories? If so, how do they relate to each other?” Hereto, McGinn makes a critically important statement- “If you say that only the physical (material) world is real, then you must suppose that the mental world is unreal.” Subsequently, Kuhn’s (2020) interview with Peter van Inwagen (2020) reveals the important properties of reasoning to which Van Inwagen (2020) states that thinking about a meta-physical question well, requires that the thinker must cognitively recognise the different options that subsists; If it is worth having opinions to these

inquiries, it must be worth having objections to these opinions, and hereto, it is important to know what the arguments and distinctions are; for example, “if you think that everything has a cause, then everything that we observe, taken as a whole, has a cause, but if you think that everything that we observe are just a lot of different things that does not form a whole, then that principle that everything does have a cause can be observed, even though there is no cause outside that system, because each one is caused by something inside the system.” In his interview, Clayton (2020) pronounces that scholars have to apply the scientific method, to venture and extend ourselves beyond science; Hereto, Clayton (2020) asks the important question, “is reality at the core of the indeterminate?” In Kuhn’s (2020) final interview with Lakoff (2020), it soon becomes evident that Kuhn (2020) and Lakoff (2020) have dissimilar worldviews and it is therefore admittedly very difficult for Kuhn (2020) to appreciate Lakoff’s (2020) description of Meta-physics as that “[a]ny objective, external reality is either non-existent or un-knowable.”

The question with which this study is now confronted may be documented as follows: what is the teleological intent behind Kuhn’s (2020) interviews with McGinn (2020), Van Inwagen (2020), Clayton (2020) and Lakoff (2020) on Public Administration as a science? The purpose of the inclusion of a documentation of the aforementioned interviews in the first instance illuminates what Meta-physics is, in the second instance what its categories are and in the third instance, what it expects a field of study to address and how it needs to address distinct matters such as what exists in reality. This inquiry is then related to Public Administration as a science in the sense that it too needs to explain what exists in P[p]ublic A[a]dministration as a science, as an art and as a craft. Two additional questions that needs to be considered are: Which of McGinn’s (2020) tripartite distinctions is the most fundamental to P[p]ublic A[a]dministration? How do individuals’ worldview shape even the way that they perceive reality?

Chapter 2, Figure 2.33 presented the fundamentals in terms of the fact that Meta-physics is a branch of Philosophy. Hereto, Meta-physics is separated into General Meta-physics and Special Meta-physics, in which General Meta-physics is of particular interest to this study since it presents the link to fundamental Ontology, the primary inquiry of Chapter 4.

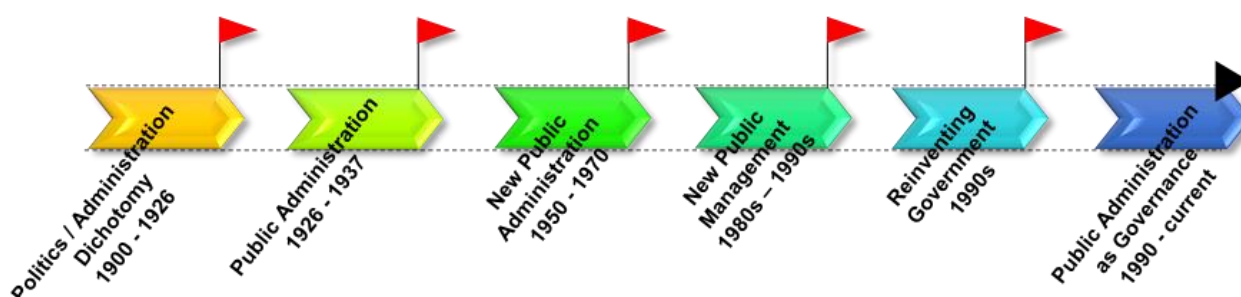
As one of the four branches of Philosophy, Rosenkrantz and Hoffman (2011:7) conceptualise Meta-physics as differentiated between Analytical and Inventorial Meta-physics. Hereto, Rosenkrantz and Hoffman (2011:7) explicate Analytical Meta-physics as: i) that its primary intent is to find solutions to definitional inquiries that is identified as, e.g. “what is a concrete

entity?" In the context of this study, numerous such enquiries are exhibited such as, what is a nodal entity in the anatomy of Public Administration as a science? What is included in the substance of the anatomy and physiology of Public Administration as a science? amongst many more: ii) In order to establish an answer to a definitional question, scholars are required to construct an analytical definition, which is similarly recognised as a philosophical analysis. The process of analytical definition or philosophical analysis is notably present throughout all the chapters included in this study. In addition, Rosenkrantz and Hoffman (2011:7, 8) inform that Meta-physics seeks to address non-definitional inquiries that relates to Inventorial Meta-physics, which reflect an ontological or cosmological character. Hereto, we are briefly reminded that Ontology resorts under General Meta-physics and Cosmology resides under Special Meta-physics (Rosenkrantz & Hoffman, 2011:1, 2), as visually displayed in Chapter 2, Figure 2.33 of this study; Inquiries of this nature are mostly addressed by means of inconclusive, *a posteriori* reasoning; Inconclusive, *a posteriori* reasoning presents suppositions that are both "not logically deductive" and, is a premise that pivots on "one or more fallible empirical beliefs"; Of particular importance is the fact that completely conclusive answers to ontologically natured inquiries appear to be unattainable. Hereto, individual worldviews play a fundamental role in determining answers to ontic questions, which pre-empt Gombault's (1990:231) observation, discussed later in this section that the social sciences are burdened by highly complex processes and an enormous amount of variables that present itself in any given situation. However, the fundamental connection between Meta-physics and Public Administration as a science, is embedded in the knowledge of the anatomy of Public Administration as a science, since it is in the anatomy of this field of study's science that the scholar of this discipline encounters Meta-physics as one of the properties of a science's paradigm/s. In addition to a discipline's paradigm/s, a study of Public Administration as a science's Ontology similarly offers an introduction and confrontation with Meta-physics, since these two entities are closely related to each other in the realm of the Philosophy of science and thus the Philosophy of Public Administration as a science. What follows is a brief reminder of the introduction to Meta-physics that a paradigm as nodal entity in Public Administration as a science illuminates.

Accept for Gruening's (2001:1 – 25) scholarly contribution, this study can unambiguously confirm that, never in the documented history of P[p]ublic A[a]dministration or any other descriptive wave of reform connected to this discipline, did its science, as one of this field of study and its practice's *noumenal* ontic expressions, present the character of a Kuhnian (1962; 2012) paradigm, and certainly not a mature paradigm. Never did scholars of P[p]ublic A[a]dministration as a science, universally confirm and explicate the meta-physical, sociological and artefact or construct senses of paradigm. Even the designation and time

allocation of particular waves of reform as it is illustrated in Figure 4.2, differs notably from nation to nation and from scholar to scholar in its context and concept, i.e., locus and focus in a distinct spatio-temporal context. However, the designation and date allocation to the waves of reform in P[p]ublic A[a]dministration are in this particular instance of lesser concern, since these different periods in its entirety represent the field of study's pre-science and as such, pre-paradigmatic phases. Similarly, it is noted that here, the emphasis is on establishing a meta-physical conceptualisation and an understanding of Meta-physics as it relates to Public Administration as a science, on route to presenting an ontic meta-theory and on route to determining this discipline's, science's ontic character.

**Figure 4.2 The different periods of evolution in P[p]ublic A[a]dministration**



**Source:** Dong (2015)

Note that the different periods of evolution in Public Administration as illustrated in Figure 4.2 may only be true in the American and European contexts. Post a scientific investigation, African, Eastern and South American periods of evolution in P[p]ublic A[a]dministration may in its entirety prove to be very different.

Based on the characteristics of a mature paradigm as it is presented by Kuhn (1962; 2012), categorised by Masterman (1970), and verified by Hacking (2012), Dilworth (1994:224, 225) investigated the basic meta-physical principles that constitute contemporary science and documented them as follows: i) The principle of uniformity of nature; ii) The principle of perpetuity of substance; iii) The principle of causality; and iv) The contiguity principle. Dilworth (1994:224) informs that these principles are to be perceived as paradigms. It would thus make sense to understand these meta-physical principles to be the meta-physical sense of paradigm in the Kuhnian (1962; 2012) account of paradigm. However, in order to capture the whole essence of a paradigm, it is imperative to add the sociological and artefact or construct senses of paradigm too, but for this section of the study, the focus will in the main be on the meta-physical sense of paradigm. The following encapsulates a brief understanding of Dilworth's

(1994:224, 225) meta-physical principles and their relation to Public Administration as a science:

#### **4.5.1 The Principle of Uniformity of Nature**

Dilworth (1994:224) informs that The Principle of Uniformity of Nature pivots on the concept change. Herewith, it is understood from Aristotle's Book 5, Physics (3.1 200b28-201a2, b5-7) that "change is [the] actualisation of a potentiality". A contextualised explanation thus of Dilworth's (1994:224) Principle of Uniformity of Nature and its focus on change is explicated as follows: Bunge (1977:29 – 37) pronounced that "[a] theory is scientific if and only if: it is compatible with the bulk of scientific knowledge; and hereto, either jointly with subsidiary hypotheses and empirical data, entails empirically testable consequences; or, jointly with subsidiary hypotheses and empirical data, entails theories that in turn entail empirically testable consequences." Therefore, a combination of Aristotle (Book 5, Physics, 3.1 200b28-201a2, b5-7) and Bunge's (1977:29 – 37) wisdom pronounce that: in the actualisation of potential, where a theory is considered for its capacity to be a scientific theory, and it has delivered evidence that it "is compatible with the bulk of scientific knowledge and jointly with subsidiary hypotheses and empirical data that entails empirically testable consequences"; or, it "is compatible with the bulk of scientific knowledge and jointly with subsidiary hypotheses and empirical data that entails theories that in turn entail empirically testable consequences"; potential has been actualised and change has occurred in the sense that such a theory adheres to the prescripts of a scientific theory and the Principle of the Uniformity of Nature has, in part been applied.

The aforementioned explicated example of a scientific theory also coincides with Lautner's (2013:1) observation that change is a *noumenal* occurrence, in other words, change occurs in the thing in itself. Lautner (2013:1) explains the fundamental difference between 'change' (*kinêsis*) and transformation (*metabolê*), as observed from Aristotle's Book 5, Physics, that the concept change refers to 'non-substantial change', since the concept change stand in relation to "contraries" or "intermediaries", and "substance has no contraries". Rosenkrantz and Hoffman (2011:75) explain contraries as "a pair of properties that are such that nothing can have them both at the same time, though some things may have neither of them at the same time." An example applicable to this study is thus that a scientific theory cannot both at the same time be compatible with the bulk of scientific knowledge and also not compatible to the bulk of scientific knowledge. Lautner (2013:1) confirms that change only occurs relative to three categories, which is noted as: quality; quantity and place. Of importance is the fact that

Aristotle in his Book 5, Physics, identified the position of authority (“the seat of change”) in neither in the changer, nor in the form but rather as a *noumenal* occurrence in the thing in itself. Thus, if the hylomorphic process in Teleology is considered in this particular instance, Aristotle recognises “the seat of change”, neither in the efficient or moving ‘be-cause’, nor in the formal ‘be-cause’ but rather in the thing in itself. Contemplating change within the Principle of the Uniformity of Nature therefore in Public Administration as a science against the facts that Aristotle, Book 5, Physics (3.1 200b28-201a2, b5-7); Bunge (1977:29 – 37); Dilworth (1994:224); Rosenkrantz and Hoffman (2011:75) and Lautner (2013:1) have thus far imparted on the character of change, an example is derived from nodal entity 2, The Paradigm/s. In Public administration as a sciences’ paradigm, change (*kinêsis*) as the actualisation of potential occurs as a *noumenal* event in the paradigm itself when such a paradigm can no longer present the framework from which anomalies and phenomena can be addressed and answered, and against which Quotidian science can function. Since change stands in relation to only quality, quantity and place, it is notable that the change in a paradigm is of a qualitative nature, since the primary intent of change in a paradigm is to offer better solutions to anomalies and phenomena that is presented by an external environment and to ensure an enhanced functioning of Quotidian science. Hereto, the basic form of a paradigm, which is its meta-physical, sociological and artefact or construct senses remains the same throughout the whole process of *kinêsis* but the content that fills the form will change fundamentally. In conclusion of the example, it is recognised that the “seat of change” in a paradigm is neither in the (“changer”) scientists that can no longer practice Quotidian science on the extant paradigm, nor in the (“form”) meta-physical, sociological and artefact or craft senses of a paradigm but rather a *noumenal* occurrence in the science itself.

Gombault (1990:231 – 255) presents the backdrop against which Dilworth’s (1994:224, 225) explication of The Principle of Uniformity of Nature needs to be observed. Gombault (1990:231) firstly observed that the social sciences are entangled between highly complex processes and a gargantuan number of variables that present itself in any given situation. Hereto, Gombault (1990:231) explicate that the most sensible thing to do, is to select only those variables that will provide a core structure in the midst of a multitude of phenomena. Secondly, Gombault (1990:231 - 257) advises that in the legalistic character of The Principle of Uniformity of Nature, change pivots on three basic rules and five steps. Gombault (1990:231 – 255) identifies the three basic rules as: a) “[w]hen we strive for a systematic build-up of basic rules, we should reserve some space for an even more general basic rule, still to be formulated.”; b) “Complex systems, whose information units in the system are expressed in characteristics with variations, will evolve when fitting or not fitting of those variations to the

environment is positively fed back to the information in the system, as the result of which the information content changes. The variations arise as a consequence of mutation and re-combination of discrete units of information and it appears that permanent changes are executed only step by step.”; c) The third basic rule of change is an account of the five different phases of change. These five phases are documented here as follows and bears significant resemblance to the character of Kuhn’s (1962; 2012) *Extraordinary science*: Phase 1 – resembles an inadvertent commencement of research. In this instance, the research is categorised into either a “re-combination of existing information”, or inventions that suddenly emerged, to which potential consequences or causes are identified; Phase 2 – bears resemblance to traversing the brink of change. In Phase 2, the novel, still ineffective, inefficient, operational discovery receives extreme appreciation in the extant state of for example an academic discipline, which is on the edge of a high level of development, “because it can satisfy a large unfulfilled need under changing circumstances”. The reality of Phase 2 implies in the case of Public Administration as a science, that the illumination of the anatomy and physiology of Public Administration as a science, will satisfy not only the unfulfilled need for theory development, but will similarly bring to fruition a particular order in the academic discipline and as consequence, present a field of study that functions with all its ontic expressions, i.e. its science, art and craft. Hereto, a number of different branches in the discipline may evolve such as the History and Philosophy of the science of Public Administration, Public Administration and Meta-physics, amongst many others; Phase 3 - represents the rapid diversification of an academic discipline such as Public Administration and its science’s epistemological branches that addresses distinct positions, particularly “when a change in the environment” introduces new resources, creates new phenomena or illuminates novel positions within the field of study. In the natural sciences, this particular occurrence is referred to as “Adaptive Radiation” and Schluter (2000) and Larsen (2010) explain that “Adaptive Radiation” in the context of “Evolutionary Biology” refers to “a process in which organisms diversify rapidly from an ancestral species into a multitude of new forms, particularly when a change in the environment makes new resources available, creates new challenges or opens new environmental niches”. The character of Phase three includes aspects such as that this rapid diversification will commence after a period of substantial development, additional improvement of effectiveness and efficiency, functional adaptation and specialisation. When an occurrence such as “Adaptive Radiation” is considered in the context of Public Administration as a Social Science, this could imply a presentation and recognition of the potential to develop diverse novel branches as a result of the recognition of more basic, key-characteristics, a more stable and varied environment that has the capacity to buttress a population of scholars and scientists scientific inquiries; Phase 4 – resembles a level of maturity and simultaneous flattening of the growth curve, which are the direct results



of a saturation in further development, functional diversification, supplementary divisions and branches; and Phase 5 signals the end. The last phase in the process of the third basic rule of The Principle of Uniformity of Nature, commences when inventions have been well developed and are well adapted to the environment within which they initially were conceived. In summary, Gombault (1990:233) presents a Table that appears here as Table 4.6 in which it is stated that: “[i]f we further assume that the subsidiary hypotheses and definitions form a coherent body per discipline”, the above presented facts can be summarised in the following Table.

**Table 4.6      The rules of fundamental change in the context of a science**

| “Basic rules of change”      | “Specific definitions and hypotheses for field of research: a”             | “Specific definitions and hypotheses for field of research: b”             | “Etc.” |
|------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|--------|
| “1 <sup>st</sup> basic rule” | $1 + a$<br>Testable specific rules or after subsidiary hypotheses testable | $1 + b$<br>Testable specific rules or after subsidiary hypotheses testable | “Etc.” |
| “2 <sup>nd</sup> basic rule” | $2 + a$<br><i>Idem</i>                                                     | $2 + b$<br><i>Idem</i>                                                     | “Etc.” |
| “3 <sup>d</sup> basic rule”  | $3 + a$<br><i>Idem</i>                                                     | $3 + b$<br><i>Idem</i>                                                     | “Etc.” |

**Source:** Gombault (1990:233)

Considered in the context of Public Administration as a science in the context of Table 4, the following factual details are extrapolated:

The 1<sup>st</sup> fundamental rule of change in The Principle of Uniformity of Nature - When the primary aim is to achieve a gradual, exponential increase of basic rules, the actualisation of the potentiality to construct an even more fundamental rule has to be the rule, rather than the exception. This 1<sup>st</sup> fundamental rule of change in aggregation with explicit conceptualisations

and premises that Public Administration present, will according to Gombault (1990:233) deliver “testable specific rules”, or in addition, the post supplementary hypotheses will become testable. The implications of the 1<sup>st</sup> fundamental rule of change in The Principle of Uniformity of Nature in the context of Public Administration as a science is thus fairly obvious. The 1<sup>st</sup> fundamental rule of change alerts Public Administration scientists to be in a perpetual search for the most basic rule that informs the science of this field of study, and as such actualise the potential of the most basic rule. The latter needs to occur amidst a gradual, exponential increase of basic rules.

The 2<sup>nd</sup> fundamental rule of change in The Principle of Uniformity of Nature - Intricate, multifaceted systems present intelligence units that express itself by means of varying (when things of the same type differ from each other), variables (named values conceptualised within a system or model) that progress whilst relevant or not relevant to the phenomenal disparities presented by an environment. As such, progressive varying variables are constructively re-integrated back into the system’s intelligence units as an outcome of vicissitudes in the information that are contained in these intelligence units. Two potentialities are interchangeably actualised, and are documented as follows – things of the same type will differ from each other, as a direct consequence of change, and/or things of the same type will differ from each other, as a direct consequence of the re-grouping of isolated intelligence units within the system. Hereto, perpetual change can only manifest in a phased approach. The 2<sup>nd</sup> fundamental rule of change in aggregation with explicit conceptualisations and premises that Public Administration as a science present, will according to Gombault (1990:233) deliver “testable specific rules”, or in addition, the post supplementary hypotheses will become testable.

The 3<sup>rd</sup> fundamental rule of change in The Principle of Uniformity of Nature is offered by Gombault (1990:233) as the previously elaborated upon 5 Phases of change that briefly includes- Phase 1 – resembles an inadvertent commencement of research; Phase 2 – bears resemblance to traversing the brink of change; Phase 3 - represents the rapid diversification of an academic discipline such as Public Administration and its science’s epistemological branches that addresses distinct positions, particularly “when a change in the environment” introduces new resources, creates new phenomena or illuminates novel positions within the field of study; Phase 4 – resembles a level of maturity and simultaneous flattening of the growth curve, which are the direct results of a saturation in further development, functional diversification, supplementary divisions and branches; and Phase 5 signals the end.

The Principle of Uniformity of Nature thus has a critically important connection to Public Administration, since it is concerned with change. The connection between Public Administration as a science and The Principle of Uniformity of Nature precisely lies in the fact that Zouridis and Thaens (2005:22), Hughes (2018:67) and Bonimy (2019:45), amongst many other scholars of P[ublic A[dm]inistration have documented observations that confirm the paradoxical phenomenon that in Public Administration, “change is the only constant.” Public Administration as a science furthermore has a distinct explicated connection and relation to both the three basic rules and to each of the five phases in the third basic rule of The Principle of Uniformity of Nature. ii) the Principle of perpetuity of substance; iii) the principle of causality; and iv) the contiguity principle.

Dilworth (1994:224, 225) furthermore illuminates the character of The Principle of Uniformity of Nature as that it includes concepts such as state and spatio-temporality. In Hermeneutic Phenomenology, Kockelmans (2002:33, 79 - 83) adopt the concept ‘state’ as “a condition or way of being that exists at a particular time” (Cambridge Dictionary, 2020). In the context of Public Administration, and in particular the ontological state of Public Administration, Stout (2012:388 – 398) associates this field of study’s state as either being static, dynamic or both. It is thus not a dubious or improbable consideration to adopt the concept ‘state’ into the scientific-philosophic lexis of Public Administration. Spatio-temporality is conceptualised as being explicitly relational to space and time. However, the dilemma appears when Dilworth (1994:224, 225) explains that ‘state’ does not have spatio-temporal properties, in other words, ‘state’ has no relation to space or time, yet the Cambridge Dictionary (2020) inform that ‘state’ is the condition or way of being that exists at a particular time. It is therefore imperative to consider what Dilworth (1994:224, 225) meant when he noted that ‘state’ has no spatio-temporal properties. An understanding of Dilworth’s (1994:224, 225) denotation leads scholars back to the fundamental link between The Principle of Uniformity of Nature’s properties, ‘state’ and change, to which it is explicated that: “mere location in space and time is irrelevant with respect to the nature of change [since change is a *noumenal* actualisation of potential] and gives rise to a formulation of the principle in which it may be seen as being about space and time, suggesting that both are in a sense homogenous.” To reconsider the previously applied example of the theory that proved to be a scientific theory in this context, implies that the physical position in a spatio-temporal setting is irrelevant with respect to the nature of change in a theory that has proved to be scientific, since such actualisation emanates from a *noumenal* potential, which catalyse an expression of The Principle of Uniformity of Nature, in which it may appear to be about space and time, but which similarly suggests a falsehood in similarity between these two concepts. The next principle that Dilworth (1994:224, 225) introduces relates to the Principle of the perpetuity of substance.

#### 4.5.2 The Principle of the Perpetuity of Substance

Dilworth's (1994:225) opening statement to an understanding of The Principle of the Perpetuity of Substance informs that: substance, "that on which the existence of all else depends, itself exists perpetually." In other words, the substance of nodal entities in Public Administration as a science, which is that on which all else in Public Administration as a science hinges, itself exist permanently. A significant consequence of The Principle of the Perpetuity of Substance underscores the fact that "all change [*kinêsis*], [actualisation of a potentiality], subsists in the transformation [*metabolê*], [a modification in form, nature and/or appearance], of such a substance". According to The Principle of the Perpetuity of Substance, the actualisation thus of nodal entities in Public Administration as a science's potential (change) subsists in the transformation of the discipline's science. In the context of The Principle of the Perpetuity of Substance, it is understood that "substance is paradigmatically conceived to be material [matter], and to occupy all or a part of space, and its transformation [comprise of] the motion of its parts". Considering this factual statement in the context of Public Administration as a science, it becomes clear that the substance of nodal entities is perceived as matter, which has spatial qualities and in which the transformation of such nodal entities concerns internal nodal physiology. The fact that The Principle of the Perpetuity of Substance is perceived to comprise of matter has an initial robust relation to the natural sciences. However, Boethius (2003:xvi) explains that a *posteriori* reasoning does not consider anything other than matter and as such only has knowledge of matter and form and shape; Hereto, a *priori* reasoning considers intelligence that first and foremost possesses: *noumenal* knowledge of form itself; 'reasons' knowledge of universals; imagination's knowledge of shape; and the senses' knowledge of matter. The Principle of the Perpetuity of Substance's relation to Public Administration as a science lies embedded in both a *posteriori* and an *a priori* reasoning, which considers as point of departure, empirical and *noumenal* intelligence. In this light, Dilworth (1994:224, 225) continues to clarify: that motion factually includes a spatiotemporal property, whilst it is deemed to exist perpetually; Motion, and in that change and transformation is not a peculiar phenomenon in the context of Public Administration as a science, since in its spatio-temporality, motion subsists perpetually in the deeper philosophical structures of this field of study. A basic example hereof is discussed in detail in Chapter 3 of this study, the Teleology of Public Administration as a science, as the ever-constant process of hylomorphism. The Perpetuity Principle of Substance presents the flexibility that the substance of one field of study. may not be the substance of another field of study. The Perpetuity Principle of Substance thus enables an understanding that the substance related to Public Administration as a science, may largely differ from the substance related to Public Administration as an art or Public Administration as a craft. That in contemporary science Physics informs Chemistry,

which informs Biology that in turn informs the social sciences; if it is pre-empted that 'change consists in the transformation of substance', the fundamental inquiry is – how was the transformation incited? The latter factual observation presented by Dilworth (1994:224, 225) informs scholars that as a contemporary Social Science, Public Administration as a science has deep roots in Biology, Chemistry and Physics.

A factual presentation of The Principle of the Perpetuity of Substance therefore not only informs scholars of the properties that are included in this Meta-physical principle but importantly so, also reminds of the individualistic character of Public Administration as a science in the midst of an Intra, Multi, Cross, Inter and Transdisciplinary connectedness. Hereto, affirmation is similarly presented of Public Administration as a science's deep relations with Biology, Chemistry and Physics.

#### **4.5.3 The Principle of Causality**

The actualisation of potential as effect, always has a cause. The effect of every change therefore that occurs in Public Administration as a science will always display at least one cause. The Principle of Causality neither follows laws, nor rules but rather, chart effects as the actualisation of a potential called cause. Causality that is present in Public Administration as a science will neither follow laws, nor rules, but will rather track effects as the actualisation of a potential cause. The Principle of Causality illuminates the reason for change but not the regularity. Hereto, The Principle of Causality in the context of Public Administration as a science emphasises the rationale behind change, rather than the regularity. The Principle of Uniformity of Nature presents a form, whilst The Principle of Causality presents content. The Principle of Uniformity of Nature in the context of Public Administration will present a form, whilst The Principle of Causality will present context. Collectively, The Principle of Uniformity of Nature and The Principle of Causality firstly illuminate the fact that causes are unmotivated by spatio-temporality, but causes will always present effects. Causes in Public Administration as a science will therefore have no specific relation to spatio-temporality but, will always illuminate effects. Motion is uninterrupted and continual, and display change only in its form. "There is thus change in the form or state of motion." Motion in Public Administration as a science will similarly be observed as uninterrupted and continual with change only present in its form or state of motion. The Principle of Causality determines that "effects are proportional to their causes" and that every effect is different from all other effects of a similar degree of magnitude. Considering the Principle of Causality thus in the context of Public Administration as a science, will imply that effects are proportional to their causes and that every effect is

different from all other effects of a similar degree of magnitude. A final observation presents The Contiguity Principle informs that causes and effects are spatiotemporally attached.

Meta-physics, in light of determining the ontic description of Public Administration as a science, performs a critical role without which the full value of the latter will not be reached. This Chapter and study continues with a final property in the meta-theory of obtaining an ontic description of Public Administration as a science by considering the properties of Ontology.

## **4.6 ONTOLOGY**

Ramsay (1870:1) conceptualised Ontology as: a study of the nature of being and existence; as the methodical, logical and applied pursuit of the composition and comportment of the things that exist perpetually by means of observation and experiment; as that its primary teleological intent is to ascertain the substance (*ousia*) of such things and the manner in which they become known to mankind; as an indication of the minimum number of ontic categories that things may be separated into, without causing carnage to such things' fundamental physiognomies; as that no object will declare its own permanence, and from a human point of view, everything is changeable, ephemeral and transient; and, as that all things permanent can only be known by a conclusion reached on the basis of evidence and reasoning, in other words by means of inference. Ontology is thus a science, which from the momentary phenomena, intrinsic and extrinsic to human beings, deduces the reality of things perpetual.

### **4.6.1 Linguistic clarification**

Considering Ramsay's (1870:1) portrayal of Ontology, it is indispensable to deconstruct his conceptualisation in order to attain a detailed historical account of exactly that which communicates Ontology as follows:

i) Ontology is a study of the nature of being and existence to which Corcho (2005:1), Villazón-Terrazas (2012:1) and Effingham (2013:1) are in agreement. In linguistic terms, the Cambridge Dictionary (2019: online) respectively explain study, nature, being and existence as follows: study is the committed dedication of time and thought to examine, deconstruct and finally increase the intelligence related to a specific academic subject; nature represents the fundamental or innate features, essential qualities, hereditary physiognomies or attributes of something, in which these elements have the capacity to influence or determine the individuality of such a something. The recognition of hereditary physiognomies triggers an involuntary reminder to Kuhn (1970; 2012:1 - 9) and Hacking's (2012:xl) vigilant alert to the

critical role that a discipline's history plays in understanding the scientific nature of a particular field of study; being as the present participle of 'be', represents the nature, quintessence or substance of someone, or in this study's instance something; and, existence, which is described as the state of having objective reality.

In the context of this study, Chapter 4, the meta-theory that this chapter intends to deliver and Public Administration as a science, Ramsay's (1870:1) first ontological condition as outlined above, translates as follows: The process of establishing the Ontology of Public Administration as a science has to reflect a committed dedication of time and thought to examine, deconstruct and finally increase the intelligence related to this academic discipline's science, in order to concretise the fundamental or innate features, essential qualities, hereditary physiognomies or attributes of the field of study, in which these elements has the capacity to influence or determine the individuality of the discipline's science, and to represent the nature, quintessence or substance in its state of objective reality;

ii) Ontology as the methodical, logical and applied pursuit of the composition and comportment of the things that exist perpetually by means of observation and experiment. At first glance Ramsay's (1870:1) second ontological condition affirms a scientific methodological approach, however, to only pre-empt a scientifically infused methodological assumption may prove to be reductionist and precarious. Therefore, in linguistic terms, the English Oxford Living Dictionaries (2019: online) explain methodical, logical, applied pursuit, composition, comportment, exist perpetually, observation and experiment respectively as follows: Methodical is explained as an action that occurs based on a systematic and recognised technique; Logic as element, implies that Ontology includes the fundamental rules of logic or formal argument; Applied pursuit depicts the activity of putting something to practical use; Composition refers to the configuration of the fundamental or innate features, essential qualities, hereditary physiognomies or attributes of something's ingredients or constituents; Comportment denotes the functions or the behaviour of something; Exist perpetually signifies that something has a state of permanence in objective reality; Observation suggests the meticulous examination or monitoring of an object or a phenomenon; and Experiment implies the act of a scientific procedure, particularly in a laboratory to determine something, to test a hypothesis or to affirm a known fact.

To construct a meta-theory that underpins the Ontology of Public Administration as a science, the process has to include a meticulous examination or monitoring by means of a systematically recognised technique that is based on the fundamental rules of logic or formal argument, which are ultimately implementable. To this effect, the configuration of the

discipline's innate features, essential qualities, hereditary physiognomies, qualities and functions of its substance and properties need to be extrapolated. One of the most prominent questions in this process is whether Public Administration as field of study could be observed as having a state of permanence in objective reality. It is similarly important to appreciate Public Administration in its pluralistic ontological expression, as science, as art and as craft, and subsequently the role that science has to play in the larger discipline as well as an interactive role between itself and the art and craft of the field of study. To this effect, the study presents a Reuleaux triangle based on the scholarly contribution of Henry Mintzberg's Reuleaux triangle, represented in Mintzberg's Management model (2005:93; 2009:10, 127);

iii) The third ontological condition posed by Ramsay (1870:1) stated that Ontology has as its primary teleological intent, a motive to ascertain the substance (*ousia*) of such things and the manner in which they become known to mankind. Interesting to note is that this particular ontological condition is the first confirmation of Teleology – Ontology – Epistemology knowledge triad. Ontology has a teleological intent and part of that teleological intent is epistemological in nature;

iv) as an indication of the minimum number of ontic categories that things may be separated into, without causing carnage to such things' fundamental physiognomies;

v) as that no object will declare its own permanence, and from a human point of view, everything is changeable, ephemeral and transient; and

vi) as that all things permanent can only be known by a conclusion reached on the basis of evidence and reasoning, in other words by means of inference. Ontology is thus a science, which from the momentary phenomena, intrinsic and extrinsic to human beings, deduces the reality of things perpetual.

In the context of a linguistic clarification of Ontology against the backdrop of Ramsay's (1870:1) factual statements, Chapter 4 continues by illuminating the possible versions of an ontic explanation to Public Administration as a science by documenting the systematic process of intelligence that are applicable to determining the ontic status of an entity. Such an entity in the case of this study is recognised as one of the ontic expressions of P[p]ublic A[a]dministration, recognised as Public Administration as science.



**Table 4.7: The possible different versions of an ontic explanation to Public Administration as a science in South Africa**

|                                                      | Theological worldview                                                   | Theological worldview                                                   | Theological worldview                                                   | Theological worldview                                                   | Theological worldview                                                   | Theological worldview                                                   | Theological worldview                                                   | Theological worldview                                                   | Theological worldview                                                   |
|------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
|                                                      | Christian                                                               | Nothing in particular / Refused / Do not know / Unspecified             | Ancestral / Tribal / Animist / Other traditional African religions      | Islam                                                                   | Hindu                                                                   | Atheist and Agnostic                                                    | Jewish                                                                  | Something else                                                          | Buddhist and Bahá'í                                                     |
| Perspectives / Presuppositions                       | Cultural                                                                | Cultural                                                                | Cultural                                                                | Cultural                                                                | Cultural                                                                | Cultural                                                                | Cultural                                                                | Cultural                                                                | Cultural                                                                |
|                                                      | Ethical                                                                 | Ethical                                                                 | Ethical                                                                 | Ethical                                                                 | Ethical                                                                 | Ethical                                                                 | Ethical                                                                 | Ethical                                                                 | Ethical                                                                 |
|                                                      | Philosophical                                                           | Philosophical                                                           | Philosophical                                                           | Philosophical                                                           | Philosophical                                                           | Philosophical                                                           | Philosophical                                                           | Philosophical                                                           | Philosophical                                                           |
|                                                      | Scientific                                                              | Scientific                                                              | Scientific                                                              | Scientific                                                              | Scientific                                                              | Scientific                                                              | Scientific                                                              | Scientific                                                              | Scientific                                                              |
|                                                      | Political                                                               | Political                                                               | Political                                                               | Political                                                               | Political                                                               | Political                                                               | Political                                                               | Political                                                               | Political                                                               |
|                                                      | Economic                                                                | Economic                                                                | Economic                                                                | Economic                                                                | Economic                                                                | Economic                                                                | Economic                                                                | Economic                                                                | Economic                                                                |
|                                                      | Sociological                                                            | Sociological                                                            | Sociological                                                            | Sociological                                                            | Sociological                                                            | Sociological                                                            | Sociological                                                            | Sociological                                                            | Sociological                                                            |
|                                                      | Legal                                                                   | Legal                                                                   | Legal                                                                   | Legal                                                                   | Legal                                                                   | Legal                                                                   | Legal                                                                   | Legal                                                                   | Legal                                                                   |
|                                                      | Psychological                                                           | Psychological                                                           | Psychological                                                           | Psychological                                                           | Psychological                                                           | Psychological                                                           | Psychological                                                           | Psychological                                                           | Psychological                                                           |
|                                                      | Distinct meta-physical position                                         | Distinct meta-physical position                                         | Distinct meta-physical position                                         | Distinct meta-physical position                                         | Distinct meta-physical position                                         | Distinct meta-physical position                                         | Distinct meta-physical position                                         | Distinct meta-physical position                                         | Distinct meta-physical position                                         |
|                                                      | The ontic position of Public Administration as a science                | The ontic position of Public Administration as a science                | The ontic position of Public Administration as a science                | The ontic position of Public Administration as a science                | The ontic position of Public Administration as a science                | The ontic position of Public Administration as a science                | The ontic position of Public Administration as a science                | The ontic position of Public Administration as a science                | The ontic position of Public Administration as a science                |
| The source of Public Administration as a science     | Transcendental / Immanent / Both                                        | Transcendental / Immanent / Both                                        | Transcendental / Immanent / Both                                        | Transcendental / Immanent / Both                                        | Transcendental / Immanent / Both                                        | Transcendental / Immanent / Both                                        | Transcendental / Immanent / Both                                        | Transcendental / Immanent / Both                                        | Transcendental / Immanent / Both                                        |
| The state of Public Administration as a science      | Static / Dynamic / Both                                                 | Static / Dynamic / Both                                                 | Static / Dynamic / Both                                                 | Static / Dynamic / Both                                                 | Static / Dynamic / Both                                                 | Static / Dynamic / Both                                                 | Static / Dynamic / Both                                                 | Static / Dynamic / Both                                                 | Static / Dynamic / Both                                                 |
| The expression of Public Administration as a science | Whole / Plural / Both                                                   | Whole / Plural / Both                                                   | Whole / Plural / Both                                                   | Whole / Plural / Both                                                   | Whole / Plural / Both                                                   | Whole / Plural / Both                                                   | Whole / Plural / Both                                                   | Whole / Plural / Both                                                   | Whole / Plural / Both                                                   |
| The condition of Public Administration as a science  | Individual / Relational / Both Differentiated / Undifferentiated / Both | Individual / Relational / Both Differentiated / Undifferentiated / Both | Individual / Relational / Both Differentiated / Undifferentiated / Both | Individual / Relational / Both Differentiated / Undifferentiated / Both | Individual / Relational / Both Differentiated / Undifferentiated / Both | Individual / Relational / Both Differentiated / Undifferentiated / Both | Individual / Relational / Both Differentiated / Undifferentiated / Both | Individual / Relational / Both Differentiated / Undifferentiated / Both | Individual / Relational / Both Differentiated / Undifferentiated / Both |
|                                                      | The ontic description of Public Administration as a science             | The ontic description of Public Administration as a science             | The ontic description of Public Administration as a science             | The ontic description of Public Administration as a science             | The ontic description of Public Administration as a science             | The ontic description of Public Administration as a science             | The ontic description of Public Administration as a science             | The ontic description of Public Administration as a science             | The ontic description of Public Administration as a science             |

Significant to note is the fact that the ontic description of Public Administration as a science, that emanates from each of the individual worldviews, will be dissimilar.

**Source:** Author's perspective

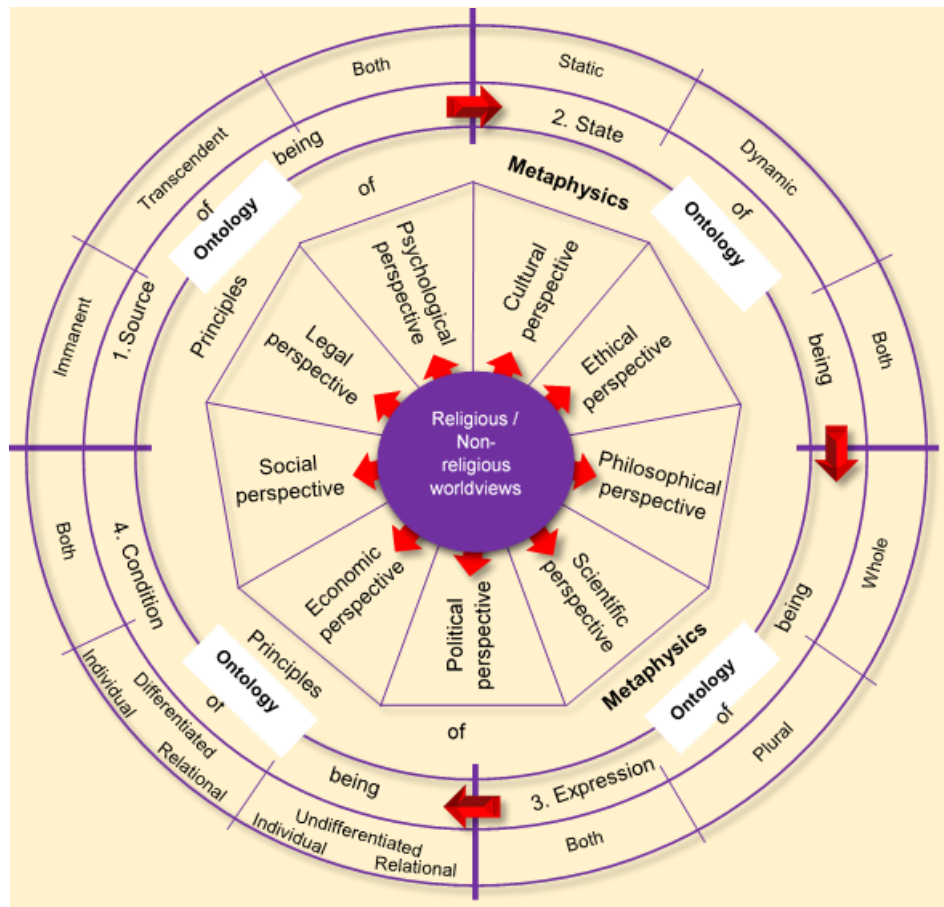
Table 4.7 distinctly commences with the theological worldviews that are extant in the Republic of South Africa, as they were documented in a study done by Statistics South Africa in 2013/14. Once the worldview is determined a set of presuppositions that are inherent to the

distinct worldview unconsciously comes into play. The latter largely determines the individual human being's point of view or perception of reality. In the process a particular meta-physical position is established that finally leads to a unique description of the ontic character of that which is under investigation. Later in this chapter, the ontic nature of Public Administration as a science is determined by the researcher of this study, with a recognition of the author's theological worldview as documented in Chapter 1, and is furthermore based on scholarly factual details to the elements of the ontic character of a field of study's science.

#### **4.6.2 An ontological meta-theory**

The lead-in to this particular point in Chapter 4, which has revealed the substance out of which an ontological meta-theory could subsist, has informed the construction of a meta-theory as it appears in Figure 3.4.

**Figure 4.3** An ontological meta-theory that has the capacity to explain Public Administration as being



**Source:** Author's perspective

The meta-theory that Chapter 4 presents, states that the continuum of answers that will explicate the source, the state, the expression and the condition of Public Administration as a science, has its fundamental roots in the active agent's religious / non-religious worldview, which in turn determines the cultural; ethical; philosophical; scientific; political; economic; social; legal; and psychological perspectives or presuppositions within the strictures of meta-physical laws.

The discussion that relates to Public Administration as a science's ontic position commences with a few statements that Dunleavy and O'Leary (1987:1) made about the State. Hay and Lister (2006:4) reminds scholars of this claim as that: "the State is not a material object, but rather is a conceptual abstraction. As such, its utility [the state of being useful] as a concept should not be taken for granted, since it does not have a self-evident material object of

reference. [A State's] "utility must be demonstrated, and in order to demonstrate that utility, we must be clear about what we are referring to. It may mean a variety of different things, in a variety of different perspectives."

In its ontic position, Dunleavy and O'Leary's (1987:1) statement is also an accurate representation of Public Administration as a science. It therefore follows that Public Administration as a science does not present itself as a material object but rather as a theoretical construct. The efficacy of Public Administration as a science may therefore not be accepted unconditionally, since it, similar to a State, also has no self-evident material object of reference. Subsequently, Public Administration as a science's theoretical construct needs to be exhibited and validated, and in doing so, scholars, scientists and practitioners of this field of study, and in particular its science, have to be distinct when reference is made to the theoretical construct and its resolute value as one of the three ontic expression to this discipline. Chapter 4 has thus far meticulously displayed the sequence of events from a theological or non-theological worldview as well-spring to the varying presuppositions that emerge from each theological worldview, followed by the role of Meta-physics in the course of this process all the way up to this distinct position where an ontic description of Public Administration as a science is required. In the context of the latter it is clear that Public Administration as a science will be conceptualised in an array of different ways, with dissimilar foci, as it emanates from distinctive worldviews and related presuppositions.

The ontology or nature of being, of Public Administration as a science, requires that scholars have to consider the ontic description of each nodal entity as it subsists within both the anatomy and the physiology of this theoretical construct. Chapter 2 of this study presented the anatomy and physiology of Public Administration as a science from which this study will move forward by considering each of these nodal entities' ontic status. Once the ontic status of each nodal entity in the anatomy of Public Administration as a science is known, only then is it possible to determine the intact ontic status of Public Administration as a science. It is wise to remember in the process of determining the ontic nature of each nodal entity that each scholar that attempts to do so, may present a different result, based on the origins of dissimilar worldviews.

## 4.7 CONSIDERING THE ONTOLOGICAL META-THEORY IN THE CONTEXT OF PUBLIC ADMINISTRATION AS A SCIENCE'S 6 NODAL ENTITIES

As mentioned, as early as Chapter 1 of this study, Stout (2012:388 - 398) introduced scholars of P[p]ublic A[a]dministration to Ontology as the nature of being, and as such invited them to explore their own understanding of the nature of P[p]ublic A[a]dministration. All of the options in the Tables below include prominent philosophical questions that philosophers have grappled with over centuries. For example, many philosophers such as Satre and Merleau-Ponte, Spinoza and Hegel, debated and pondered the Transcendent / Immanent / Both philosophical matter. Confucian dynamism and many Greek theoreticians such Plato, Aristotle, Melissus and Theophrastus pondered on the Static / Dynamic / Both debate, which Process Philosophy also addresses.

### 4.7.1 An ontic analysis of Nodal entity 1: Quotidian science

The first nodal entity under ontic scrutiny is Nodal entity 1: Quotidian science, which has been discussed in detail in Chapter 2 of this study under both the anatomy and physiology of Public Administration as a science.

**Table 4.8 An ontic analysis of Nodal entity 1: Quotidian science**

| Nodal entity 1: Quotidian science<br>(Primary function: Quotidian science is the puzzle-solving entity of a science)                                                                                                   |                                                              |                                                             |                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------|
| Source                                                                                                                                                                                                                 | Transcendent                                                 | Immanent                                                    | Both                                                                     |
| Quotidian science is incited by phenomena, anomalies and <i>noumena</i> that present itself from both the internal and external worlds of P[p]ublic A[a]dministration (Kuhn, 1962; 2012:xv, 35, 37, 52, 80, 144, 204). | ("Separate from the physical universe."), (Stout, 2012:389). | X<br>("Part of the physical universe."), (Stout, 2012:389). | ("Separate from and part of the physical universe."), (Stout, 2012:389). |
| State                                                                                                                                                                                                                  | Static                                                       | Dynamic                                                     | Both                                                                     |
| Quotidian science is static in the sense that aspects such as scientific method remain the same, but at the same                                                                                                       |                                                              |                                                             | X<br>("Being simply is, and existence is simultaneously                  |

| Nodal entity 1: Quotidian science                                                                                                                                                                                                                                                                                                  |                                                                      |                                                                                                                                             |                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Primary function: Quotidian science is the puzzle-solving entity of a science)                                                                                                                                                                                                                                                    |                                                                      |                                                                                                                                             |                                                                                                                                                                                        |
| time, the science is also on its own developmental trajectory (Kuhn, 1962; 2012:xv - xvii).                                                                                                                                                                                                                                        | ("Being simply is"), (Stout, 2012:389).                              | ("Existence is continually becoming and so understanding it is difficult beyond temporary snapshots of its expression"), (Stout, 2012:389). | continually becoming and so understanding it is difficult beyond temporary snapshots of its expression", (Stout, 2012:389).                                                            |
| Expression                                                                                                                                                                                                                                                                                                                         | Whole                                                                | Plural                                                                                                                                      | Both                                                                                                                                                                                   |
| Quotidian science expresses itself in the form of solutions to phenomena, anomalies and <i>noumena</i> , i.e., as a 'puzzle solver' (Kuhn, 1962; 2012:xv - xvii).                                                                                                                                                                  | X<br><br>("The source of existence is complete"), (Stout, 2012:389). | ("There are many sources of existence" and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389).             | ("The source of existence is complete and there are simultaneously many sources of existence" and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). |
| Condition                                                                                                                                                                                                                                                                                                                          | Individual                                                           | Relational                                                                                                                                  | Both                                                                                                                                                                                   |
| It is possible to describe Quotidian science both as distinct from other nodal entities in the anatomy of a science, yet, a depiction of the physiology of the anatomy of Public Administration as a science explicates its relational qualities (Hacking, 2012:xvii); (Kuhn, 1962; 2012:10, 11, 23, 24, 35, 37, 43, 52, 66, 214). | ("Being is contained in itself"), (Stout, 2012:389).                 | ("Separate beings are connected in some way"), (Stout, 2012:389).                                                                           | X<br><br>("Being is contained in itself, and separate beings are connected in some way"), (Stout, 2012:389).                                                                           |
|                                                                                                                                                                                                                                                                                                                                    | Differentiated                                                       | Undifferentiated                                                                                                                            | Both                                                                                                                                                                                   |
| It is possible to differentiate Quotidian science from other nodal entities in the anatomy of                                                                                                                                                                                                                                      | X                                                                    |                                                                                                                                             |                                                                                                                                                                                        |

| Nodal entity 1: Quotidian science                                                                                                                                                                                                                    |                                                                |                                                               |                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| (Primary function: Quotidian science is the puzzle-solving entity of a science)                                                                                                                                                                      |                                                                |                                                               |                                                                                                  |
| a science, and the relational patterns that it has in the physiology of the science is similarly not duplicated elsewhere amongst any of the other nodal entities (Hacking, 2012, xvii); (Kuhn, 1962; 2012:10, 11, 23, 24, 35, 37, 43, 52, 66, 214). | (Give expression to difference), (Cambridge Dictionary, 2020). | (Having few or no differences), (Cambridge Dictionary, 2020). | (Give expression to differences and having few or no differences), (Cambridge Dictionary, 2020). |

**Source:** Author’s perspective as adopted from Hacking (2012:xvii); Kuhn (1962; 2012); Stout (2012:389); and Cambridge Dictionary (2020)

The table above explicates Quotidian science’s ontic description as follows: i) In its source, Quotidian science comes into being through the need to establish solutions to phenomena, anomalies and noumena that present itself from both the internal and external worlds of P[p]ublic A[a]dministration. The source of Quotidian science is therefore a “part of the physical universe” (Stout, 2012:389), and is subsequently immanent; ii) The state of Quotidian science is static in the sense that aspects such as scientific method (observation and experiment) remain the same, but at the same time, the science is also on its own developmental trajectory. This observation undoubtedly declares Quotidian science in its state as that “being simply is, and being is simultaneously “continually becoming and so understanding it is difficult beyond temporary snapshots of its expression” (Stout, 2012:389), which declares Quotidian science as both static and dynamic; iii) In its expression, Quotidian science presents solutions to phenomena, anomalies and *noumena*, i.e., Quotidian science is a ‘puzzle solver’. In its expression, Quotidian science’s whole, (Stout, 2012:389); and iv) The condition of Quotidian science is that it is both distinct from other nodal entities in the anatomy of a science, which classifies Quotidian science firstly as individual, yet, a depiction of the physiology of the anatomy of Public Administration as a science, similarly explicates Quotidian science’s relational qualities, which then also categorises Quotidian science as relational. Quotidian science is thus contained in itself, but similarly reflects that separate beings are connected in some way (Stout, 2012:389), which declares it as both individual and relational. Based on the teleological purpose of Quotidian science as puzzle solver in the anatomy of a science, and its relational patterns displayed in the physiology of a science, which is similarly not duplicated elsewhere amongst any of the other nodal entities, categorises Quotidian science as differentiated. It is thus possible to deduce that Quotidian science is individual differentiated

and relational differentiated. The ontic description of Quotidian science is therefore: an immanent static and dynamic whole that is individual and relational differentiated.

#### 4.7.2 An ontic analysis of Nodal entity 2: The Paradigm / Paradigms

The following Table considers Nodal entity 2: Paradigm/s in the anatomy of a science in terms of its ontic classification. The Table considers Nodal entity 2: Paradigm/s' source, state, expression and condition.

**Table 4.9 An ontic analysis of Nodal entity 2: A Paradigm/s**

| <b>Nodal entity 2: Paradigm/s</b><br>(Primary function: an exemplum that reflects a meta-physical, a sociological and a artefact or construct sense)                                                                                                                                                                                 |                                                              |                                                                                                            |                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Source</b>                                                                                                                                                                                                                                                                                                                        | <i>Transcendent</i>                                          | <i>Immanent</i>                                                                                            | <i>Both</i>                                                                                                                                         |
| The source of a paradigm is found in the philosophical, meta-physical and historical description of a science (Masterman, 1970: 65, 66); (Sylvan, 1997:405, 406); (Teffo & Roux, 1998:134); (Vericat, 2004:172); (Rosenkrantz & Hoffman, 2011:1, 2); (Zahavi, 2017:65); (Moore, 2012:18); (Loux, 2013:2) and (Jaroszyński, 2018:34). | ("Separate from the physical universe."), (Stout, 2012:389). | ("Part of the physical universe."), (Stout, 2012:389).                                                     | X<br><br>("Separate from and part of the physical universe."), (Stout, 2012:389).                                                                   |
| <b>State</b>                                                                                                                                                                                                                                                                                                                         | <i>Static</i>                                                | <i>Dynamic</i>                                                                                             | <i>Both</i>                                                                                                                                         |
| Paradigms are continuously in evolutionary states, however, within these evolutionary states, being simply is (Hacking, 2012:xvii – xxv), (Kuhn, 1962; 2012).                                                                                                                                                                        |                                                              | ("Existence is continually becoming and so understanding it is difficult beyond temporary snapshots of its | X<br><br>("Being simply is, and existence is simultaneously continually becoming and so understanding it is difficult beyond temporary snapshots of |



| Nodal entity 2: Paradigm/s                                                                                                                                                                                                     |                                                                         |                                                                                                                                 |                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Primary function: an exemplum that reflects a meta-physical, a sociological and a artefact or construct sense)                                                                                                                |                                                                         |                                                                                                                                 |                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                | (“Being simply is”), (Stout, 2012:389).                                 | expression”), (Stout, 2012:389).                                                                                                | its expression”), (Stout, 2012:389).                                                                                                                                                            |
| Expression                                                                                                                                                                                                                     | Whole                                                                   | Plural                                                                                                                          | Both                                                                                                                                                                                            |
| A paradigm/s expresses itself through a meta-physical, sociological and artefact or construct sense (Masterman, 1970:65 – 66).                                                                                                 |                                                                         | (“There are many sources of existence” and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). | X<br><br>(“The source of existence is complete and there are simultaneously many sources of existence” and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). |
|                                                                                                                                                                                                                                | (“The source of existence is complete”), (Stout, 2012:389).             |                                                                                                                                 |                                                                                                                                                                                                 |
| Condition                                                                                                                                                                                                                      | Individual                                                              | Relational                                                                                                                      | Both                                                                                                                                                                                            |
| Each paradigm certainly has its very own, unique character, but based on the physiology of a paradigm, as separate being, it is connected to other nodal entities in some way (Hacking, 2012:xxiii; (Masterman (1970:65 - 66). |                                                                         | (“Separate beings are connected in some way”), (Stout, 2012:389).                                                               | X<br><br>(“Being is contained in itself, and separate beings are connected in some way”), (Stout, 2012:389).                                                                                    |
|                                                                                                                                                                                                                                | (“Being is contained in itself”), (Stout, 2012:389).                    |                                                                                                                                 |                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                | Differentiated                                                          | Undifferentiated                                                                                                                | Both                                                                                                                                                                                            |
| Each paradigm is different from the next paradigm but also very different in character to any of the other nodal entities in the anatomy of a science (Kuhn, 1962; 2012:43 – 51).                                              | X<br><br>(Give expression to difference), (Cambridge Dictionary, 2020). | (Having few or no differences), (Cambridge Dictionary, 2020).                                                                   | (Give expression to differences and having few or no differences), (Cambridge Dictionary, 2020).                                                                                                |

**Source:** Author’s perspective as adopted from Masterman (1970:65 – 66); Sylvan (1997:405, 406); Teffo and Roux (1998:134); Vericat (2004:172); Rosenkrantz and Hoffman (2011:1, 2); Hacking (2012:xxiii); Kuhn (1962; 2012:43 – 51);

Moore (2012:18); Stout (2012:389); Loux (2013:2); Zahavi (2017:65); Jaroszyński (2018:34); and Cambridge dictionary (2020)

The afore described Table explain the ontic description of a Paradigm as follows: i) The source of a Paradigm is found in the philosophical, meta-physical and historical description of a science, which thus determines a Paradigm as “separate from and part of the physical universe”, (Stout, 2012:389), which declares the source of a Paradigm as both transcendental and immanent; ii) Paradigms are continuously in evolutionary states, however, within these evolutionary states, being simply is. This statement implies that being simply is, and is simultaneously continually becoming and so understanding it is difficult beyond temporary snapshots of its expression”, (Stout, 2012:389), which categorises a Paradigm as both static and dynamic; iii) A Paradigm/s express/es itself through a meta-physical, sociological and artefact or construct sense, and as such, “the source of existence is complete and there are simultaneously many sources of existence”, and similarly, many simultaneously functioning expressions of being (Stout, 2012:389), which determines that the expression of a Paradigm is both whole and plural; iv) The condition of a Paradigm is categorised firstly as that each Paradigm has its very own, unique character, but based on the physiology of a Paradigm, as separate being, it is connected to other nodal entities in some way, which determines a Paradigm as both individual and relational; secondly, each paradigm is different from the next Paradigm but also very different in character to any of the other nodal entities in the anatomy of a science, which categorises a paradigm as differentiated. The condition of a paradigm as nodal entity in the anatomy of a science is thus individual, relational and differentiated. The ontic description of a Paradigm in a science is therefore: both transcendental and immanent in source, both static and dynamic in state, both whole and plural in expression as well as individual and relational differentiated in condition.

#### **4.7.3 An ontic analysis of Nodal entity 3: Extraordinary science**

The Table that follows, gives insight into the ontic description of Nodal entity 3: Extraordinary science’s source, state, expression and condition. The Table is followed by an explanation of the factual details that ultimately constructs and explicates Extraordinary science’s ontic description.

**Table 4.10 An ontic analysis of Nodal entity 3: Extraordinary science**

| Nodal entity 3: Extraordinary science<br>(Rare moments of absolute novel scientific discovery)                                                                   |                                                                                                  |                                                                                                                                             |                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Source                                                                                                                                                           | Transcendent                                                                                     | Immanent                                                                                                                                    | Both                                                                                                                                                                                   |
| An existential crisis in the science of the field of study and the inquisitive mind of a scientists<br>(Hacking, 2012:xxvii),<br>(Kuhn, 1962; 2012:34, 66 – 76). | (“Separate from the physical universe.”),<br>(Stout, 2012:389).                                  | X<br><br>(“Part of the physical universe.”), (Stout, 2012:389).                                                                             | (“Separate from and part of the physical universe.”), (Stout, 2012:389).                                                                                                               |
| State                                                                                                                                                            | Static                                                                                           | Dynamic                                                                                                                                     | Both                                                                                                                                                                                   |
| Extraordinary science, once delivered is static in the state of its theory<br>(Kuhn, 1962; 2012:6, 83, 86 – 91, 101, 153, 165 – 166).                            | X<br><br><br><br><br><br><br><br><br>(“Being simply is”),<br>(Stout, 2012:389).                  | (“Existence is continually becoming and so understanding it is difficult beyond temporary snapshots of its expression”), (Stout, 2012:389). | (“Being simply is, and existence is simultaneously continually becoming and so understanding it is difficult beyond temporary snapshots of its expression”), (Stout, 2012:389).        |
| Expression                                                                                                                                                       | Whole                                                                                            | Plural                                                                                                                                      | Both                                                                                                                                                                                   |
| Extraordinary science is more-often expressed by means of theory<br>(Hacking, 2012:xxvii),<br>(Kuhn, 1962; 2012:66 – 76).                                        | X<br><br><br><br><br><br><br><br><br>(“The source of existence is complete”), (Stout, 2012:389). | (“There are many sources of existence” and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389).             | (“The source of existence is complete and there are simultaneously many sources of existence” and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). |
| Condition                                                                                                                                                        | Individual                                                                                       | Relational                                                                                                                                  | Both                                                                                                                                                                                   |
| Extraordinary science is both individual as a fully-fledged nodal entity in the anatomy of a science. Extraordinary science is similarly                         |                                                                                                  |                                                                                                                                             | X                                                                                                                                                                                      |

| Nodal entity 3: Extraordinary science<br>(Rare moments of absolute novel scientific discovery)                                                                                                                      |                                                                                                                                        |                                                                                                                 |                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| relational since it has,<br>according to the<br>physiology of the<br>anatomy of a science<br>relations with other nodal<br>entities in the science<br>(Kuhn, 1962; 2012:6, 83,<br>86 – 91, 101, 153, 165 –<br>166). | (“Separate beings are<br>connected in some way”),<br>(Stout, 2012:389).<br><br>(“Being is contained in<br>itself”), (Stout, 2012:389). | (“Being is contained in<br>itself, and separate<br>beings are connected in<br>some way”), (Stout,<br>2012:389). |                                                                                                              |
|                                                                                                                                                                                                                     | <i>Differentiated</i>                                                                                                                  | <i>Undifferentiated</i>                                                                                         | <i>Both</i>                                                                                                  |
| Extraordinary science is<br>certainly distinguishable<br>from other nodal entities<br>in the anatomy of a<br>science (Kuhn, 1962;<br>2012:6, 83, 86 – 91, 101,<br>153, 165 – 166).                                  | <b>X</b><br><br>(Give expression to<br>difference), (Cambridge<br>Dictionary, 2020).                                                   | (Having few or no<br>differences), (Cambridge<br>Dictionary, 2020).                                             | (Give expression to<br>differences and having<br>few or no differences),<br>(Cambridge Dictionary,<br>2020). |

**Source:** Author’s perspective as adopted from Hacking (2012:xxvii); Kuhn (1962; 2012:6, 83, 86 – 91, 101, 153, 165 – 166); Stout (2012:389); and Cambridge dictionary (2020)

Extraordinary science’s ontic description is presented as follows: i) The source of Nodal entity 3: Extraordinary science has its origin in the inquisitive mind of either the Quotidian or Extraordinary scientist. The source of Extraordinary science is thus immanent; ii) Extraordinary science, once delivered is invariable in its theory. The state of Extraordinary science is therefore static; iii) Extraordinary science is more-often expressed by means of theory, and is therefore whole in its expression; iv) Extraordinary science is both individual as a fully-fledged nodal entity in the anatomy of a science. Extraordinary science is similarly relational since it has, according to the physiology of the anatomy of a science, relations with other nodal entities in the science. The condition of a science is thus individual and relational. Extraordinary science is certainly distinguishable from other nodal entities in the anatomy of a science and could therefore be classified as differentiated. The condition of Extraordinary science is therefore individual, relational and differentiated. The ontic description of Extraordinary science in a science is therefore: immanent in source, static in state, whole in expression as well as individual and relational differentiated in condition.

#### 4.7.4 An ontic analysis of Nodal entity 4: Protective Membrane

The Table that follows, gives insight into the ontic description of Nodal entity 4: The Protective Membrane's source, state, expression and condition. The Table is followed by an explanation of the factual details that ultimately constructs and explicates The Protective Membrane's ontic description.

**Table 4.11 An ontic analysis of Nodal entity 4: The Protective Membrane**

| Nodal entity 4: Protective Membrane<br>(Field of study's scientific theories and meta-theories as well as mechanisms for example that has the capacity to sever a paradigm from quotidian science)                                                                                                                                   |                                                              |                                                                                                                                             |                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Source                                                                                                                                                                                                                                                                                                                               | Transcendent                                                 | Immanent                                                                                                                                    | Both                                                                                                                                                                                     |
| A science's mechanisms that for example severs a Paradigm from Quotidian science is not detectible through the senses. In contrast, scientific theories of the field of study that is held in the Protective Membrane are detected by means of the senses (Lakatos, 1978:48), (Nola & Sankey, 2014:26), and (Musgrave, 2016:online). | ("Separate from the physical universe."), (Stout, 2012:389). | ("Part of the physical universe."), (Stout, 2012:389).                                                                                      | X<br><br>("Separate from and part of the physical universe."), (Stout, 2012:389).                                                                                                        |
| State                                                                                                                                                                                                                                                                                                                                | Static                                                       | Dynamic                                                                                                                                     | Both                                                                                                                                                                                     |
| The Protective Membrane's holds mechanisms and theories that are static, however, the Protective Membrane is continuously evolving as new theories are added (Lakatos, 1978:48), (Nola & Sankey, 2014:26), and (Musgrave, 2016:online).                                                                                              | ("Being simply is"), (Stout, 2012:389).                      | ("Existence is continually becoming and so understanding it is difficult beyond temporary snapshots of its expression"), (Stout, 2012:389). | X<br><br>("Being simply is, and existence is simultaneously continually becoming and so understanding it is difficult beyond temporary snapshots of its expression"), (Stout, 2012:389). |
| Expression                                                                                                                                                                                                                                                                                                                           | Whole                                                        | Plural                                                                                                                                      | Both                                                                                                                                                                                     |

| Nodal entity 4: Protective Membrane                                                                                                                                                                                            |                                                                                |                                                                                                                                 |                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Field of study's scientific theories and meta-theories as well as mechanisms for example that has the capacity to sever a paradigm from quotidian science)                                                                    |                                                                                |                                                                                                                                 |                                                                                                                                                                                                    |
| The Protective Membrane expresses itself by means of mechanisms and theories (Lakatos, 1978:48), (Nola & Sankey, 2014:26), and (Musgrave, 2016:online).                                                                        |                                                                                |                                                                                                                                 | <b>X</b><br>("The source of existence is complete and there are simultaneously many sources of existence" and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). |
|                                                                                                                                                                                                                                | ("The source of existence is complete"), (Stout, 2012:389).                    | ("There are many sources of existence" and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). |                                                                                                                                                                                                    |
| Condition                                                                                                                                                                                                                      | Individual                                                                     | Relational                                                                                                                      | Both                                                                                                                                                                                               |
| The Protective Membrane is a nodal entity in its own right, however, it does have relations, or is connected to other nodal entities in the science (Lakatos, 1978:48), (Nola & Sankey, 2014:26), and (Musgrave, 2016:online). |                                                                                |                                                                                                                                 | <b>X</b><br>("Being is contained in itself, and separate beings are connected in some way"), (Stout, 2012:389).                                                                                    |
|                                                                                                                                                                                                                                | ("Being is contained in itself"), (Stout, 2012:389).                           | ("Separate beings are connected in some way"), (Stout, 2012:389).                                                               |                                                                                                                                                                                                    |
| The Protective Membrane has a very distinct character, differentiable from any other nodal entity in the anatomy of a science (Lakatos, 1978:48), (Nola & Sankey, 2014:26), and (Musgrave, 2016:online).                       | Differentiated                                                                 | Undifferentiated                                                                                                                | Both                                                                                                                                                                                               |
|                                                                                                                                                                                                                                | <b>X</b><br><br>(Give expression to difference), (Cambridge Dictionary, 2020). | (Having few or no differences), (Cambridge Dictionary, 2020).                                                                   | (Give expression to differences and having few or no differences), (Cambridge Dictionary, 2020).                                                                                                   |

**Source:** Author's perspective as adopted from Lakatos (1978:48); Stout (2012:389); Nola and Sankey (2014:26); Musgrave (2016: online); and Cambridge dictionary (2020)

Nodal entity 4: The Protective Membrane's nature of being is described as follows: i) A science's mechanisms that for example severs a Paradigm from Quotidian science is not detectible through the senses. In contrast, theories of the field of study that are also held in the Protective Membrane of the anatomy of a science are detected by means of the senses. The Protective Membrane as nodal entity in the anatomy of a science is therefore part of and separate from the physical universe; ii) The Protective Membrane holds mechanisms and theories that are static, whilst the Protective Membrane is continuously evolving as new theories are added. The Protective Membrane therefore "simply is, and existence is simultaneously continually becoming and so understanding it is difficult beyond temporary snapshots of its expression"), (Stout, 2012:389); iii) The Protective Membrane expresses itself by means of mechanisms and theories, to which "the source of existence is complete and there are simultaneously many sources of existence" and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). The Protective Membrane is therefore categorised in its expression as both whole and plural; iv) In its condition, the Protective Membrane is a nodal entity in its own right, however, it does have relations, or is connected to other nodal entities in the science. Hereto, the Protective Membrane is contained in itself, and separate beings are connected in some way"), (Stout, 2012:389). The protective membrane, to begin with is therefore both individual and relational. The Protective Membrane furthermore has a very distinct character, differentiable from any other nodal entity in the anatomy of a science. In its condition, the Protective Membrane is individual, relational and differentiated. In its ontic source, state, expression and condition, the Protective Membrane is conceptualised as both transcendent and immanent, both static and dynamic, both whole and plural, individual relational and differentiated.

#### **4.7.5 An ontic analysis of Nodal entity 5: Nucleus**

Nodal entity 5 in the anatomy of a science is recognised as the Nucleus of a science that contains the Philosophy of the science as well as the History of the science which are both critically important substances in a science. The following Table therefore provides an ontic description of the Nucleus as nodal entity in the anatomy of a science.

**Table 4.12 An ontic analysis of Nodal entity 5: The Nucleus**

| Nodal entity 5: Nucleus<br>(The Philosophy and History of the science)                                                                                                                                                                                                                 |                                                              |                                                                                                                                             |                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Source                                                                                                                                                                                                                                                                                 | Transcendent                                                 | Immanent                                                                                                                                    | Both                                                                                                                                                                                            |
| The Philosophy and the History of a science<br>(Hacking, 2012:x);<br>(Kuhn, 1962; 2012:77, 88, 121, 159).                                                                                                                                                                              | ("Separate from the physical universe."), (Stout, 2012:389). | ("Part of the physical universe."), (Stout, 2012:389).                                                                                      | X<br><br>("Separate from and part of the physical universe."), (Stout, 2012:389).                                                                                                               |
| State                                                                                                                                                                                                                                                                                  | Static                                                       | Dynamic                                                                                                                                     | Both                                                                                                                                                                                            |
| Both the Philosophy and the History of a science have static and dynamic elements that refers to elements that will never change against new insights and theories that are added to the science, as the science evolves<br>(Hacking, 2012:x);<br>(Kuhn, 1962; 2012:77, 88, 121, 159). | ("Being simply is"), (Stout, 2012:389).                      | ("Existence is continually becoming and so understanding it is difficult beyond temporary snapshots of its expression"), (Stout, 2012:389). | X<br><br>("Being simply is, and existence is simultaneously continually becoming and so understanding it is difficult beyond temporary snapshots of its expression"), (Stout, 2012:389).        |
| Expression                                                                                                                                                                                                                                                                             | Whole                                                        | Plural                                                                                                                                      | Both                                                                                                                                                                                            |
| Even though the Philosophy of science and the History of science are both whole, these two properties within a science are both largely affected by a plurality of worldviews and each worldview's presuppositions<br>(Hacking, 2012:x);<br>(Kuhn, 1962; 2012:77, 88, 121, 159).       | ("The source of existence is complete"), (Stout, 2012:389).  | ("There are many sources of existence" and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389).             | X<br><br>("The source of existence is complete and there are simultaneously many sources of existence" and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). |
| Condition                                                                                                                                                                                                                                                                              | Individual                                                   | Relational                                                                                                                                  | Both                                                                                                                                                                                            |
| The Philosophy of a science and the History of a science are both                                                                                                                                                                                                                      |                                                              |                                                                                                                                             | X                                                                                                                                                                                               |



| Nodal entity 5: Nucleus<br>(The Philosophy and History of the science)                                                                                                                                                                     |                                                               |                                                                   |                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| recognisable in their own right and distinguishable from other nodal entities in the science, however, both properties stand in a relational association with other nodal entities (Hacking, 2012:x); (Kuhn, 1962; 2012:77, 88, 121, 159). |                                                               |                                                                   |                                                                                                     |
|                                                                                                                                                                                                                                            | ("Being is contained in itself"), (Stout, 2012:389).          | ("Separate beings are connected in some way"), (Stout, 2012:389). | ("Being is contained in itself, and separate beings are connected in some way"), (Stout, 2012:389). |
|                                                                                                                                                                                                                                            | <i>Differentiated</i>                                         | <i>Undifferentiated</i>                                           | <i>Both</i>                                                                                         |
| It is possible to differentiate the unique character of the Nucleus as nodal entity in a science from any other nodal entities that also subsist within a science (Hacking, 2012:x); (Kuhn, 1962; 2012:77, 88, 121, 159).                  | X                                                             |                                                                   |                                                                                                     |
|                                                                                                                                                                                                                                            | (Give expression to difference), (Cambridge Dictionary, 2020) | (Having few or no differences), (Cambridge Dictionary, 2020)      | (Give expression to differences and having few or no differences), (Cambridge Dictionary, 2020)     |

**Source:** Author's perspective as adopted from Hacking (2012:x); Kuhn (1962; 2012:77, 88, 121, 159); Stout (2012:389); and Cambridge dictionary (2020)

Nodal entity 5, also recognised as the Nucleus in the anatomy of a science is documented as follows: i) The sources of the Nucleus in a science are the Philosophy of a science and the History of a science, which describes the Nucleus in the anatomy of a science as "separate from and part of the physical universe" (Stout, 2012:389). This statement then categorises the source of the Nucleus of a science as both transcendental and immanent; ii) Both the Philosophy and the History of a science have static and dynamic elements that refer to properties that will never change against new insights and theories (properties) that are added to the science, as the science evolves. The state of the Nucleus of a science is therefore both static and dynamic; iii) Even though the Philosophy of science and the History of science are both whole, these two properties within a science are both largely affected by a plurality of worldviews and each worldview's presuppositions. The expression of the Nucleus as nodal entity in a science is complete and there are simultaneously many sources of existence" and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389). The

expression of the Nucleus is thus whole and plural; iv) The condition of the Nucleus of a science is firstly described as that the Philosophy of a science and the History of a science are both recognisable in their own right and distinguishable from other nodal entities in the science, however, both properties stand in a relational association with other nodal entities. The condition of the Nucleus in a science is therefore individual and relational. Secondly, it is possible to differentiate the unique character of the Nucleus as nodal entity in a science from any other nodal entities that also subsist within a science. The condition of the Nucleus in a science is therefore described as individual, relational and differentiated. The ontic position of the Nucleus as nodal entity in a science is documented in its source, state, expression and condition as follows: The Nucleus within a science is both transcendent and immanent in its source, static and dynamic in its state, whole and plural in its expression and individual, relational and differentiated in its condition.

The final nodal entity in the anatomy of a science is recognised as the Nucleus triads or the Knowledge triads.

| <b>Nodal entity 6: Nucleus triads / Knowledge triads</b><br>(Philosophical bedrock of the discipline's science)                                                                                                                                                                                                            |                                                              |                                                        |                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Source</b>                                                                                                                                                                                                                                                                                                              | <i>Transcendent</i>                                          | <i>Immanent</i>                                        | <i>Both</i>                                                                                                       |
| Meta-physics as a branch of Philosophy establishes the properties of the philosophical bedrock of a science's Nucleus triads (Sylvan, 1997:405, 406); (Teffo & Roux, 1998:134); (Vericat, 2004:172); (Rosenkrantz & Hoffman, 2011:1, 2); (Zahavi, 2017:65); (Moore, 2012:18); (Loux, 2013:2); and (Jaroszyński, (2018:34). | ("Separate from the physical universe."), (Stout, 2012:389). | ("Part of the physical universe."), (Stout, 2012:389). | X<br><br><br><br><br><br><br><br><br><br>("Separate from and part of the physical universe."), (Stout, 2012:389). |
| <b>State</b>                                                                                                                                                                                                                                                                                                               | <i>Static</i>                                                | <i>Dynamic</i>                                         | <i>Both</i>                                                                                                       |

| Nodal entity 6: Nucleus triads / Knowledge triads<br>(Philosophical bedrock of the discipline's science)                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                    |            |                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The properties located in the Nucleus triads such as Teleology, Ontology, Epistemology, Methodology, Axiology, Ikanology all reflect constant end evolutionary elements (Sylvan, 1997:405, 406); (Teffo &amp; Roux, 1998:134); (Vericat, 2004:172); (Rosenkrantz &amp; Hoffman, 2011:1, 2); (Zahavi, 2017:65); (Moore, 2012:18); (Loux, 2013:2); and (Jaroszyński, (2018:34).</p> |                                                                                                                                                                                                    |            | X                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                      | <p>(“Existence is continually becoming and so understanding it is difficult beyond temporary snapshots of its expression”), (Stout, 2012:389). (“Being simply is”), (Stout, 2012:389).</p>         |            | <p>(“Being simply is, and existence is simultaneously continually becoming and so understanding it is difficult beyond temporary snapshots of its expression”), (Stout, 2012:389).</p>        |
| Expression                                                                                                                                                                                                                                                                                                                                                                           | Whole                                                                                                                                                                                              | Plural     | Both                                                                                                                                                                                          |
| <p>Each of the Meta-physical properties located in the Nucleus triads establishes the nodal entity as complete but it similarly reflects more than one expression (Sylvan, 1997:405, 406); (Teffo &amp; Roux, 1998:134); (Vericat, 2004:172); (Rosenkrantz &amp; Hoffman, 2011:1, 2); (Zahavi, 2017:65); (Moore, 2012:18); (Loux, 2013:2); and (Jaroszyński, (2018:34)..</p>         |                                                                                                                                                                                                    |            | X                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                      | <p>(“The source of existence is complete”), (Stout, 2012:389). (“There are many sources of existence” and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389).</p> |            | <p>(“The source of existence is complete and there are simultaneously many sources of existence” and similarly, many simultaneously functioning expressions of being), (Stout, 2012:389).</p> |
| Condition                                                                                                                                                                                                                                                                                                                                                                            | Individual                                                                                                                                                                                         | Relational | Both                                                                                                                                                                                          |
| <p>The Knowledge triads are recognisable in their own right and distinguishable from other nodal entities in the science, however, the</p>                                                                                                                                                                                                                                           |                                                                                                                                                                                                    |            | X                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                    |            |                                                                                                                                                                                               |

| Nodal entity 6: Nucleus triads / Knowledge triads<br>(Philosophical bedrock of the discipline's science)                                                                                                                                                                                                                                                                 |                                                                |                                                                                                                                                                  |                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Knowledge triads stand in a relational association with other nodal entities (Sylvan, 1997:405, 406); (Teffo & Roux, 1998:134); (Vericat, 2004:172); (Rosenkrantz & Hoffman, 2011:1, 2); (Zahavi, 2017:65); (Moore, 2012:18); (Loux, 2013:2); and (Jaroszyński, (2018:34).                                                                                               |                                                                | <p>           ("Separate beings are connected in some way"), (Stout, 2012:389).<br/>           ("Being is contained in itself"), (Stout, 2012:389).         </p> | <p>           ("Being is contained in itself, and separate beings are connected in some way"), (Stout, 2012:389).         </p> |
|                                                                                                                                                                                                                                                                                                                                                                          | <i>Differentiated</i>                                          | <i>Undifferentiated</i>                                                                                                                                          | <i>Both</i>                                                                                                                    |
| It is possible to differentiate the unique character of the Knowledge triads as nodal entity in a science from any other nodal entities that also subsist within a science (Sylvan, 1997:405, 406); (Teffo & Roux, 1998:134); (Vericat, 2004:172); (Rosenkrantz & Hoffman, 2011:1, 2); (Zahavi, 2017:65); (Moore, 2012:18); (Loux, 2013:2); and (Jaroszyński, (2018:34). | X                                                              |                                                                                                                                                                  |                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                          | (Give expression to difference), (Cambridge Dictionary, 2020). | (Having few or no differences), (Cambridge Dictionary, 2020).                                                                                                    | (Give expression to differences and having few or no differences), (Cambridge Dictionary, 2020).                               |

**Source:** Author's perspective as adopted from Sylvan (1997:405, 406); Teffo and Roux (1998:134); Vericat (2004:172); Couclelis (2009:4); Rosenkrantz and Hoffman (2011:1, 2); Moore (2012:18); Stout (2012:389); Loux (2013:2); Zahavi (2017:65); Jaroszyński (2018:34); and Cambridge dictionary (2020)

Nodal entity 6, also recognised as the Nucleus triads in the anatomy of a science is documented as follows: i) Meta-physics as a branch of Philosophy establishes the properties of the philosophical bedrock of a science's Nucleus triads. The source of the Nucleus triads

reflects as both transcendental and immanent; ii) The properties located in the Nucleus triads such as Teleology, Ontology, Epistemology, Methodology, Axiology, Ikanology all reflect constant end evolutionary elements. The state of the Nucleus triads is thus both static and dynamic; iii) Each of the Meta-physical properties located in the Nucleus triads establishes the nodal entity as whole but it similarly reflects more than one expression that emanates from these properties such as Teleology, Ontology, Epistemology amongst others. The expression of the Nucleus triads is both whole and plural; iv) The condition of the Nucleus triads of a science is firstly described as that this nodal entity is recognisable in its own right and distinguishable from other nodal entities in the science, however, the Nucleus triads stand in a relational association with other nodal entities. The condition of the Nucleus in a science is therefore individual and relational. Secondly, it is possible to differentiate the unique character of the Nucleus triads as nodal entity in a science from any other nodal entities that also subsist within a science. The condition of the Nucleus triads in a science is therefore described as individual, relational and differentiated. The ontic position of the Nucleus triads as nodal entity in a science is documented in its source, state, expression and condition as follows: The Nucleus triads within a science is both transcendent and immanent in its source, static and dynamic in its state, whole and plural in its expression and individual, relational and differentiated in its condition.

The ontic essence of Public Administration as a science display the following character:

1. The ontic description of Quotidian science is therefore: an immanent static and dynamic whole that is individual and relational differentiated.
2. The ontic description of a Paradigm in a science is therefore: both transcendental and immanent in source, both static and dynamic in state, both whole and plural in expression as well as individual and relational differentiated in condition.
3. The ontic description of Extraordinary science in a science is therefore: immanent in source, static in state, whole in expression as well as individual and relational differentiated in condition.
4. In its ontic source, state, expression and condition, the Protective Membrane is conceptualised as both transcendent and immanent, both static and dynamic, both whole and plural, individual relational and differentiated.
5. The ontic position of the Nucleus as nodal entity in a science is documented in its source, state, expression and condition as follows: The Nucleus within a science is

both transcendent and immanent in its source, static and dynamic in its state, whole and plural in its expression and individual, relational and differentiated in its condition.

6. The Nucleus triads within a science is both transcendent and immanent in its source, static and dynamic in its state, whole and plural in its expression and individual, relational and differentiated in its condition.

Table 4.14 that follows, plots the positioning of each of the nodal entity's ontic description in order to ascertain the ontic description of the science of a science. Table 4.14 reflects the character of the source, state, expression and condition as these properties explicate the nature of being, and in the case of this study, the nature of Public Administration as a science.

**Table 4.14 A reflection of the ontic character of the nodal entities in the anatomy of a science**

| A reflection of the ontic character of the nodal entities in the anatomy of a science |                  |                  |                  |
|---------------------------------------------------------------------------------------|------------------|------------------|------------------|
| Source                                                                                | Transcendent     | Immanent         | Both             |
|                                                                                       |                  | 1, 3             | 2, 4, 5, 6       |
| State                                                                                 | Static           | Dynamic          | Both             |
|                                                                                       | 3                |                  | 1, 2, 4, 5, 6    |
| Expression                                                                            | Whole            | Plural           | Both             |
|                                                                                       | 1, 3             |                  | 2, 4, 5, 6       |
| Condition                                                                             | Individual       | Relational       | Both             |
|                                                                                       |                  |                  | 1, 2, 3, 4, 5, 6 |
|                                                                                       | Differentiated   | Undifferentiated | Both             |
|                                                                                       | 1, 2, 3, 4, 5, 6 |                  |                  |

**Source:** Author's perspective

The nature of being or ontic status of Public Administration as a science reflects as both transcendent and immanent in its source, both static and dynamic in its state, both whole and plural in its expression and individual, relational and differentiated in its condition.

In addition to what has been documented above as the ontic description of Public Administration as a science, it is necessary to record the fact that even this inference is reductionist, based on the following factual observations: i) What is detailed above is wholly influenced by the researcher's worldview and presuppositions, and none other; ii) What is detailed above does not include the ontic description of the art that also subsist in a science (Refer to Chapter 2, Figure 2.7); iii) What is detailed above does not include the ontic description of the craft that also subsist in a science (Refer to Chapter 2, Figure 2.7). It could therefore emphatically be stated that Public Administration as a science, is much more than

the sum of its parts and a complete ontic description of Public Administration as a science would also include ontic descriptions of the art and the craft of this discipline, where they individually influence this field of study's science.

#### **4.8 CONCLUSION**

The objectives of Chapter 4 present, identify, describe and interpret the relevant theories and scientific explications that will guide this study towards the construction of an Ontological meta-theory, explicate Public Administration as being in its source, state, expression and condition. This chapter achieved the pre-determined target and in addition also presented the ontic description of Public Administration as a science.

Chapter 4 commenced by explicating the major religions in the Republic of South Africa, followed by nine (9) distinct presuppositions that emanate from these worldviews as it shapes human beings' being. Hereto, Chapter 5 introduced meta-physics and the role that it plays in determining the ontology of being. In the case of this study, being is perceived to be Public Administration as an academic discipline and in addition to the latter, Chapter 4 similarly presents the ontic description as it subsists in terms of Public Administration in one of its inherent ontic expressions, namely Public Administration as a science. Based on the fact the ontic descriptions have their roots in the descriptor's worldview, and since the author of this study's worldview is Christian Theism, the ontic description provided in this chapter has its roots in a Christian Theism religious worldview. It is however possible given the range of worldviews to understand that the ontic description of Public Administration and Public Administration as a science may appear wholly different given the fundamental religious worldview as angle of incidence.

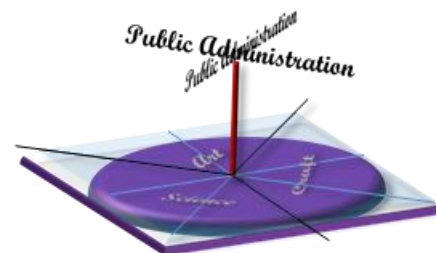
Chapter 5 that follows provides an encounter of the epistemological foundations that construct an epistemological meta-theory, which give impetus to an understanding of knowledge, truth, validity, scope and methodology of the way in which human beings obtain knowledge and truth. Hereto, Chapter 5 similarly describes the epistemological meta-theory in context of Public administration and Public Administration as a science.

# Chapter 5

## (APEX III) – EPISTEMOLOGY, THE THEORY OF BELIEF, JUSTIFICATION, KNOWLEDGE AND TRUTH IN THE CONTEXT OF PUBLIC ADMINISTRATION AS A SCIENCE

*”[K]nowing is among the fine and prized things, suggesting that one should also investigate the soul, even if in every way and all together it is most difficult to gain any conviction concerning it.”*

*Aristotle, 11, 402a1-7 and 402a10-11*





## CHAPTER 5 (APEX III) – EPISTEMOLOGY, THE THEORY OF BELIEF, JUSTIFICATION, KNOWLEDGE AND TRUTH IN THE CONTEXT OF PUBLIC ADMINISTRATION

### 5.1 INTRODUCTION

Chapter 4 introduced a pathway to ultimately reach an ontic meta-theory that: firstly made provision for the array of different theological viewpoints to human beings' fundamental worldviews; secondly, such theological worldviews were followed by the presuppositions that stem from these worldviews in the form of human beings' mind-sets and attitudes toward psychological, cultural, ethical, philosophical, scientific, political, economic, social and legal matters; Thirdly, Chapter 4 included Meta-physics as the branch of Philosophy from which Ontology follows (Chapter 2, Figure 2.33); and lastly, the ontic meta-theory that Chapter 4 presented, considered the nature of Public Administration as a science in its source, state, expression and condition.

Ruminating the pinnacle of Chapter 5 as an epistemological meta-theory, a study of knowledge and in that, belief, justification and truth as foundational essence, it is inevitable that Public Administration as an academic discipline's dreadful truth will be recalled as that it does not have a fundamental philosophico-theoretical foundation from which its scientifically driven research endeavours and subsequently all other endeavours such as observation, experiment, theory building and theory testing can follow. When Riccucci (2010:7, 34) refers to the discipline of Public Administration, respectively as having a "multiple personality disorder" or, that e.g. "policy analysis suffers from a personality disorder", it is now possible, based on the intelligence that was documented in Chapters 2 (a combination of knowledge between the Reuleaux triangle and the knowledge triads, to which the latter is located in the anatomy of Public Administration as a science), and 4 (an ontological description of Public Administration as a science), of this study that Public Administration in its *noumenal* nature, reflects pluralistic ontic expressions, known as the science, the art and the craft of this field of study. Everything that subsists in this academic discipline and its related practice, resides within these three ontic expressions, as it was explicated in Chapters 2 and 4 of this study. At its philosophical foundation, and as mentioned before in Chapter 2 of this study, policy analysis resorts under the craft of P[p]ublic A[a]dministration, whilst Policy itself resides within the art of P[p]ublic A[a]dministration's ontic expression. In the context of the third ontic expression of P[p]ublic A[a]dministration, recognised as the science, scientific investigations that are incited by either *noumena* ("the thing as it is in itself"), (Stirling, 1865:9), or phenomena ("a thing in another, or as it seems"), (Stirling, 1865:9), are investigated by means of observation,

experiment, theory building and testing, just as it is explicated in Chapter 2 of this study, with reference to the corporeal morphology or anatomy and the accompanying physiology of Public Administration as a science.

By all accounts, most of the acclaimed theory that has been adopted into the fraternity, was either developed by a scholar whose academic foundations lay elsewhere, or, the theory was to begin with, developed for private sector purposes. The latter is evident of an absent deep structure in the field of study, recognised earlier in this chapter as the fundamental philosophico-theoretical foundation that presents the tools, mechanisms, worldviews, presuppositions and theories that enable scholars to engage in theory building and testing. Recalling the content of Chapter 2 of this study, the elements of a fundamental philosophico-theoretical foundation are retained in Nodal entities 4 – 6 within the anatomy of Public Administration as a science, recognised as Nodal entity 4- the Protective membrane, Nodal entity 5- the Nucleus and Nodal entity 6- the Nucleus triads. Hereto, the fundamental question that needs to be asked is: What should scholars, scientists and practitioners of P[p]ublic A[a]dministration consider in the construction of an epistemological meta-theory that represents at least the science of this field of study's pluralistic ontic expression, from which philosophically grounded theory could be distilled and refined?

In the natural progression of this study, as it was documented in Chapter 1, Chapter 5's research questions and objectives are included below as they were detailed in Chapter 1 of this study as follows:

### **5.1.1 Research questions- Apex III – Epistemology (theory of knowledge)**

- What are the relevant literature and scientific explications that would guide this study towards the compilation of an Epistemological meta-theoretical framework, in which the latter guides the systematic construction of a discipline's theory of knowledge and justification?
- What are the literature and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a meta-theoretical framework that represents a structured display of Public Administration's theory of knowledge?
- What are elements of the body of knowledge that are incited by the following:
  - What is the Epistemology of the Ontology of Public Administration as a science?

### 5.1.2 Research objectives- Apex III – Epistemology (theory of knowledge)

- Identified and presented, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of an Epistemological meta-theoretical framework in which the latter directed the systematic construction of an academic discipline's theory of knowledge.
  - Constructed and presented Epistemological meta-theoretical framework, in which the latter directed the systematic construction of an academic discipline's theory of knowledge.
- Presented, analysed and interpreted Epistemological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data / theorems / theories against an Epistemological meta-theoretical framework that represents a structured display of Public Administration's theory of knowledge.

Prior to entering an investigation of Public Administration as a science's Epistemology, Fuller (2008) flags a critical point to consider. In the context of this entire study at hand, the scholar of science has a significant duty to understand the philosophical, political and even religious basis of what separated Thomas Kuhn and Sir Karl Popper. An understanding thus of religious and philosophical matters will determine our level of understanding in terms of the *noumenal* and phenomenal aspects of life and everything in it. Hereto, the brief contextualisation above is followed by a linguistic explication and conceptual intelligence that shape an introduction to Public Administration as a science's Epistemology, as it has been investigated in this study.

## 5.2 EPISTEMOLOGY'S LINGUISTIC EXPLICATION

True to the tradition that Chapters 1 – 4 of this study followed by presenting a linguistic explication to the concepts at hand, Chapter 5 honours the institution by explaining the concept Epistemology as that it stems from the Greek word, 'ἐπιστήμη, *epistēmē*' that signifies 'knowledge', as well as *logia*, which refers to 'the study of' (Schwab, 2015:28; Creller, 2017:7; and Zwicky, 2019). Similar to Meta-physics, Epistemology, a branch of Philosophy thus has reference to the study of knowledge. The introductory argument, whose primary purpose it is to clarify the concept Epistemology, is instantaneously confronted with the enormity of that which is included in the properties of this concept and the array of theoretical possibilities included in varying individual worldviews and the related presuppositions. True to the dominant nature of science, where order, experiment, observation, theory development and theory testing play significant roles, Chapter 5 attempts to investigate Epistemology against Public Administration as a science's ontic description. In other words, what is Epistemology if

it is understood in the context of its inherent unique nature of being? Hereto, Chapter 5's primary objective is to understand the epistemological description of Public Administration as a science. In the final analysis, Chapter 5 will come to terms with epistemological intelligence by means of the application of an ontological meta-theory to ultimately construct an epistemological meta-theory that has the capacity to contribute to a holistic illumination of Public Administration as a science's theory.

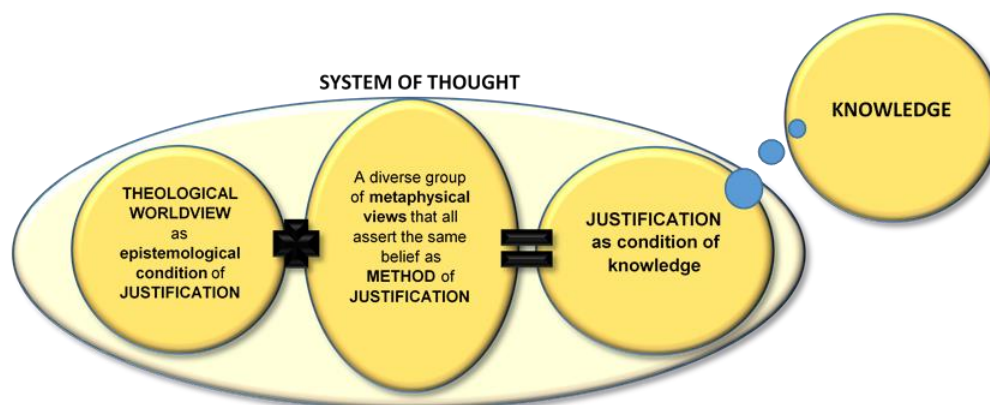
Two concepts that often make their prominent appearance in Epistemology are respectively recognised as *a priori* knowledge and *a posteriori* knowledge, which have been referred to in almost every preceding chapter of this study. O'Leary (2007:12) explains the former [*a priori* knowledge] as that it is "knowledge that comes before facts", and the latter [*a posteriori* knowledge], as "knowledge, based on facts, derived from personal, [sense] and societal experience." Hereto, Dufrenne (1966:83) classified *a priori* knowledge, or knowledge that subsist before the facts, as either formal or material *a priori* knowledge. These two classifications instantly remind of two of the four quadrants in Aristotle's Teleology or study of final purpose (the meta-theory presented in Chapter 3 of this study), as the material be-cause and the formal be-cause. In the sense of *a priori* knowledge, it is promptly asked if it is possible to have an efficient or moving, and a final epistemological classification as well that resort under the conceptualisation of *a priori* knowledge. Dufrenne (1966:83) continues by stating that: i) "[t]he formal *a priori* furnishes a meaning for a content, and this meaning is itself formal; ii) it is only the possibility of a sensible and intelligible appearance; iii) if the formal essence is truly *a priori*, it is not simply a rule for rational discourse, but a meaning located in the given, and biting into this given; iv) if the formal essence is itself given, it is not only an exterior condition for objectivity, it is itself objective; v) it does not confer meaning on any object externally by making the object an object of possible experience; and vi) it is the very object which presents itself as the object of experience, the content manifesting its form." In this study, formal *a priori* knowledge is thus recognised as that it gives formal meaning to the properties that are present in the anatomy and physiology of a science, including the knowledge triads, as the only possibility of a sensible and intelligible manifestation of the field of study's science, which similarly affirm the objective formal essence of Public Administration as a science. Dufrenne (1966:72) explains material *a priori* knowledge: i) as that it refers to exact and discernible limits of form (Cambridge English Dictionary, 2021), that cannot be logically justifiable; ii) as that it labels "a structure of the object, or a feature of the world, which may appear in a particular experience. Not in experience in general, as a necessary form; iii) as instantly recognisable based on the fact that the scholar or in the case of this study, the scientists already possess implicit knowledge of it; and iv) as that it carries a very unique essence that relates to or denotes vivid mental images and details as if observable in reality

(eidetic intuition). Material *a priori* knowledge as explicated by Dufrenne (1966:71) is thus recognised in this study as knowledge that represents exact and discernible limits of form in the anatomy and physiology of Public Administration as a science, that cannot be logically justifiable; it describes or brands the structure of Public administration as it subsists in the world and as it appears in a particular but not general experience, in for example Quotidian science; Public Administration as a science is instantly recognisable, based on the fact that the scholar, scientists and/or practitioner already has implicit or tacit knowledge, that is gained through incidental endeavours, or without the consciousness that learning is occurring; *a priori* knowledge of Public Administration as a science thus carries with it a very unique essence that has reference to mental images as if it were observable in reality, which could then be described as eidetic intuition. Baggini and Fosl (2010:141) state that something is known *a priori* when it is recognised without any distinct sense experience related to the world; such a thing's substance, elements and characteristics are only attainable by reason alone. The description of *a priori* knowledge concludes with Wen's (2014:10) explication as that *a priori* knowledge is: i) knowledge that stems from some principle or theory that is believed to be truthful; ii) the truth of *a priori* knowledge is self-evident and requires no empirical experience to prove it; iii) *a priori* knowledge is therefore knowledge by deduction.

In contrast, Wen (2014:10) illuminates *a posteriori* knowledge as: i) knowledge that is gathered by means of experience; ii) knowledge that is gathered by means of theory that is based on experience; and iii) knowledge that is gained by induction. Gildenhuys (2004:176) and Raadschelders (2013:141) make it clear that public administration as practice largely depend on empirical experience, from which it can be deduced that public administration in its practice largely depends on *a posteriori* knowledge for its success. In the milieu of an epistemological linguistic explication, section 5.2 follows by establishing intelligence that has the capacity to explicate three fundamental epistemological inquiries. The inclusion of a conceptual description of *a priori* and *a posteriori* knowledge naturally brings this Section to a point of further establishing the conceptual basis from which Chapter 5 proceeds. It is similarly natural, that in the context of knowledge or the study of knowledge that concepts such as belief, justification and truth will be the frontrunners in a quest to understand larger epistemological inquiries. Potrč and Strahovnik (2004:84) and Plato (2014:1) captured a critical essence, which affirms that "knowledge is justified, true belief". In this context, this study thus understands belief, justification and truth respectively as follows: Leicester (2016:15) asserts the properties of an intellectualist theory of belief as that it firstly includes belief as that it is founded on verification, in addition to the cognitive condition of knowing or thinking that something is true or might be true. Secondly, a type of belief such as religious belief, where there may only be transcendental and no empirical evidence has to be considered in an intellectualist theoretical

conceptualisation of belief. Thirdly, a differentiation needs to be made between opinion as a “view or judgement formed about something, not necessarily based on fact or knowledge” (Oxford Lexico, 2021) and knowledge as “facts, information and skills acquired through experience or education (Oxford Lexico, 2021), and an essential dissimilarity between “believing opinion and knowing knowledge.” Locke (1689) perceived belief as “the admitting or receiving any proposition for true, upon arguments or proof that are found to persuade us to receive it as true, without certain knowledge that it is true”; In the context of knowledge, Notturmo (2015:31) and Chitpin (2016:39) remind of Hume and Popper’s (the two great sceptics), (Parusniková, 2018:207 – 223), affirmation that human beings is not capable of justifying their own beliefs, since no single human being can verify their beliefs as true, and hereafter, once these beliefs have been released into the public domain, they subsist wholly independently of human beings; Hume and Popper are both therefore of the opinion that “any attempt to justify a belief with reasons will, if pursued diligently lead to infinite regress and hence, to no justification at all.” Harari (2004:117) claims that the result of justification that present foundational facts is knowledge; the point of departure therefore to justification and ultimately knowledge resides in the supposition that the explicated foundational facts are unknown. As a secondary layer to the primary message, Nahme (2019:76) illuminates systemic facts that explicate the *noumenal* fundamentals of justification as a system of thought: Justification is a condition of knowledge and in this system of thought, i) an individual’s theological worldview concretises an epistemological condition; and ii) a diverse group of meta-physical views that all assert the same belief, manifests as the method of justification. Figure 5.1 that follows presents a visual depiction of the system of thought as *noumenal* fundamental within justification as condition of knowledge.

**Figure 5.1** The *noumenal* fundamentals of a system of thought in justification as condition of knowledge



**Source:** Adopted from Nahme (2019:76)

Figure 5.1 thus implies that if a scholar, scientist or practitioner of Public Administration as a science is in a position where s/he is required to justify Public Administration scientific knowledge, s/he will engage unconsciously in the *noumenal* system of thought (the unconscious application of a theological worldview such as Christian Theism, Judaism, Islam, Atheism or Agnosticim, amongst many more; and Foundationalism, Idealism, Coherentism, Infinitism, Foundherentism, Skepticism amongst many more, as perception of reality and finally as method of justification), that enables justification as condition of knowledge.

**Table 5.1**      **A *noumenal* system of thought in justification as condition of knowledge**

| <i>Noumenal</i> system of thought in justification as condition of knowledge |                 |                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No.                                                                          | Philosophers    | Theological worldview as epistemological condition of justification                                                                                                                                                                                                                                                                         | A diverse group of meta-physical views that all assert the same belief as method of justification                                                                                                                                          | Justification as condition of knowledge                                                                                                                                                                                                                                            |
| 1.                                                                           | <b>Kant, I.</b> | <ul style="list-style-type: none"> <li>There is only one God, who is the causal source of all good in the world;</li> <li>It is possible to harmonise God's purposes with our greatest good; and</li> <li>Human immortality is the necessary condition of our continued approach to the highest good possible (Pomerleau, 2021).</li> </ul> | <ul style="list-style-type: none"> <li>Idealism</li> <li>Human perception and understanding cannot be separated from reality. Human perception is both mentally constituted and intimately related to ideas (Fogelin, 2001:44).</li> </ul> | Epistemological idealism <ul style="list-style-type: none"> <li>Subjective idealism</li> <li>Objective idealism</li> <li>Absolute idealism</li> </ul> The definitive bedrock of reality is embedded in the cognitive ("mind, spirit, reason and will"), (Guyer & Horstmann, 2015). |
| 2.                                                                           | <b>Marx, K.</b> | <ul style="list-style-type: none"> <li>Atheism.</li> <li>Religion is "the soul of soulless conditions." Religion is "the opium of the people or</li> <li>"religion is the opiate of the masses." (Marx, 1982:4)</li> </ul>                                                                                                                  | <ul style="list-style-type: none"> <li>Theory of economic value</li> <li>Historical determinism</li> <li>The notion of alienation (Marx &amp; Engels, 2018).</li> </ul>                                                                    | The epistemology of Dialectical Materialism (Wetter, 1960:489).                                                                                                                                                                                                                    |

**Source:** Wetter (1960:489); Marx (1982:4); Fogelin (2001:44); Aristotle (2007:131); Guyer and Horstmann (2015); Marx and Engels (2018); Pomerleau (2021)

Goldman (1979:2) presents a conceptualisation of justification as condition of knowledge as follows: i) "... a justification is an argument, defense or set of reasons that can be given in support of a belief"; ii) Justification is both an evaluative concept and a term of appraisal.

Smithies (2019:329) asserts that "...doxastic dispositions in similar counterfactual circumstances tends to yield beliefs that are propositionally justified by the evidence." In the context that Smithies (2019:329) presents, this study introduces the concept doxastic as a particular attitude towards belief as an ontic condition of epistemology. There are in fact three doxastic attitudes namely, belief, dis-belief and suspended judgement, to which Comesaña and Klein (2019) urge scholars not to categorise suspended judgement as a failure of adopting a doxastic attitude, but to perceive it as a fully-fledged doxastic attitude. Mendie (2016:1) postulates that the justifiability of a belief is an exclusive act derived from the belief system held by individual human beings in their doxastic state; and a non-doxastic state implies that bases for epistemic justification transcends far beyond belief as it is buttressed by peripheral causes, exterior to an individual's doxastic state. Mendie (2014:6) describes the character of Doxasticism as follows: i) all claims of knowledge pivots on belief; ii) Doxasticism is largely governed by knowledge of the thing in itself; iii) the latter is more often non-evidential belief; and iv) knowledge is adopted rather than expressed. Mendie (2016:8) illuminates the character of Non-Doxasticism as follows: i) Truth is always justified through the application of external factors; ii) Expressed objective facts, rather than adopted facts present truth; and iii) "True knowledge is experiential".

### **5.3 THE INTELLIGENCE THAT EXPLICATE PUBLIC ADMINISTRATION AS A SCIENCE'S EPISTEMOLOGY: THREE FUNDAMENTAL INQUIRIES**

This study, in its entirety, has made provision to reflect an inclusive nature, rather than just a Western perspective. The rationale that directed inclusivity is fundamentally lodged in the demographical details that a landscape such as the Republic of South Africa and its P[p]ublic A[a]dministration echoes. A study that mirrored only a Western angle of incidence to Public Administration as a science in its Teleology, Ontology and Epistemology in an African context, would represent a deceitful imagery of reality. Chapter 5 therefore not only considers a Western perspective to Epistemology, but also includes an African and Indian angle of incidence. In light of the fact that the latter statement calls to task a significant paradigmatic perspective, the following statements need to be documented: i) scholars and practitioners of P[p]ublic A[a]dministration in the Republic of South Africa are compelled to unremittingly find scientifically grounded ways, through which indigenous cultural knowledge is reflected in the character of scientific research processes; ii) Therefore, as hallmark of a decolonisation ambition, both culturally relevant interventions and indigenous epistemology have to be deeply embedded in scientific research processes and approaches; iii) To conquer the indigence of colonised scientific research processes and approaches, the need arises to dichotomise

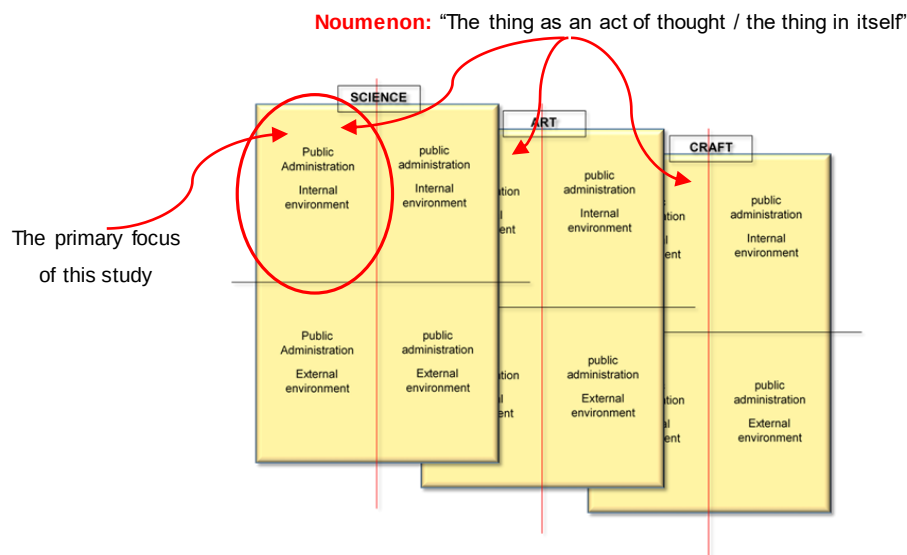


theories of P[p]ublic A[a]dministration, in order for it to reflect and focus on indigenous knowledge systems in the post-modernist era as fundamental to the meta-theoretical enquiry.

The intelligence given to concepts within the ambit of Epistemology pre-empt three fundamental questions that lead the process towards a construction of the foundations of an epistemological meta-theory to Public Administration as a science. These three questions are documented here as follows: i) Human beings have a natural desire to understand what knowledge is (Pritchard, 2006:1 - 66). In that context, and in the context of this study, the three inquiries are documented as: what is knowledge of Public Administration as a science? ii) Human beings have a natural desire to understand how an individual can obtain knowledge (Santas, 2010:125). In that context, and in the context of this study, can human beings obtain knowledge of Public Administration as a science? and, iii) Stroud (2020:141, 142, 144, 145, 146) asks, what is the manner in which human beings can obtain knowledge? In that context and in the context of this study, what is the manner in which human beings can obtain knowledge of Public Administration as a science? The aforementioned inquiries thus shape Chapter 5's arrangement. Section 5.2.1 continues by addressing the first of three epistemological inquiries.

The 'springboard' from which the three fundamental questions that drive Epistemology are launched, rests wholly on individual worldviews and accompanying presuppositions. These worldviews and presuppositions direct every concept description presented below as it was constructed in a particular spatio-temporal setting by an individual scholar with a particular theological and philosophical worldview that involuntarily included a set of presuppositions, as documented in Chapter 4 of this study. Each concept description presented thus reveals the unaffected thought system (Refer to Figure 5.1), upon which such individual constructs, their reality and truth and their respective conceptualisations of the concepts belief, justification, knowledge and truth were composed. In order to address the question at hand, and to direct a related argument, it is necessary to briefly recognise that the landscape of P[p]ublic A[a]dministration includes 12 distinct areas, as depicted in Figure 5.1, of which three quadrants reflect noumenally, "the thing (PA) in itself. Three quadrants reflect phenomenally, "the thing (pa) as it is in another (public administration in external environments). The scope and focus of this particular study falls within one of the 12 areas, encircled in red. The ultimate description of a meta-theory for Public Administration as a science's Epistemology will thus only consider a *noumenal* description of the academic discipline and in that, only one of its ontic descriptions namely its science.

**Figure 5.2 The internal and external landscape of P[ublic] A[dministration]: affirming the focus of this study**



**Source:** Author's perspective

In light of Figure 5.2, a statement is made (in the case of the internal environment of Public Administration as a science, with certainty), that epistemological intelligence, which is either distilled and refined from the internal environments of each of the three ontic expressions as they subsist in the academic discipline and in practice are known as *Noumenalism*. Stirling's (1865:9) clarification that- "[t]o know a *noumenon*, is to know a thing in itself, or, as it is; to know a phenomenon, is to know a thing in another, or as it seems." Hereto, the Online Etymology Dictionary (2021) describes a *noumenon* as: "an object of an act of thought" or "that which is perceived by the mind". The process of establishing knowledge of the thing in itself or *noumenal* intelligence, may prove to be highly beneficial prior to understanding the thing in a phenomenal context. It is therefore advantageous to understand the anatomy and physiology of nodal entities in Public Administration as a science first, before Public Administration as a science is understood in its external environment or phenomenally. Scholars are briefly reminded of Potrč and Strahovnik (2004:84) and Plato's (2014:1) conceptualisation of "knowledge as justified, true belief". Knowledge as justified true belief thus shapes the foundation from which the recognition of the knowledge of Public Administration as a science's Epistemology would be pursued.

### 5.3.1 Constructing a Theory of knowledge: Phase 1- What is knowledge of Public Administration as a science?

Section 5.3.1 is structured in such a manner that it firstly includes an ontic description of Epistemology, secondly, the section includes what is knowledge of Public Administration as a science, and thirdly, the first building block of a meta-theory to Public Administration as a science's Epistemology is presented.

#### 5.3.1.1 The nature of being (Ontology) of Epistemology

The first argument in a series of four arguments revolves around the source (ontic description) of Public Administration as a science's Epistemology. Chapter 1, Figure 1.1 and Chapter 5, Figure 5.2 present the visual landscapes from which Public Administration as a science's theory of knowledge stem. However, in this study, the focus is primarily on Quadrant 1- The internal landscape of Public Administration as a science's *noumenal* intelligence. Wenning (2009:3) affirms that "science is more than a conglomeration of facts; science is a way of knowing that requires a strong philosophical underpinning (whether consciously sought or unconsciously learned)." Since *noumenal* (Public Administration as a science in itself) and phenomenal (Public Administration as a science in an external environment) intelligence subsist, the way of knowing that Public Administration as a science enables, is both *noumenal* knowledge (knowledge of Public Administration as a science in itself) and phenomenal knowledge (Knowledge of the world within which human beings find themselves, with a specific focus on Public Administration).

Stout (2012:389) explains that in an "ideal type model", the source of being is either transcendental, immanent or both. Hereto, Jenkins (2010:8) argues that the concept transcendental relates to "objects that are held *a priori*" (reasoning or knowledge which proceeds from theoretical deduction, rather than from observation or experience), (Oxford Languages, 2021), which are therefore "independent of any particular experience". A combination of the intelligence presented between Jenkins (2010:8) and Online Etymology Dictionary (2021), declares the *noumenal* as that it would be substantiated in essence by a *priori* reasoning or knowledge. In addition, the Cambridge Dictionary (2021) informs that an immanent property is present as a natural, permanent part of something. Based on the intelligence that Kuhn (1962; 2012), Masterman (1970:65, 66), Lakatos (1970:133), Hacking (2012) shared with scholars, after many years of research conducted in particularly related fields, it can without indecision be confirmed that all six the nodal entities within Public Administration as a science are immanent. It is argued that at this particular point in the spatio-

temporal context of Public Administration in the Republic of South Africa, all the nodal entities in Public Administration as a science are transcendental as well, since knowledge of such nodal entities in this particular field of study proceeded from theoretical deduction only, and have not yet been observed or experienced in Public Administration as a science in itself. Chapter 2 of this study reveals the transcendental character of nodal entities in Public Administration as a science such as a Paradigm, Extraordinary science, the Nucleus and the Nucleus Triads. Considering all the nodal entities present in the anatomy and physiology of Public Administration as a science, it is reasonable to deduct that the source of Public Administration as a science is both transcendental and immanent. The relation of such an ontic description to Public Administration as a science's Epistemology manifests as *a priori Noumenalism*, since the investigation primarily focusses on the anatomy and physiology of this field of study's science, which therefore requires an Epistemology of the thing in itself, i.e., knowledge of the nodal entities, their individual character, purpose within the discipline's science and interaction with other nodal entities.

In an article on competing ontologies, Stout (2012:389) explains the state of a thing, which in the case of this study is the ontic state of Public Administration as a science as static, dynamic or both. Since Chapter 2 of this study presents a detailed explication of this ontic description, Chapter 5, Section 5.3.1.1 maintains the intelligence documented in Chapter 2 in application. Public Administration as a science is both static and dynamic. The Epistemology that is associated with this particular ontic state illuminates an epistemological spatio-temporal connection that largely includes the ever evolving historical trajectory and philosophical bedrock (Kuhn, 1962; 2012:1, 2, 5, 43, 75), respectively as anchor and driving force of the discipline's science's Epistemology. Once again, the *noumenal* character that is deeply embedded in these observations are evident.

Stout (2012:389) presents a description of the ontic expression as that it could be Whole, Plural or Both. In the context of this study, it is argued that the ontic expression of Public Administration as a science's Epistemology is Whole in the sense that it carries the *noumenal* epistemology of this discipline's science. Hereto, it is similarly argued that the ontic expression of Public Administration as a science's Epistemology is also pluralistic since the science expresses itself in meta-theories, in theories, in paradigms, in extraordinary discoveries, in a scientific-historical trajectory and in a philosophy and philosophical underpinning. The argument here thus indicates that the ontic expression of Public Administration as a science's Epistemology is both Whole and Plural.

With the latter information in mind, and considering the intelligence that explicate the properties of Epistemology in its nature of being (Ontology), it is imperative to recognise four epistemologically ontic conditions. The conditions that are considered include: i) Belief. Historical Philosophy connected four meanings to the concept Belief namely- ‘*pistis* - Πίστις’ (“a state of mind, i.e., a belief, or conviction which results when a person accepts a proof or demonstration. A legal instrument of the reasoning process in deduction or induction. A source material, which comes from the logical analysis of the subject”), (Erickson, 1976), ‘*doxa* - δόξα’ (“common belief or popular opinion, the reality of the most primordial evidence to which exact knowledge returns for its meaning”), (Biemel, 1994:122), ‘*dogma* - δόγμα’, (“a belief that is held unquestionably and with undefended certainty, thus dogma speaks of the real but only in terms of how we are to deal with it.”), (Mansini, 1985:220), and doctrine – δόγμα, which Pattaro (2005:222) explicate as “a body or system of philosophies”, beliefs and teachings to which ‘*dogma* - δόγμα’ as unquestionable, undefended more strongly belongs, rather than ‘*doxa* - δόξα’ as common belief or popular opinion; ii) Justification. In addition to a clarification of the concept ‘Justification’ in Chapter 1, Chapter 5 presents a brief reminder of the meaning of this concept that has earned a prominent position in Philosophy of Science. Kantorovich (1988:469) claims that the concept of Justification’s norms pivots on “the prevailing paradigm of Rationality”, which thus declares that reason is the fundamental origin and litmus test of knowledge (Alofsin, 2006:81). In order to place this statement in context, Evans and Over (1996), continue to emphasise that reason is the fundamental root and yardstick to confirm knowledge or any position “that appeals to reason as a source of knowledge or justification.” Rationalism advocates that the ‘criterion of truth’ is not *a posteriori* but rather “intellectual and deductive.” Kant (1855:517), in his Critique of Pure Reason as translated by Meiklejohn, brings an important matter to the attention of all who seeks to investigate Justification as condition of the ontic description of Epistemology as follows- “...but the phenomenalism of his theory of knowledge goes along with an invincible noumenalism, which finally finds its faith foundations beyond the reach of scepticism.” The essence of Kant’s (1855:517) statement is further clarified in Stirling’s (1865:9) clarification that- “[t]o know a noumenon, is to know a thing in itself, or, as it is; to know a phenomenon, is to know a thing in another, or as it seems.” *Noumenalism* is a belief system that is often associated with dogmatism and Phenomenalism is often coupled with scepticism, all within the ambit of Justification; iii) Knowledge. Kaufmann (2014:202) includes the following factual details into an understanding of the concept knowledge- knowledge presents three principal variations namely “knowledge of facts”, “knowledge of essence (a priori knowledge)”, and “knowledge of laws (assumptions” or presuppositions)”. These three principle variations in the context of Public Administration as a science firstly denotes- knowledge of the facts that are encapsulated in Public Administration as a science, as it is documented in Chapter 2 of this study, secondly, essence knowledge of

Public Administration as a science that fundamentally pivots on “reasoning or knowledge, which proceeds from theoretical deduction, rather than from observation or experience as it is documented in Chapter 2 of this study, and thirdly, knowledge of the laws that uphold Public Administration as a science in the Social sciences, as well as the accompanying assumptions or presuppositions that emanate from distinct worldviews, as it is documented in Chapter 4 of this study. Hereto, Kaufmann (2014:203) firstly informs that the result of a comparative phenomenological process between predicative and pre-predicative experience is a classification of the layers of clarity and “distinctness of thought”. Secondly, Kaufmann (2014:203) asserts that in adherence to the conventional nomenclature of contemporary Schools of Philosophy, an object of knowledge will be designated and conceptualised “when it emerges as identifiable within the totality of experience”, which therefore makes such an object unique from all other objects of knowledge. Hereto, Public Administration as a science, as explicated in Chapter 2, emerged as an object of knowledge that was identifiable within the totality of experience, wholly distinguishable from other objects. Thirdly, an object of knowledge “is to be called distinctly comprehended when its elements and the kind of manner of its connection[s] (synthesis within the object of knowledge) can be clearly comprehended within that object of knowledge” (Kaufmann, 2014:203). The latter statement gives particular validity and reliability to the factual details and theoretical substance that have been included in a comprehensive description of the anatomy and physiology of nodal entities in Public Administration as a science. Finally, Kaufmann (2014:203) explicates that once deep insight into the subsistence of a multiplicity of worldviews and accompanying presuppositions have been obtained, and an intelligibility and distinctness of knowledge emerge, scholars of a field of study are obliged to further clarify and distinct knowledge that are ambiguous or abstruse by means of reflection on such knowledge. The latter instantly reminds of the aftermath of a Kuhnian paradigm shift, which leaves Quotidian scientists with the particular task of ‘cleaning-up operations’ or as Kuhn (1962; 2012:24) preferred to refer to it as the “[m]opping-up”, that include deep reflection on new knowledge and further scientific explications to ambiguous and/or abstruse knowledge. The latter thus indicate essential actions that form a distinct part of the essence of Nodal entity 2- Quotidian science in the corporeal morphology of a science as explicated in Chapter 2 of this study; and iv) Truth. Weber (1949:10) presents his conceptualisation of truth as follows- “[t]he objective validity of all empirical knowledge rests exclusively upon the ordering of the given reality according to categories, which are subjective in a specific sense, namely, in that they present the presuppositions of our knowledge and are based on the presuppositions of the value of those truths, which empirical knowledge alone is able to give us.” In contrast to Kantorovich’s (1988:469) claims of Rationality, it appears as if Weber (1949:10) has adopted an Empiricist viewpoint, and as such believe that knowledge is only obtained through sense observation. Yoshime (2016:265) describes Truth in the context

of Transcendental-pragmatics as- “Transcendental-pragmatics regard truth as the ultimate consensus of the ideal communication community, building upon Peircian consensus theory [Charles Sanders’ Pragmatic Theory of Truth] and accepting Habermas’ variation.” White (2002:146) explains the Jürgen Habermas variation, as that within the eclectic space of civil society, institutions, systems, habits and traditions replicate themselves by means of expansive action; Hereto, the eclectic space of civil society is vastly different from both the state and the economy, in which both the state and economy reflect systemic patterns of interconnectedness and self-direction through the mechanisms of administrative authority and capital; In this context, modern-day democratic societies grapple with the fundamentally persistent risk of a colonised life-world invasion to which the Habermas variation reflects a strong disapprobation against capitalism. Capps (2019) confirms that pragmatic theories are habitually allied with either C. S. Pierce or William James, and as such, respectively underscore the fact that truth only comes to the forefront at the end of an inquiry, or, truth is only confirmed in the degree to which the knowledge is useful. Stout (2012:389) clarifies the condition of being and in this study then, the condition of Public Administration as a science’s Epistemology as that it can be identified as Individual, Relational or both and Differentiated, Undifferentiated or both. In the context of what has just been described it is evident that Belief, Justification, Knowledge and Truth are highly individual concepts, each with their own describable character but similarly highly dependent on each other to ultimately deliver knowledge. It is therefore possible to present the ontic condition of Public Administration as a science’s Epistemology as both Individual and Relational. In terms of its Differentiated, Undifferentiated or Both ontic condition status, it is evident from the previous description that the ontic condition of Public Administration as a science’s Epistemology is Differentiated since each entity in the “knowledge is justified true belief” Plato (2014:1), context can subsist wholly on their own.

#### 5.3.1.2 What is knowledge of Public Administration as a science’s Epistemology?

In summary, the ontic description of Public Administration as a science’s Epistemology reflects as follows: i) The source- *A priori Noumenalism* anchors the epistemological intelligence presented through the corporeal morphology (anatomy) and physiology of Public Administration as a science. Reasoning or knowledge that stems from theoretical deduction rather than from observation and experiment informed the object of thought; ii) The state- A philosophical bedrock and historical trajectory lend the status of being both static and dynamic in state to Public Administration as a science’s Epistemology. The ever evolving historical epistemological details present the state as dynamic and the philosophical anchor lends Public Administration as a science’s Epistemology its static state; iii) In its *noumenal* expression, Public Administration as a science’s Epistemology presents as both whole and plural. The

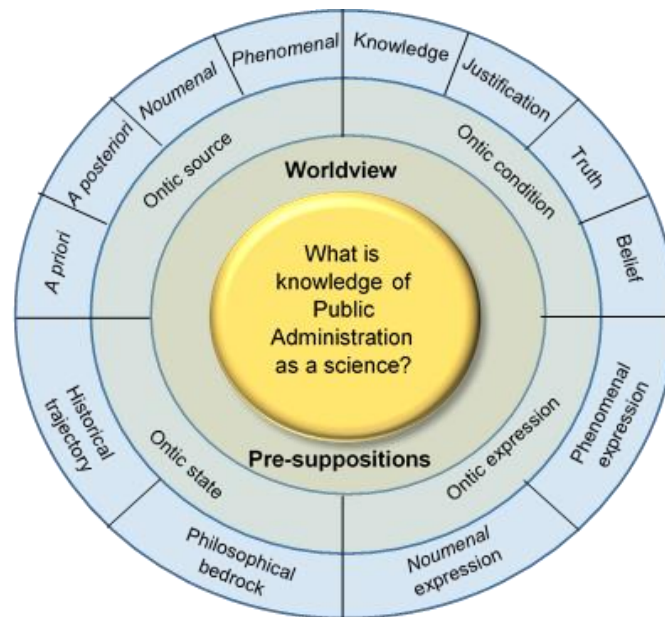
expression is whole in the sense that it enfolds one *noumenal* epistemology. It is plural in expression through meta-theories, theories, paradigms, extraordinary discoveries within a historical-scientific trajectory with a philosophical underpinning; and iv) The ontic condition of Public Administration as a science's Epistemology stem from knowledge that is recognised as justified true belief. The condition of such knowledge is both Individual and Relational since a clear characteristic differentiation between all the nodal entities in both the anatomy and physiology of Public Administration as a science is possible, but there is evidence of distinct relational, non-linear interaction between these nodal entities present in the physiology of the science. The condition of Public Administration as science's Epistemology is similarly classified as Differentiated. Each of the nodal entities in a science can subsist independently on its own, reflecting a unique character. In light of this synopsis, which elements need to be included in Public Administration as a science's Epistemology?

#### 5.3.1.3 Towards a meta-theory for Public Administration as a science's Epistemology

What is knowledge and in that, what is knowledge of Public Administration as a science's Epistemology? A clear distinction has to be made between what is *noumenal* knowledge (knowledge of the science in itself), as it is included in the scope of this study, and a general understanding of scientific knowledge in Public Administration, since both belongs to the epistemology of Public Administration as a science. The *noumenal*-epistemological elements that Public Administration as a science's Epistemology hold, are depicted in Figure 5.1.



**Figure 5.3 Phase 1- What is knowledge of Public Administration as a science's Epistemology?**



**Source:** Author's perspective

Phase 1 established foundational intelligence that contributes towards an understanding of the nature (Ontology) of Public Administration as a science's Epistemology. Phase 1 thus addressed the question: What is the ontic description of Public Administration as a science's Epistemology or what is knowledge? Progressing towards a meta-theory that enlightens Public Administration as a science's Epistemology, Phase 2 investigates the facts that inform the inquiry whether human beings can obtain knowledge (*Noumenal* knowledge in the case of this study) of Public Administration as a science's Epistemology.

### **5.3.2 Constructing a Theory of knowledge: Phase 2- Can human beings obtain knowledge of Public Administration as a science?**

The fundamental question that directs the 2<sup>nd</sup> Phase towards the construction of an Epistemological meta-theory is documented as: can human beings have *noumenal* knowledge of Public Administration as a science's Epistemology? Over and above the fact that Chapters 2 – 4 and Chapter 5, Phase 1 above delivered undoubted evidence of knowledge that is located in the thing in itself, or within Public Administration as a science's Epistemology in itself, Public Administration as a science's Theory of Knowledge may be approached from three different angles of incidence, identified as Skepticism, Dogmatism and Relativism. Hereto, Relativism will branch off into Subjectivism and Conventionalism. The pursuit of

knowledge commences with an understanding of the concept Skepticism and its positioning in Public Administration as a science's Epistemology.

#### 5.3.2.1 Skepticism

What do Skeptics believe? Can human beings have knowledge? Popkin (2021) informs that Skepticism is the act of “doubting knowledge claims” that are presented by a diverse range of domains. Hereto, Merriam-Webster (2021) introduces a conceptualisation of the Philosophical Doctrine Skepticism as follows: i) Skepticism asserts the fact that true knowledge or knowledge of something is indeterminate; and ii) Skeptics' point of departure in terms of underscoring Plato's (2014:1) dictum as that “knowledge is justified true belief” is approached by method of “suspended judgement, systematic doubt and/or criticism”. Lagerlund (2020) informs that Skepticism is commonly categorised into two distinct groupings, recognised as: i) those who deny all possibility of knowledge; ii) and those who more often support suspension of judgement. As a School of Philosophical Skepticism, Pyrrhonists (to which Pyrrho of Elis was the founder-architect), deny all possibilities of knowledge, and embedded in that principle, “everything is indeterminable”, subsequently there is “suspended judgement about the reality of things” (Hankinson, 1998). In addition to Pyrrhonism, Academic Skepticism maintain that human beings cannot have certain knowledge about anything (Cooper, 2013:281).

In pursuit of truth, whether Pyrrhonists or Academic Skeptics, the philosophical point of departure is most likely denial as an undetermined opinion that human beings can have knowledge of something; or skeptics will offer a suspended judgement. In this light, Chapter 5 continues by obtaining intelligence that explicate the proponents of Dogmatism as a Philosophical School of thought.

Criticism against Skepticism are summarised by Popkin (2021) as follows: i) Skepticism has been declared as an indefensible and unsustainable viewpoint, in both logical and human domains; ii) Every endeavour that is made by the Skepticist to declare the position of Skepticism is self-refuting based on the fact that at least some knowledge claims are necessary “about what is supposed to be dubious”; iii) Sextus Empiricus (2<sup>nd</sup> or 3<sup>rd</sup> century BCE), maintained that Skeptics never produce any assertions, they only present records of their state of mind. Sextus Empiricus similarly argues that Skepticism is cleansing because in the process of self-eradication, it simultaneously eradicates everything else; iv) The power of a Skepticist's argument is not embedded in the proof that such an argument can be presented constantly, but rather in the effects that such Skeptics' arguments have on the arguments of Dogmatic philosophers; v) Hume argued that Skepticism may be observed as self-refuting,

but in the process of self-refutation it wholly emasculates Dogmatism; vi) “Everybody that has made an attempt to be a complete Skeptic, denying or suspending all judgements about ordinary beliefs, would soon be driven insane”; and vii) “Skeptical philosophising continues in theory, whilst believing continues in practice”. Skepticists would therefore argue that true knowledge or knowledge of either Public Administration as a science, or Public Administration as a science’s Epistemology is indeterminate; Or, they will present suspended judgement, systematic doubt and or criticism against any form of knowledge of either Public Administration as a science, or Public Administration as a science’s Epistemology.

In light of the Skepticist and Skepticism, it is obvious that Chapter 5 will similarly consider a description of the character presented by Dogmatism. Section 5.3.2.2 therefore follows by documenting the intelligence and criticism that explicates Dogmatism.

### 5.3.2.2 Dogmatism

As direct opponent to Skepticism, Section 5.3.2.2 investigates the true character of Dogmatism. The Merriam-Webster (2021) informs that Dogmatism is: i) “the expression of an opinion or belief as if it were a fact; and ii) a perception or a system of ideas that are founded on “insufficiently examined premises”. The section that follows will shed light on the concept of Dogmatism in addition to the criticisms that are held against this Philosophical School of Thought.

#### 5.3.2.2.1 *What do Dogmatists believe? Can human beings have knowledge?*

Dogmatism is recognised in two Philosophical Schools of Thought namely, Epicureanism, to which its biggest adversary is Stoicism. Empiricism (Aristotle saw the true source of knowledge is located in sensory experience), (Olson & Ramirez, 2020:31), acts as the Epicureanistic foundation of Philosophical Dogmatism (O’ Keefe, 2010:110). Its scholarly traditions profess that truth is knowable and that within this realisation, truth is measurable and observable. Ambrose (2012:9, 10) postulates the following facts about the nature of Dogmatism: i) Dogmatism may have a whole range of gradations, similar to a construct that may belong to any particular point on a continuum; ii) On the one end, scholars will find “its most calcified, immovable, seemingly inescapable form”, and on the other end, its mildest form perhaps of “habit-bound thinking”; iii) However, even in the “habit-bound thinking” state dogmatists will hardly ever suggest to apply novel or innovative ideas to solve phenomena; iv) It might be very useful to propose novel ideas to the “habit bound thinking” end of the Dogmatist continuum for such advocates to discover different angles of incidence to solve *noumena* and

phenomena; v) At the “calcified, immovable, seemingly inescapable” end of the continuum, Dogmatists are “so firmly entrenched” that novel cognitive ideas, solutions, angles of incidences and moving beyond the confines of conceptual frameworks are wholly out of the question.

#### 5.3.2.2.2 *Criticism against Dogmatism*

From those “who reject the possibility of any knowledge, to those that confirmed that “we know not only that there is a transcendent world, but we also know what that world is”, Marvin (1899:211) presents the following criticism against Dogmatism: i) Denies that human beings can have any knowledge of the transcendent and what it represents; ii) Problematic only admits to a possibility when considering the transcendent as a source of knowledge; iii) Empiricism, in its development moves from Dogmatism to Criticism to Problematic and often right into Skepticism; iv) In his Critique of Pure Reason, Hume emphasised the impossibility of the Dogmatic aspirations.

In the context of Public Administration as a science’s Epistemology, dogmatists may find it inconceivable to approve of novel ideas to conduct both Quotidian and Extraordinary science in the Republic of South Africa where novel science is required to address novel phenomena, particularly in light of the 4<sup>th</sup> Industrial Revolution and the COVID-19 pandemic which both have challenged human beings’ being. With Skepticism and Dogmatism in mind, Chapter 5 proceeds to an investigation of Relativism and its appropriateness to obtain insight into Public Administration as a science’s Epistemology.

Having observed two ends of the spectrum (Skepticism and Dogmatism), Chapter 5 also considers the following Theories of Knowledge in the context of Public Administration as a science’s Epistemology. These Theories of Knowledge are recognised as: Epistemic Relativism; Epistemic Contextualism; Epistemic Constructivism; Epistemic Idealism (Meta-physical doctrine); African Epistemology; and *Pramāṇa* (Instrument of knowledge). Section 5.3.2.3 continues by considering the substance out of which Epistemic Relativism comprises.

#### 5.3.2.3 Epistemic Relativism

Human beings differ. Seidel (2014:9) asserts that the point of departure to Epistemic Relativism is embedded in a two-fold notion; On the surface, it is recognised that individuals’ theological and philosophical worldviews are different, and as such, the manner in which human beings perceive the world, differs; Subsequently, Epistemic Relativism postulates that

human beings' beliefs vary on matters of interest; Hereto, individuals' final persuasive belief in a particular context is always relative to their circumstances. On a deeper level, Epistemic Relativism needs to be supported by a symmetry thesis or an equivalence postulate ("All beliefs are on a par with one another, with respect to the causes of their credibility"). Barnes and Bloor (1982:22), and Baghramian and Coliva (2020) explicate the equivalence postulate within Epistemic Relativism as that beliefs should, without fail be subjected to empirical investigation in order to ascertain the grounds of such beliefs' credibility.

The inclusion or consideration of Epistemic Relativism as Theory of Knowledge in an Epistemological meta-theory that relates to Public Administration as a science has been justified since Chapter 1 which has already made reference to the need for a pluralist perspective. Circumstantial relevance is also of critical importance in Public Administration as a science. The rationale behind the latter statement is lodged in the fact that Public Administration as a science may in theory reflect universality but contextual epistemic evidence is critical, since such evidence differs from nation to nation. Hereto, Epistemic Contextualism follows.

#### 5.3.2.4 Epistemic Constructivism

Sofroniou (2015:43) postulates that: i) knowledge, in its deepest essence is a derivative of human construction and not an impartial unearthing of an objective truth; ii) Epistemic Objectivism has a particular interest in the "object of our knowledge", whereas Epistemic Constructivism has a particular focus on the manner in which knowledge is constructed; iii) Epistemic constructivism, true to its nature, presents novel conceptualisations for knowledge and truth that ultimately result in a contemporary paradigm that is founded on inter-subjectivity rather than classical objectivity and similarly on viability rather than truth; and iv) "The norm of truth is to have made it" (*Verum esse ipsum factum*) or "the true is precisely what is made" (The Giambattista Vico principle), (Croce, 2019).

Considering Epistemic Constructivism in the context of Public Administration as a science, Sofroniou's (2015:43) postulation that knowledge, in its deepest essence is a derivative of human construction and not an impartial unearthing of an objective truth. Chapters 2 – 5 of this study is evidence and proof of knowledge that emanated from Constructivism. Chapters 2 – 5 similarly had to present the manner in which the true was made. The novel knowledge presented in Chapters 2 – 5 is also indicative of inter-subjectivity rather than objectivity. The

following discussion pivots on Epistemic Idealism as Theory of Knowledge. Epistemological Idealism is also acknowledged as a Meta-physical doctrine.

#### 5.3.2.5 Epistemological Idealism (Meta-physical doctrine)

Gangadean (2008:74) reveals that the doctrine which underscores Epistemological Idealism declares that the sum total of human knowledge can be condensed to mental phenomena. Nahme (2019:68) informs that Epistemological Idealism has its bases firmly fixed in Monotheism. Kreeft (1999:152) illuminates Epistemological Idealism as that it has adopted two forms; The first form represents Locke's doctrine, which proclaims that "immediate objects of our knowledge are our own ideas, not objective realities; The second form embodies Kant's doctrine, which he referred to as "the Copernical Revolution in Philosophy"; The latter declares that "our ideas determine and form objective reality, rather than *vice versa*".

Epistemological Idealism may have had an enormous role in determining the *noumenal* knowledge and substance of Public Administration as a science's corporeal morphology (anatomy) and physiology. The statement has been made before in Chapter 5, that it is critically important to know the thing in itself (*noumenon*), before we can know the thing in another (phenomenon).

In the midst of Western Theories of Knowledge, with a recognition of South Africa as the physical location of this study, it is imperative to include an understanding of African Epistemology or an African Theory of Knowledge.

#### 5.3.2.6 African Epistemology

Etta (2019:280 – 281) illuminates African Epistemology as follows: i) the essence of African Epistemology can only be understood if African Philosophy has been understood since the latter is in essence meta-physical; ii) the inference is therefore documented that African Epistemology is likewise meta-physical and concerns itself with the matter of reality versus the topic of knowledge; iii) the foundation of African Epistemology is African tradition which respectively contains both the meta-physical and the spiritual; iv) African Epistemology therefore proclaims a one-ness with nature and in that state the presence of spirituality and knowledge of the world by means of a spiritual source; v) in African Epistemology the empirical world and the transcendental world have a causal relation; vi) reality moves beyond the spatio-temporal boundaries of the empirical world and everything that subsist, is incited by spiritual forces; vii) herein, the hierarchical order of life forces are documented as God, divinities,

ancestors, human beings, animals, plants and finally minerals; and viii) the true African epistemological viewpoint emanates from an understanding of reality, which is holistic, ontic and features a proud heritage of oral tradition.

It would be inconceivable to consider Public Administration as a science's Epistemology in the Republic of South Africa without including African Theology, Philosophy and Epistemology. Hereto it is similarly important to consider the *Pramāna* Epistemology that was, analogous to African Epistemology developed independent of Western Philosophy.

#### 5.3.2.7 *Pramāna* Epistemology (Instrument of knowledge)

Perrett (2001:xiii) introduces *Pramāna* Epistemology as a Theory of knowledge, recognised within a classic-traditional context of Indian Epistemology as follows: i) Indian Theory of Knowledge or Epistemology pivots on *Pramāna* Theory; ii) Within the Indian Theory of Knowledge, the *pramānas* have reference to knowledge concepts that include among others- "*Pratyaksa* (perception), *Anumāna* (inference, reasoning), *Upamāna* (comparison and analogy), *Arthāpatti* (postulation, derivation from circumstances), *Anupalabdi* (non-perception, negative/cognitive proof), *Śabda* (word, testimony of past or present from reliable experts), *aitihya*, (communication from one who is an expert), and *smṛti* (tradition or scripture)", (Flood, 1996:225; Grimes, 1996:238; Keith, 1998:482; Deutsch, 2001:245 – 248; Vidyabhusana, 2006:23; Bhawuk, 2011:172); iii) these *pramānas* are recognised as the means through which that which human beings can know and cognitive entities make up the world within which humans find themselves; iv) Hereto, an incident of knowledge is referred to as a *pramā* in which the relation between such an incident of knowledge and its object *prameya*, is formally organised and arranged by the *pramānas*; v) the ontic character of a *pramāna* affirms that it affords both "an authoritative source for making a knowledge claim" and "a means of knowledge (way of knowledge)". The ontic character of a *pramāna* is therefore dualistic since it is both "causal and evidential"; vi) *Pramānas* have therefore been endowed with the capacity to present justification in process of morphing a cognitive episode into an episode of knowledge; vii) *Pramānas* are similarly recognised as the most powerful course to an episode of knowledge; viii) The Indian Theory of Knowledge or Epistemology, which wholly pivots on *Pramāna* Theory, manifests both as a theory of epistemic justification and a meta-physical theory of causal requirements that is required for the validity of such justification; ix) The *Pramānas* should not merely be interpreted as mode of justification but should rather be observed as the presenter of indispensable methods that complement causal chains with justification chains in order to validate knowledge claims.

#### 5.3.2.8 Can human beings obtain knowledge of Public Administration as a science?

In pursuit of finding an answer to the question, can human beings obtain knowledge? and then, can human beings obtain knowledge of Public Administration as a science? Chapter 5 considers the intelligence that has been documented in description of Skepticism, Dogmatism, Epistemic Relativism, Epistemic Constructivism, Epistemological Idealism, African Epistemology and Indian or *Pramāṇa* Epistemology. It is necessary to address the first question at hand by viewing the inquiry through each of the seven lenses discussed above. To this question, the lens of Skepticism will inform that knowledge will always be indeterminate; the lens of Dogmatism will inform that human beings will be able to obtain knowledge, but such knowledge will fit into a system of ideas that presents itself on a continuum, which includes a whole range of gradations in terms of what such knowledge is meant to be; Epistemic Relativists will declare that human beings are able to obtain knowledge, however such knowledge will be located in the context of their circumstances; To this question, Epistemic Constructivists will assert that human beings can obtain knowledge but the deepest essence of such knowledge will be a derivative of human construction and not an impartial unearthing of objective truths; Epistemological Idealists will declare that human beings can obtain knowledge but that the sum total of such knowledge is condensed into mental phenomena; African Epistemologists will affirm that human beings can obtain knowledge of the empirical, meta-physical and spiritual worlds; finally, Epistemologists of *Pramāṇa* will pronounce that human beings can obtain knowledge, but it is through the *Pramāṇa* Theory that such knowledge will become known.

In light of the afore described epistemic details, the second inquiry that requires an answer is stated as follows: can human beings then have knowledge of Public Administration as a science? Reflecting upon the aforementioned viewpoints, the following inference can be made: The lens of Skepticism will inform that knowledge of Public Administration as a science will always be indeterminate; the lens of Dogmatism will inform that human beings will be able to obtain knowledge of Public Administration as a science, but such knowledge will fit into a system of ideas that presents itself on a continuum, which includes a whole range of gradations in terms of what such knowledge is meant to be; Epistemic Relativists will state that human beings will be able to obtain knowledge of Public Administration as a science, however such knowledge will be located in the context of their circumstances; To this question, Epistemic Constructivists will assert that human beings can obtain knowledge of Public Administration as a science, but the deepest essence of such knowledge will be a derivative of human construction and not an impartial unearthing of objective truths; Epistemological Idealists will declare that human beings can obtain knowledge of Public Administration as a



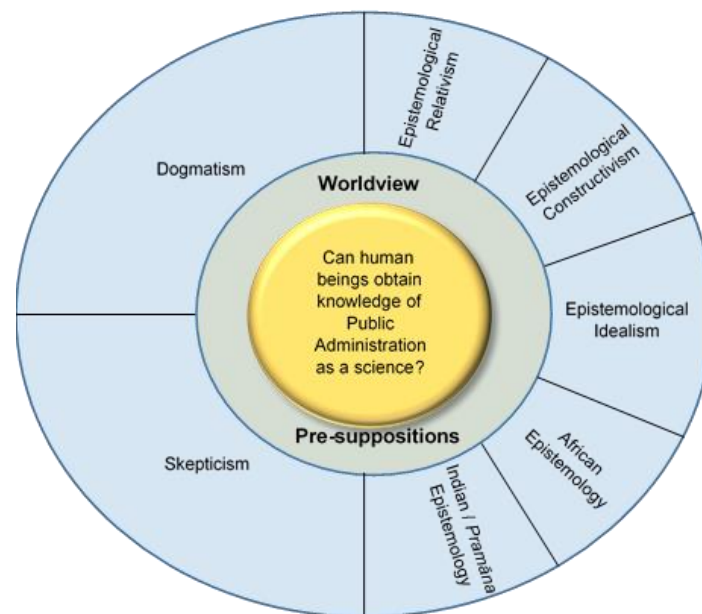
science, but that the sum total of such knowledge is condensed into mental phenomena; African Epistemologists will affirm that human beings can obtain knowledge of Public Administration as a science, by means of the empirical, meta-physical and spiritual worlds; finally, Epistemologists of *Pramāṇa* will pronounce that human beings can obtain knowledge of Public Administration as a science, but it is through the *Pramāṇa* Theory that humans are enabled to know.

It is thus evident that the range of answers to both the questions have a direct relation to the lens through which the question is observed. Following the investigation if it is possible for human beings to know anything, and if it is possible for human beings to know anything about Public Administration as a science, the following section delivers the 2<sup>nd</sup> Phase of an Epistemological meta-theory. In conclusion to the 2<sup>nd</sup> Phase of an Epistemological meta-theory, it is necessary to mention at this point that epistemological evidence has been delivered in Chapters 2 – 5, of the beginning of an understanding of the *noumenal* world of Public Administration as a science.

#### 5.3.2.9 Towards a meta-theory for Public Administration as a science's Epistemology

Figure 5.4 below presents Phase 2 of the Epistemological meta-theory as it is considered in Chapter 5 of this study. It presents Epistemologies such as Dogmatism, Skepticism, Epistemological Relativism, Epistemological Constructivism, Epistemological Idealism, African Epistemology and Indian or *Pramāṇa* Epistemology. Each of these epistemological theories were applied in ascertaining whether human beings can obtain knowledge and whether human beings can obtain knowledge of Public Administration as a science.

**Figure 5.4** Phase 2- Can human beings have knowledge of Public Administration as a science's Epistemology?



**Source:** Author's perspective

Section 5.3.2 distinguished at least seven theories of Epistemology. It soon became evident that each of these theories of Epistemology displayed a dissimilar opinion to the manner in which human beings can obtain knowledge and more relevant to this study, knowledge about Public Administration as a science. In order to reach an Epistemological meta-theory as documented and undertook in the objectives of Chapter 5, Section 5.3.3 continues to ask the third and final epistemological question of this chapter as what is the manner in which human beings can obtain knowledge, and what is the manner in which human beings can obtain knowledge of Public Administration as a science. Section 5.3.3 thus commences by introducing Phase 3 of the epistemological meta-theory that this chapter set out to investigate.

### **5.3.3 Constructing a Theory of knowledge: Phase 3- What is the manner in which human beings obtain knowledge of Public Administration as a science?**

In the process of constructing a Theory of knowledge, and as Phase 3 of the process, the first Theory of Epistemology that this study considers is Noumenalism. Noumenalism stand in contrast against Phenomenalism since the first considers being in itself and the epistemological insight that can be obtained from such knowledge. The latter is concerned with being in amongst others. Section 5.3.3.1 thus follows by investigating the *Noumenalism* as a Theory of Knowledge.

#### **5.3.3.1 *Noumenalism***

*Noumena* and *noumenon* as concept has been linguistically explicated and discussed, particularly in Chapter 2 of this study, when Public Administration as a science was considered as a *noumenon* or a thing in itself. The knowledge and insight that this perspective yielded was a critical understanding of the corporeal morphology (anatomy) and the physiology of a science. To a large extent, the potential for theory development that was incited by viewing Public Administration as a science, as a *noumenon* cannot all be contained in this one study. As a reminder, Merriam-Webster (2021) conceptualises *Noumenalism* as “the doctrine of the existence of things in themselves”. Jauernig (2021:341) distinguishes between a negative and a positive sense in an understanding of *noumenon* or the thing in itself; Hereto, Jauernig (2021:341) confirms that *noumenon* in the positive sense is the thing in itself; in the negative sense, “*noumena* are not objects of our (=human) sensible intuition to the illegitimate assumption that things in themselves are *noumena* in the positive sense, that they are objects that can be cognised by pure understanding alone”. Chapter 2 of this study presents a profound depth of knowledge into one of the ontic expressions of Public Administration, recognised as its science just by recognising this expression as a *noumenon*.

In contrast, this study also considers Phenomenalism as a route towards human beings access to knowledge. Section 5.3.3.2 expands on the concept Phenomenalism.

#### **5.3.3.2 Phenomenalism**

Phenomenalism is known as a philosophical theory sense perception and an external environment; Phenomenalists are of the opinion that a material object is only knowable through the senses, and there is nothing transcendental or even mysterious to the process; If it was the case, the world would be unknowable to human beings; The material world is thus

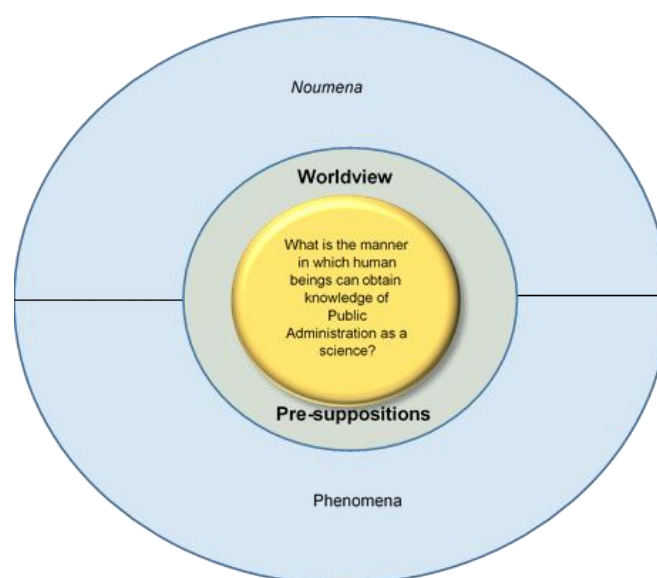
knowable by means of sense observation (Britannica, 2021). Within the ambit of Public Administration as a science, empirical observation, experiment, theory building and testing is of critical importance and has been applied in an innumerable number of investigations. Even though this study to a large extent focussed on *noumena*, Phenomenal studies remain critical in Public Administration research.

### 5.3.3.3 Towards a meta-theory for Public Administration as a science's Epistemology

Figure 5.4 below presents Phase 2 of the Epistemological meta-theory as it is considered in Chapter 5 of this study. It presents Epistemologies such as Dogmatism, Skepticism, Epistemological Relativism, Epistemological Constructivism, Epistemological Idealism, African Epistemology and Indian or *Pramāṇa* Epistemology. Each of these epistemological theories were applied in ascertaining whether human beings can obtain knowledge and whether human beings can obtain knowledge of Public Administration as a science.

From the intelligence that were included under the headings, *Noumena* and Phenomena, this study confirms that the Epistemology of Public Administration as a science will include studies in *Noumena*, as Public Administration as a science and as a thing in itself and Phenomena, the thing as it is in another or P[p]ublic A[a]dministration in the socio-political, socio-cultural, socio-economic, and political economic domains.

**Figure 5.5 Phase 3- How do human beings obtain knowledge of Public Administration as a science's Epistemology?**



**Source:** Author's perspective

#### 5.4 THE META-THEORY OF PUBLIC ADMINISTRATION AS A SCIENCE'S EPISTEMOLOGY

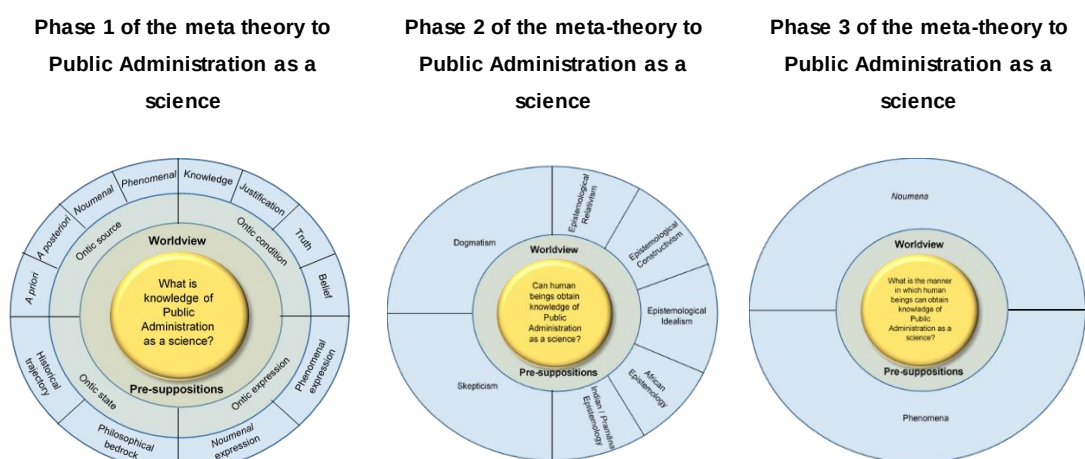
The primary aim of Chapter 5 was to present a meta-theory that reflects Public Administration as a science's Epistemology. Hereto, Chapter 5 presented, according to three major epistemological questions, three phases of meta-theoretical building blocks towards a meta-theoretical (theory of theories) understanding of Public Administration as a science's Epistemology. It is evident from Figure 5.6 that follows, that Phase 1 of the meta-theory asks the question, what is knowledge of Public Administration as a science's epistemology? Hereto, the point of departure to Phase 1 is always an array of worldviews and accompanying presuppositions. The latter is followed by an ontological inquiry into the nature of Public Administration as a science's epistemological source, state, expression and condition. Phase 1 of the meta-theory ends by identifying *a priori* and *a posteriori* intelligence as well as the *noumenal* and the *phenomenal* domains to be sources of Public Administration as a science's Epistemology. The sources of Public Administration as a science's Epistemology is therefore both transcendental and immanent. The ontic description of Public Administration as a science's state is described as both static and dynamic. The rationale upon which this selection pivots, is located in both the historical trajectory that presents a dynamic state and the philosophical bedrock of the discipline's science, which declares that Public Administration as a science's Epistemology presents as static in its state. In its ontic expression Public Administration as a science will reflect a *noumenal* expression (the thing in itself, or Public Administration as a science's Epistemology in itself) and a phenomenal expression (the thing as it is in another, or Public Administration as a science's Epistemology as it subsists in another such as Ontology or Teleology, or in the practice of this field of study, or in one of its other two ontic expression). Hereto it is thus self-evident that the ontic expression of Public Administration as a science's Epistemology is dualistic. The ontic condition of Public Administration as a science's Epistemology is recognised as that knowledge is justified true belief. The ontic condition of Public Administration as a science's Epistemology is both individualistic and relational. It is individualistic in the sense that each of these four concepts (belief, justification, truth and knowledge) exist independently from the others with its own range of supporting theories. From the statement that knowledge is justified true belief, it is similarly evident that these four epistemologically ontic conditions stand in a relation to one another and could therefore be identified as not only individualistic, but similarly relational. A further classification of these four elements in the ontic condition of Public Administration as a science's Epistemology declares them as differentiated since each of these four ontic conditions can be described as different from any of the other three.

The second inquiry is documented here as follows: can human beings obtain knowledge of Public Administration as a science? Hereto, Phase 2 of the meta-theory once again departs from the point of an array of worldviews and related presuppositions. In addressing the inquiry at hand, it soon becomes evident that the process followed to address the question has to make provision for an array of angles of incidence. For instance, if viewed through the lenses of a dogmatist, it becomes known that human beings can have knowledge as long as such knowledge fits into the strictures presented by dogmatists; Considering skeptics, there will always be a degree of skepticism whether this is possible and as such, the decision will always be indeterminate; considering Indian or *Pramāṇa* Epistemology, knowledge is possible if obtained through the *Pramāṇa* Theory of Knowledge; African Epistemology declares that human beings can obtain knowledge, if African Philosophy, meta-physics and the empirical are considered; From a Western epistemological perspective, Epistemic Relativists will declare that human beings can obtain knowledge, however, such knowledge will present an array of beliefs and as such, each individual's dominant beliefs will be influenced by the context of their circumstances; In contrast, Epistemic Constructivists agree that human beings can obtain knowledge when it is postulated that knowledge is an imitation of human construction and not a discovery of objective truth; Finally, Epistemological Idealists agree that human beings can obtain knowledge, and that such knowledge will always present as an abridged form of mental phenomena.

Phase 3 of the meta-theory addresses the question: What is the manner in which human beings can obtain knowledge of Public Administration as science? Phase 3 of the meta-theory to Public Administration as a science's Epistemology again departs from individual worldviews and related presuppositions and there requires of scholars, scientists and practitioners to seek knowledge of this field of study's science both in the thing in itself (the *noumenal*), as well as in the thing as it subsists in another (the phenomenal).

Figure 5.6 below thus presents the meta-theory of Public Administration as a science's Epistemology. It is noteworthy that the meta-theory is presented in three phases as each of the phases addresses a distinct inquiry that explicates the Epistemology of this field of study.

**Figure 5.6 A meta-theory of Public Administration as a science's Epistemology**



**Source:** Author's perspective

Figure 5.6 displays the meta-theory of Public Administration as a science's Epistemology. The objective that Chapter 5 has set out to achieve, is thus visually displayed as a meta-theory in Figure 5.6. Each of the phases in meta-theory address one of the most prominent questions in understanding a study of the Theory of Knowledge or Epistemology. Section 5.5 follows as the conclusion to Chapter 5.

## 5.5 CONCLUSION

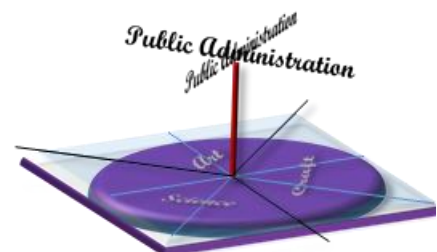
Chapter 5 sets out to identify and present, describe and interpret relevant theories and scientific explications that had to guide this study towards the compilation of an Epistemological meta-theoretical framework in which the latter directed the systematic construction of an academic discipline's theory of knowledge. In doing so, Chapter 5 commenced with three inquiries, documented as: what is knowledge of Public Administration as a science? ii) Human beings have a natural desire to understand how an individual can obtain knowledge (Santas, 2010:125). In that context, and in the context of this study, can human beings obtain knowledge of Public Administration as a science? and, iii) Stroud (2020:141, 142, 144, 145, 146) asks, what is the manner in which human beings can obtain knowledge? In that context and in the context of this study, what is the manner in which human beings can obtain knowledge of Public Administration as a science? The result of the investigation into Public Administration as a science's Epistemology delivered three Phases to a meta-theoretical understanding of the Epistemology of this field of study and science as one of its three ontic expressions.

# Chapter 6

## CHAPTERS' SUMMARY, FINDINGS, RECOMMENDATIONS AND CONCLUSION

*“Before I have the capacity to understand the thing in another, I am obliged to understand the thing in itself.”*

*CH de Wet, 2021*





## **CHAPTER 6 CHAPTERS' SUMMARY, FINDINGS, RECOMMENDATIONS AND CONCLUSION**

Chapter 6 arranges and displays a summation of the findings and recommendations per chapter (inclusive of Chapters 2 – 5). The aforementioned summation thus firstly presents the assertions made in terms of the application of the respective meta-theoretical frameworks and Public Administration as a science, observed in the context of such meta-theoretical frameworks; secondly, in terms of a series of questions to the empirical study, respective to each chapter as included in this research; and thirdly in terms of the findings attained from the collective application of the knowledge triad. Chapter 6 simultaneously includes concluding remarks to this research endeavour.

### **6.1 INTRODUCTION**

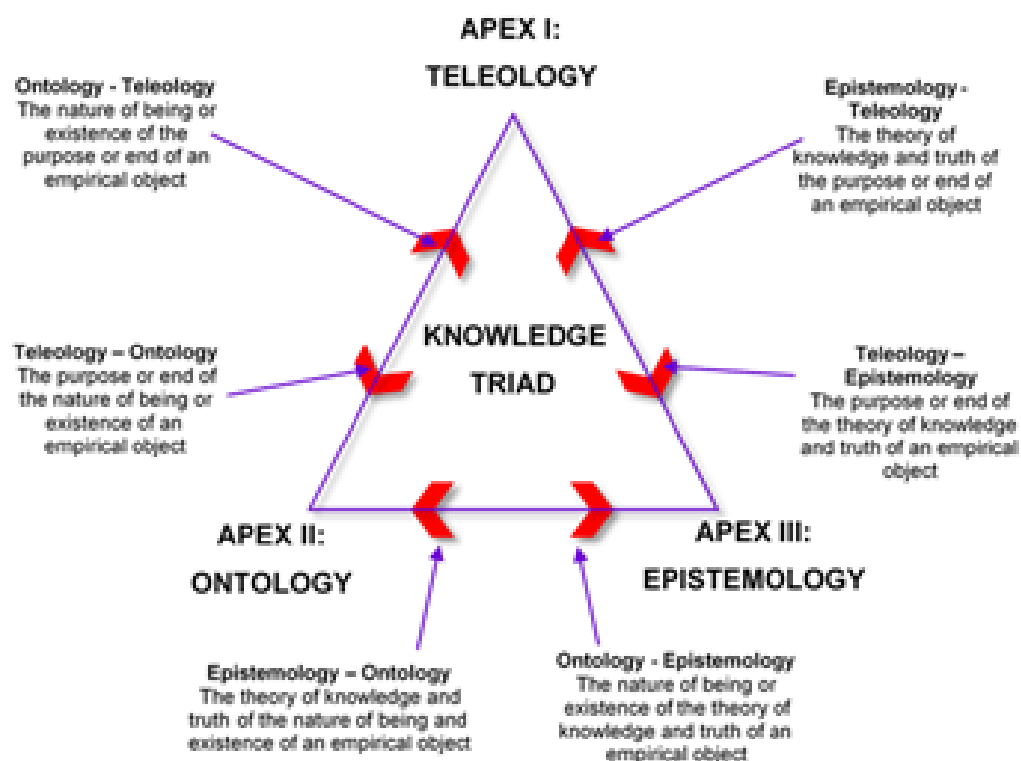
The contemporary factual details of the discipline of Public Administration's academic character (in terms of its meta-theoretical and theoretical substance), lie in stark contrast to the earnest pursuance of a near scientific status, a normative position, and a scientific paradigmatic accolade that were illustrated during the formative years of this discipline.

Throughout the course of Public Administration's natural existence, many academic scholars raised their sombre concerns in terms of the field of study's scientific status, and as Waldo (1968:2) lamented: "and so it continues to suffer, from so many identity crises that mere adolescence seems idyllic" (Rhodes, Dargie, Melville, & Tutt, 1995:534; Raadschelders, 2013:v).

Considering the position within which the discipline of Public Administration finds itself at the threshold of a Fourth Industrial Revolution as the successor to a post-modern knowledge era, the phenomenon that this study examined and explores is outlined as follows: to address the dire need for Public Administration to recognise the science in the discipline as part of its ontic, pluralistic nature by establishing the following: i) the corporeal morphology of Public Administration as a science; ii) the physiology of Public Administration as a science; iii) Meta-theories that will address Aristotelian philosophy and a knowledge triad that include- Apex I: Teleology; Apex II: Ontology; and Apex III: Epistemology, and to determine the extent to which the application of such meta-theoretical frameworks will contribute, alter or deepen Public Administration theory.

Hereto, the introduction of this study initiated the three pillars of Aristotelian philosophy as presented by Couclelis (2009:4) in an attempt to investigate what the possibility of meta-theory and theory development such a knowledge triad could initiate for Public Administration as a science. Figure 6.1 is a visual representation of the origins of a knowledge triad that directed most of this investigation.

**Figure 6.1 The three pillars of Aristotelian philosophy - The knowledge triad**



**Source:** Author's perspective as adopted from Couclelis (2009:4)

Chapter 6 follows by presenting a brief reminder of the research methodology that was applied in this study. Hereto, Section 6.2 also includes a constructive generic framework that represents an intelligible, rational approach to the research methodology's philosophical sub-structure as it is applied in this study.

## 6.2 RESEARCH METHODOLOGY

Kumar (2008:5) advised that research methodology is a systematic, scientific approach to establish solutions to phenomena. Terre Blanche, Durrheim and Painter (2009:6) explained that research methodology details the manner in which research is conducted in order to study

a particular theme. Kumar (2005:215) reiterated the importance and ethical responsibility of employing a suitable methodology when effecting research. Brynard and Hanekom (2006:1) illuminated research methodology as “a methodological and systematic enquiry” “in pursuit of valid knowledge.” Mouton (2001:6) furthermore elucidated a “three world framework” as fundamental basis to research, in which the following depictions are connected to each of these three worlds: World one appeals to pragmatic significance and depicts life as commonplace in which social and physical veracity, uninitiated knowledge and several worldly spheres persist; World two appeals to epistemic (theory of knowledge) substance and captures scientific knowledge, disciplines and research inquiries; and world three appeals to analytical and diagnostic attentiveness to meta-science and thus comprises of the “philosophy of science, research methodology, research ethics, and, [the] sociology and historiography of science”. Mouton’s (2001:6) framework as well as Brynard and Hanekom’s (2006:1) conceptualisation affirm the fact that this study has distinct relevance to all three worlds of research inquiry, as it appeals to pragmatic significance, epistemic substance and an analytic and diagnostic attentiveness to meta-science, as the study presents a methodical and orderly inquiry into a quest for authentic knowledge, relevant to Public Administration as a science. Supino and Borer (2012:1) conceptualise research as that in its core, research is: a meticulously planned systematic process that establishes the keys, which unlock explanations to unrequited phenomena; such a meticulously planned systematic process thus includes vigilant thought and investigation of a distinct topic or event; the tactics and determined teleological explication varies from study to study, but novel knowledge persistently remains to be the fundamental end result; new knowledge includes products such as the depiction of a neoteric phenomenon, the conceptualisation of a neoteric correlation between two or more entities or objects; and, the advance of a neoteric model, pattern or structure, or, the application of prevailing principles or procedures to a neoteric context. With the primary features of research in mind, Supino and Borer (2012:1) furthermore pronounce the supplementary adjective of research as its conspicuous methodology, which in combination has raised to the status of an academic field of study in itself that includes a definite model, rules and prerequisites to safeguard evidence. In addition, Tuckman and Harper (2012) advised that proper research needs to include at least five of the following six characteristics: a) research has to be conducted systematically; b) research needs to display logic; c) research has to display the empirical; d) research has to be reductive; e) research has to be reproducible and transmissible; and f) research has to influence and add to universal knowledge. In addition to Tuckman and Harper (2012) and Supino and Borer’s (2012:1) advice, Vasilachis de Gialdino (2011:n.p.) distinguishes between a linguistic explanation of the following two concepts: a) a teleological understanding of Epistemology as established discipline; and b) an epistemological reflection, in which the latter has a distinct relevance to, and position in the

description of a study's research methodology. According to Vasilachis de Gialdino (2011:n.p.), Epistemology attempts to obtain solutions to the following phenomena: How do human beings know reality?; What are the associations between the "knower" and that which is "known"?; What are the physiognomies, philosophies and suppositions that direct the process of knowing and the achievement of inferences?; What is the potential of the process of knowing to be imparted to others in order for such a process to be exposed to a quality assessment; and, what is the trustworthiness of its inferences? In contrast, epistemological reflection's optimal aim is not universality; epistemological reflection neither depict a normative position nor a completed field of study; epistemological reflection comprises of an assiduous, ingenious pursuit that reflects recurrent transformation; and epistemological reflection displays the complexities confronted by researchers when the physiognomies of that which they intend to know are unparalleled, unobservable or unexplainable in part or in whole by means of existing theories, concepts or methodological approaches. Subsequently, the depiction of this study's research methodology recognises Vasilachis de Gialdino's (2011:n.p.) differentiation between the established disciplines of Teleology, Ontology, Epistemology, Research Methodology, Axiology, Ikanology and Deontology, and thus includes a teleological, an ontological, and an epistemological reflection, relevant to the philosophical sub-structure of the Research Methodology applied in this investigation.

### **6.2.1 The philosophical sub-structure of this study**

Within the afore-described ambit and directives, the research methodology employed to sustain this study is outlined in the paragraphs that follow. Table 6.1 below provides a synoptic insight into the philosophical sub-structure of this study's research methodology that best sustains the design and application of this distinct scientific inquiry.

**Table 6.1: A constructive generic framework that represents an intelligible, rational approach to the research methodology's philosophical sub-structure as it is applied in this study**

| The philosophical sub-structure to this study:                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Research paradigm                                                                   | Post-modern interpretivism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Elements in the constructive generic framework of this study's research methodology | Application in the research methodology's sub-structure (Reflections on philosophical belief systems)                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Theological worldview:</b><br>Worldviews that guide research practice.           | The researcher's theological worldview in which this study is anchored, and which shapes the wellspring of that by which the researcher lives, moves and has her being, reflects itself as <b>Christian Theism</b> . However, important to this study is the fact that in the Republic of South Africa the range of Theological worldviews will include: Theism under the three Abrahamic religions (Christian Theism, Judaism and Islam) as well as the Bahá'í faith; Ancestral, Tribal, Animist, or other Traditional African religions; Hindu; Atheist or Agnostic; Buddhist. |
| <b>Philosophical worldview:</b>                                                     | The philosophical worldviews that direct this study is a combination of <b>Pluralism in the scientific enterprise itself</b> , which in effect propounds, amongst others that human beings concurrently belong to numerous groups, which sequentially either collaborate or counteract.                                                                                                                                                                                                                                                                                          |
| <b>The Theological and philosophical foundation of this study.</b>                  | Even though the researcher's Theological worldview reflects as Christian Theism, it is naïve to consider Public Administration on the globe as that it reflects one intelligent network (human beings, things, processes and data) of absolute similarity. Subsequently Pluralism establishes the ambit within which diversity subsists and thus creates the point of departure to this study.                                                                                                                                                                                   |

## The philosophical sub-structure to this study:

|                   |                            |
|-------------------|----------------------------|
| Research paradigm | Post-modern interpretivism |
|-------------------|----------------------------|

|                                                                                     |                                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Elements in the constructive generic framework of this study's research methodology | Application in the research methodology's sub-structure (Reflections on philosophical belief systems) |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|

### Teleological-pluralistic reflection:

What is the purpose of the investigation?

The teleological belief system that underpins this research investigation is based on Aristotelian reverse causation, and is briefly outlined as that it includes: The final 'be-causes' (that for the sake of which the study exists)- meta-theory and theory advancement with a particular focus on the corporeal morphology and the physiology of Public Administration as science; The material 'be-causes' (that out of which the study exists)- a comprehensive literature review that explicates the anatomy (corporeal morphology) and physiology of a science as well as Teleology, Ontology and Epistemology as primary themes; The efficient or moving 'be-causes' (that from which the study comes into existence) - through which both the skills and competence (Ikanology) of the researcher, and academic scholars as authors of the aforementioned articles contribute towards the richness of the substance recognised; The formal 'be-causes' (what is it to be?) - as meta-theories and theories of Public Administration as science, that contribute to the larger discipline and practice. Based on the Pluralistic point of departure, it is highlighted that more than two (since the philosophical basis does not suggest Dualism) final, material, efficient or moving, and formal 'be-causes' may present itself.

### Ontological-pluralistic reflection:

"What is the form and nature of reality,

The ontological paradigm or ontological position propounded by this study is **ontological pluralism** that upholds the probability of a number of ontological suppositions about reality, truth and existence, whilst averting a pre-

## The philosophical sub-structure to this study:

|                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Research paradigm                                                                                                                                                                                                                                                                                                          | Post-modern interpretivism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Elements in the constructive generic framework of this study's research methodology                                                                                                                                                                                                                                        | Application in the research methodology's sub-structure (Reflections on philosophical belief systems)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| therefore, what is there that we can know about it?"(Guba & Lincoln, 1998:201).                                                                                                                                                                                                                                            | conceptualised and fixed position. The choice in selection of ontological pluralism as ontological reflection is substantiated by the fact that this study investigates an array of ontologies in Chapter 3 and the research methodology should thus create the ambit within which such an investigation could occur. Ontological pluralism should neither be seen as an Ontological position or discipline, nor as that Ontological Pluralism is the same as ontological neutrality, but rather as an ontological strategy to a distinct research methodology.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Epistemological-pluralistic reflection:</b><br>How can reality be known?<br>What is the relationship between the knower and what is known?<br>What are the characteristics, principles and assumptions that guide the process of knowing and the achievement of findings?<br>What is the possibility of the implemented | The epistemological reflection that substantiates the research methodology in this study is recognised as epistemological pluralism, which is understood as that it considers all epistemic capacities as well as incapacities in a uniform manner, without giving predilection to any specific epistemological reflection. The motivation behind epistemic pluralism as epistemological reflection to the research methodology of this study, pivots on the basis that Chapter 4 of this study considers the potential of an array of epistemic viewpoints that may contribute to the theory of knowledge related to Public Administration as academic discipline and as practice. The major epistemological inquiries however remain as follows:<br><b>What is to be known</b> about the corporeal morphology (bodily form & structure) and physiology (function) of a science within Public Administration as field of study and practice, and meta-theories and theories lead to theory advancement in the |

## The philosophical sub-structure to this study:

| Research paradigm                                                                                                                                                    | Post-modern interpretivism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements in the constructive generic framework of this study's research methodology                                                                                  | Application in the research methodology's sub-structure (Reflections on philosophical belief systems)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| process being shared and repeated by others in order to assess the quality of the research and the reliability of those findings?<br>(Vasilachis de Gialdino, 2011). | <p>discipline and practice of Public Administration and its ontological expression as a science?</p> <p><b>How is it known?</b></p> <p>By investigating literature that explicates the corporeal morphology (bodily form &amp; structure) and physiology (function) of a science; the process and physiognomies of establishing meta-theories.</p> <p><b>Who is the knower?</b></p> <p>The epistemological belief system sustaining this study, rejects a hierarchical structure between researcher and the researched, as it acknowledges that the researcher is not the sole authority on the science of Public Administration and the field of study's accompanying meta-theories and theories, but are rather positioned in a co-creative relationship with other academic knowers (authors) on the topic of the researched. Thus the knower is reflected as a multitude of academic scholars.</p> |

**Source:** Author's perspective

Sire (2015:56) introduces the concept of worldviews as that human beings have an innate conjectural and suppositional disposition, which are echoed "in and by which we live, and move and have our being." By means of a contrasting statement that is constructivist in nature, Underhill (2011:238) asserts that even though worldviews are an inevitable part of the human character, such worldviews are not coerced by the transcendent; ideological worldviews are



sustained by human beings, and human beings alone. A recognition of the natural human state is often appreciated in the concepts that humans apply, such as “worldview, world picture, paradigm in the Kuhnian sense, sophisticated reifications, mind-set, ideology, pattern of belief, habitus, social imaginary and cultural liturgy” (Sire, 2015:56). Wessels and Pauw (1999:364), Kirby and McKenna (2004:71, 72) and Anastas (2012:267) maintain that research is a human activity, which therefore makes it uncomplicated to agree with Leavy (2014:2-3) who propounds that human beings’ approach to research is similarly shaped by worldviews as its fundamental point of departure. Such an understanding thus necessitates this research investigation, with particular reference to the selection and explanation of research methodology applied in this study, to consider and include the theological, cultural, scientific, philosophical, legal, political, economic, social and psychological worldview/s, research paradigm, teleological, ontological and epistemological explications and reflections that direct the constructive, pluralistic generic methodological framework as an intelligible, rational approach to the research methodology as it is applied in this study. A consideration and explanation of a theological worldview, as point of departure to the philosophical sub-structure of this study therefore commences with a clarification of the worldview to which the author as researcher and by implication, this study is affixed.

In this light, Chapter 1 delineated this study’s primary research questions that directed each of the respected future chapters to achieve its corresponding research objective. Within the chapter’s own progression, the conceptualisation and recognition of distinct physiognomies to the significant applied concepts are explicated in the central theoretical statements. In order for the research investigation to advance, the central theoretical statements were followed by a research methodological reflection that in essence reflected an intelligible, rational approach to the philosophical, praxis and ethical sub-structures of this study. A provisional chapter layout firstly presented a visual matrix-map that explicated the matrix approach and progression of this study, and secondly provided the various chapter titles and descriptions.

In essence, Chapter 1 provided the comprehensive blueprint against which the inquiry was conducted. Chapter 2 thus commences by providing an explication of the corporeal morphology and physiology of Public Administration as science.

### **6.3 CHAPTER 2 - THE ONTOLOGY OF A SCIENCE: THE CORPOREAL MORPHOLOGY AND PHYSIOLOGY OF PUBLIC ADMINISTRATION AS A SCIENCE**

A recognised science exhibits distinct features in its corporeal morphology and subsequent physiology. Within the corporeal morphology of a science, a number of vertices or nodal entities are observable, each with its own unique strata, progression, characteristics and purpose, embedded within the system of a science. The physiology of a science recognises amongst others, such vertices' unique characteristics and purpose in an attempt to map the systemic relations between these vertices as they affect, influence and respond to each other. By means of such recognition and supportive theory, Chapter 2 constructs a meta-theoretical framework that explicates the corporeal morphology and physiology of a science, after which the meta-theory will direct Public Administration as science's discipline related theory. With specific reference to the empirical part of this chapter, the content of four academic journals over a period of 20 years (1995 – 2015) was examined to ascertain who are the 'knowers', or who examines the science of Public Administration? What of the science of Public Administration is investigated and what were the contributions to the discipline? Do such scholars investigate philosophical Public Administration that includes the teleology, ontology, epistemology, methodology, axiology and ikanology? Do such scholars investigate the Philosophy of Public Administration that includes the history, the spatio-temporal paradigmatic evolution that includes the fundamental values, worldviews, and scientific approaches, and scientific methods, gravity of statements, technological gravity, phenomenal and *noumenal* focus of the dominant patterns in Public Administration? Why do such scholars investigate the science of Public Administration? When did such scholars investigate the science of Public Administration? How was the science of Public Administration investigated?

#### **6.3.1 Chapter 2 Research objective**

The primary and secondary research objectives that directed this study are listed as follows:

Public Administration and the structure of a science.

- Identified relevant literature and scientific explications that guided this study towards the compilation of the corporeal morphology (anatomy) and physiology of a science, in which such literature directed the systematic construction of the structure and functioning of a science?

- Identified properties of the corporeal morphology of a science that has the capacity to guide the systematic construction of the structure of a science?
- Identified properties of the physiology of a science that has the capacity to guide the systematic construction of the structure of a science?
- Identified corporeal morphological, physiological properties and theoretical resultants as product of juxtaposing relevant Public Administration data/theorems/theories against the structure and functioning of a science that represents Public Administration as a science?

### 6.3.2 Chapter 2 Research findings

- By means of a set of matrix resultant conditions in the system of a science, the relation between a science and Epistemology becomes known (Refer to Chapter 2, Table 2.1)
- In addition to the observable features of a science such as distinct scientific rules, methodology (observation, experiment, theory building and theory testing), a science also has *noumenal* features as the thing in itself
- P[p]ublic A[a]dministration ontologically expresses itself by means of a science, an art and a craft. Each of these ontic expressions serve a very particular purpose within both the academic discipline and its related practice (Refer to Chapter 2, Section 2.3.1)
- The Reuleaux triangle presents the dynamic interrelationship between science, art and craft as ontic expression within both the academic discipline and its related practice (Refer to Chapter 2, Figure 2.6)
- There will be traces of the science in the science, traces of the science in the art, traces in the science of the craft and vice versa (Refer to Chapter 2, Figure 2.7)
- During a *noumenal* investigation of the thing in itself, Public Administration as a science in itself presented 6 nodal entities in its anatomy, to which each nodal entity reflected a unique character and teleological intent within the science (Chapter 2, Figures 2.4 and 2.5)
- Although each of the six nodal entities requires more individual investigation, Nodal entity 6, recognised as the Nucleus triads proves to deliver much insight into the philosophical bedrock of P[p]ublic A[a]dministration as a science, and as such has the capacity to enrich the field of study philosophically
- In addition to the anatomy of P[p]ublic A[a]dministration, the science similarly proved to display a physiology. Such a physiology displays the interaction between nodal entities. It needs to be noted that all these interactions occur in a non-linear fashion
- Public Administration as an academic discipline presents a *noumenal* expression (a thing in itself) and a phenomenal expression (as a thing in another)

- Public Administration as a practice presents a *noumenal* ontic expression (a thing in itself) and a phenomenal ontic expression (as a thing in another)

### 6.3.3 Chapter 2 Research recommendations

- In light of the sizable scope of this study, and the more sizable part of the landscape that this study did not investigate, all the findings made above requires additional investigation.
- By means of a set of matrix resultant conditions in the system of a science, the relation between a science and Epistemology becomes known (Refer to Chapter 2, Table 2.1). It is recommended that Public Administration as a science is investigated in terms of the relation between the system of a science and its Epistemology. The suggested investigation will enrich a scholarly understanding of the science's Theory of Knowledge.
- In addition to the observable features of a science, such as distinct scientific rules, methodology (observation, experiment, theory building and theory testing), a science also has *noumenal* features as the thing in itself. It is of critical importance that the internal features of Public Administration as a science is known and understood by its scholars, before an attempt is made to understand this science in an external landscape amongst other academic disciplines in distinct socio-political, socio-cultural, socio-economic and political economic ambits.
- P[p]ublic A[a]dministration ontologically expresses itself by means of a science, an art and a craft. Each of these ontic expressions serve a very particular purpose within both the academic discipline and its related practice (Refer to Chapter 2, Section 2.3.1). Knowledge and an academic and practice understanding of the ontic expression of this field of study is vital since each expression serves a distinct teleological purpose.
- The Reuleaux triangle presents the dynamic interrelationship between science, art and craft as ontic expression within both the academic discipline and its related practice (Refer to Chapter 2, Figure 2.6). Further knowledge and a deep understanding of the relationships between Public Administration's three ontic expressions are critical. These expressions play a vital role in the philosophical bedrock of this discipline.
- There would be traces of the science in the science, traces of the science in the art, traces in the science of the craft and vice versa (Refer to Chapter 2, Figure 2.7). These mentioned traces of expressions within expressions require further investigation to validate the statement.
- During a *noumenal* investigation of the thing in itself, Public Administration as a science in itself presented 6 nodal entities in its anatomy, to which each nodal entity reflected a unique character and teleological intent within the science (Chapter 2, Figures 2.4 and

2.5. Each of these nodal entities is in need of further investigation in order for a younger generation of scholars to further develop knowledge that subsist in the domain of P[p]ublic A[a]dministration.

- Though each of the six nodal entities requires more individual investigation, Nodal entity 6, recognised as the Nucleus triads proves to deliver much insight into the philosophical bedrock of P[p]ublic A[a]dministration as a science, and as such has the capacity to enrich the field of study philosophically. It is quite evident from Chapter 2 that only the surface has been revealed in terms of the knowledge that could be collected by investigating the knowledge triads. Such studies are recommended not only in the science, but also in the art and craft, since it will strengthen the philosophical bedrock of P[p]ublic A[a]dministration.
- In addition to the anatomy of P[p]ublic A[a]dministration, the science similarly proved to display a physiology. Such a physiology displays the interaction between nodal entities. It needs to be noted that all these interactions occur in a non-linear fashion. Similar to the recommendation of conducting additional studies in the anatomy of P[p]ublic A[a]dministration as a science, a similar case is made for the physiology of this field of study's science, art and craft.
- Public administration as a practice presents a *noumenal* ontic expression (a thing in itself) and a phenomenal ontic expression (as a thing in another). Post this study, the inquiry lingers of how it has been possible for scholars and practitioners to study the thing in another whilst the thing in itself has inspired very few.

#### **6.3.4 Chapter 2 Conclusion**

In conclusion, Chapter 2 commenced by highlighting the significance in scholars of P[p]ublic A[a]dministration's meticulous application of language, and recognition of the meaning that underpins the terminology that explains this field of study. Hereto, Chapter 2 investigated the anatomy of a science whilst it became imperative to allude to the pluralistic ontic expression of P[p]ublic A[a]dministration as science, as art and as craft and the purposeful role that each of these ontological expressions play in the fulfilment of this field of study's teleological intent or purpose.

Hereto, Chapter 3 continues by presenting the relevant research questions and research objectives to Chapter 3. The focus of Chapter 3 is primarily on investigating the first of three apices as outlined in Chapter 1, namely Teleology or the study of purpose to P[p]ublic A[a]dministration as a science.

Though this study primarily reflects a philosophical undertone, it is necessary to recognise that *noumenal* knowledge (knowing the thing as it is in itself), of the body and structure of P[p]ublic A[a]dministration as a science, significantly deepens our engagement with, and understanding of one of the three ways in which P[p]ublic A[a]dministration presents and expresses itself. Such *noumenal* knowledge of P[p]ublic A[a]dministration as a science, alters the scope of action in Public administration as practice as follows: i) The Releaux Triangle which is explicated in Chapter 2, pp. 32 – 34, and 109, illuminates the fact that understanding the role and purpose of a science in praxis instills a particular level of order. Hereto, problem solving is one of the most prominent activities in Public administration. In the Republic of South Africa, The National Development Plan: Vision for 2030 (NDP, 2011) presents significant evidence of the ‘wicked’ socio-economic problems that Public administration needs to tend to. An understanding of the science’s body and functions thus presents scholars and practitioners with knowledge of the abilities and capabilities of a science, through which problem solving of both phenomena and anomalies can systematically and methodically occur. The application of scientific knowledge, when practitioners attempt to solve ‘wicked’ problems of national concern will deliver scientifically founded results.

#### **6.4 CHAPTER 3 (APEX I) - ARISTOTELIAN TELEOLOGY: *AITIAS* AS ALL THE WAYS OF STATING PUBLIC ADMINISTRATION’S *TO DIA TI* THROUGH *VIS A FRONTE***

Chapter 3 introduces the theory that underpins Teleology or causal examination from which a teleological meta-theoretical framework is constructed. The teleological meta-theoretical framework is then juxtaposed against the theory of Public Administration in order to determine the purpose (*aitias*) and ‘because’ (*to dia ti*) of Public Administration as academic discipline and as science in a contemporary era by means of reversed causation (*vis a fronte*). Once again and with specific reference to the empirical part of this chapter, the content of four academic journals over a period of 20 years (1995 – 2015) were examined to ascertain who are the ‘knowers’, or who examines the teleology of Public Administration? What of the teleology of Public Administration is investigated and what were the contributions to the discipline? Why do such scholars investigate the teleology of Public Administration? When did such scholars investigate the teleology of Public Administration? How was the teleology of Public Administration investigated? In order to avoid gross repetition, the research question and research objective relevant to chapter 3 is outlined respectively on page 7, and pages 9 and 10 of this chapter.

### 6.4.1 Chapter 3 Research objectives

As mentioned before, Aristotelian philosophy includes three major apices recognised here as Teleology, Ontology and Epistemology. Chapters 3 – 5 will respectively address each of these apices against the research objectives that follows.

Apex I – Teleology (the purpose of an object):

- Identified, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of a Teleological meta-theoretical framework, in which the latter directed a systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).
  - A constructed and presented Teleological meta-theoretical framework, in which the latter directed the systematic construction of the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of an object, in order to establish such an object's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).
- Presented, analysed and interpreted Teleological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against a Teleological meta-theoretical framework that represented the formal, material, efficient or moving, and final *aitias* (the end, the perfected or the final purpose) of Public Administration, in order to establish the academic discipline's *to dia ti* (because/s) by means of *vis a fronte* (reverse causation).

### 6.4.2 Chapter 3 Research findings

- Teleology or the study of purpose comprise of four distinct be-causes, recognised as the material be-cause, the efficient or moving be-cause, the formal be-cause and the final be-cause, establishing the substance of the four be-causes enables a deep seated knowledge about the entity under investigation.
- Each be-cause presents as its substance, four sets of elements that determine the properties of such a be-cause. The four sets of elements are recognised as: Specific and Generic be-causes, Coincidental and Essential be-causes, Proximate and Remote be-causes, as well as Potential and Actual be-causes.
- In the process of establishing the four be-causes, Hylomorphism plays a distinct role to transform matter into form.

- Teleology as the study of purpose is useful in understanding all the ontic expressions of P[p]ublic A[a]dministration's teleological intent.
- In the four be-causes of the study of purpose, two of the be-causes represent Natural Teleology (material be-cause and the efficient or moving be-cause) and two be-causes (formal be-cause and the Final be-cause) represent Meta-physical be-cause.

#### **6.4.3 Chapter 3 Research recommendations**

- In light of the sizable scope of this study, and the more sizable part of the landscape that this study did not investigate, all the findings made above requires additional investigation.
- Teleology or the study of purpose comprise of four distinct be-causes, recognised as the material be-cause, the efficient or moving be-cause, the formal be-cause and the final be-cause, establishing the substance of the four be-causes enables a deep seated knowledge about the entity under investigation. Both the four be-causes and its substance have to be considered by scholars when establishing the teleological intent or purpose of any aspect within the three ontic expressions of P[p]ublic A[a]dministration.
- Each be-cause presents as its substance, four sets of elements that determine the properties of such a be-cause. The four sets of elements are recognised as: Specific and Generic be-causes, Coincidental and Essential be-causes, Proximate and Remote be-causes, as well as Potential and Actual be-causes.
- In the process of establishing the four be-causes, Hylomorphism plays a distinct role to transform matter into form. Hylomorphism represents the activity of matter into form and is as such a critical element in the study of purpose.
- Teleology as the study of purpose is useful in understanding all the ontic expressions of P[p]ublic A[a]dministration's teleological intent. Teleology has the potential to add to the body of knowledge of P[p]ublic A[a]dministration.

#### **6.4.4 Chapter 3 Conclusion**

Chapter 3 enlightened this study with the distinct linguistic and academic meaning of Teleology and Teleological intent, up to and including a meta-theory that guides the properties that have to be considered in determining the teleological intent of any aspect that may be included in P[p]ublic A[a]dministration as field of study and as practice. What is of significant value, perhaps even beyond the borders of Teleology in the discipline of Public Administration is the critical importance of linguistic interpretation to any phenomenon. The latter predetermines



the end-result in a significant way. This observation is evident from Vlastos' (1969:294) reflection on the use and linguistic interpretation between cause and be-cause.

Hereto, if effective causal examination is the source of knowledge (Aristotle, 71 b 9-11; and 94 a 20; and Falcon, 2015:75-91), then Teleology consists of the attributes to contribute to the discipline of Public Administration of which it has been said that the study of Public Administration is ontologically and epistemologically burdened (Raadschelders, 2013:287). Furthermore, if the purpose of the four *aitias* (causes) is to establish the *to dia ti* (the be-causes) through *vis a fronte* (reverse causation), then Public Administration may not only expand and deepen its extant, inherent truths, knowledge, theory and disciplinary categories, which from its traditional, classical viewpoint rested upon five assumptions which Peters (2003:8, 9) identifies as follows: (a) an assumption of self-sufficiency; (b) an assumption of direct-control; (c) an assumption of upward accountability; (d) an assumption of uniformity; and (e) an assumption of a public service system, it may also obtain causal knowledge and subsequent predictive capacity.

Purpose or teleological intent is particularly important in Public administration's scope of action. Considering the fact that public funds are thoughtfully and purposefully applied as resource to deliver public services. Having access to a teleological meta-theory that scientifically guides the process of determining the purpose of any activity in Public administration is invaluable. Hereto, Chapter 3, Section 3.3 presents evidence of the application of Teleology as meta-theory to Project Management in Public administration.

Chapter 4 follows by explicating the theories that are ultimately included and interpreted in a meta-theory of Ontology. The primary teleological intent or final be-cause of considering an ontological meta-theory in P[p]ublic A[a]dministration is to obtain an enhanced understanding of the nature of this field of study as being. Having deliberated upon Teleology and the contribution that a Teleological meta-theory may infuse into Public Project Integration Management, this study continues by considering the scholarly contributions that clarify Ontology and its position in Public Administration as science.

## **6.5 CHAPTER 4 (APEX II) - BEING IN ITS SOURCE, STATE, EXPRESSION AND CONDITION: THE DISCIPLINE OF PUBLIC ADMINISTRATION AS SCIENCE'S ONTIC MAINSPRING AND PHYSIOGNOMIES**

In order to establish the springboard of Public Administration's ontological foundations, Chapter 4 examines being in its state, source, expression and condition towards a meta-

theoretical framework, from which the discipline of Public Administration's theoretical, ontological position will be determined. With specific reference to the empirical part of this chapter, the content of four academic journals over a period of 20 years (1995 – 2015) will be examined to ascertain who are the 'knowers', or who examines the ontology of Public Administration? What of the ontology of Public Administration is investigated and what were the contributions to the discipline? Why do such scholars investigate the ontology of Public Administration? When did such scholars investigate the ontology of Public Administration? How was the ontology of Public Administration investigated? In order to avoid gross repetition, the research question and research objective relevant to chapter 3 is outlined respectively on page 8, and pages 10 and 11 of this chapter.

### **6.5.1 Chapter 4 Research objective**

Apex II – Ontology (the nature of being and existence):

- Presented, identified, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of an Ontological meta-theoretical framework, in which the latter directed the systematic construction of being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish the object's nature of being.
  - A constructed and presented Ontological meta-theoretical framework, in which the latter directed the systematic construction of being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish such an object's nature of being.
- A presented analysed and interpreted Ontological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against an Ontological meta-theoretical framework, that represented being in itself (Public Administration as the object in itself), in its state, source, expression and condition, in order to establish the academic discipline's nature of being.

### **6.5.2 Chapter 4 Research findings**

- Religious worldviews with the inclusion of Secularist worldviews determine the manner in which humans have their being.
- From such theological worldview, philosophical, scientific, legal, cultural, political, ethical, economic, social and psychological presuppositions follow.

- The principles of Meta-physics play a prominent role in for example African philosophy. Determining the ontological description of something such as Public Administration as a science requires meta-physics to be taken into account.
- Determining the ontic description of something such as Public Administration as a science necessitates a deep *noumenal* investigation, which delivers as outcome, knowledge of the thing in itself.

### 6.5.3 Chapter 4 Research recommendations

- In light of the sizable scope of this study, and the more sizable part of the landscape that this study did not investigate, all the findings made above requires additional investigation.
- Religious worldviews with the inclusion of Secularist worldviews determine the manner in which humans have their being. In the Republic of South Africa, thoughtful attention needs to be spent to understand human beings' point of departure that ultimately influences the manner in which Public Administration as a science is understood.
- From such theological worldview, philosophical, scientific, legal, cultural, political, ethical, economic, social and psychological presuppositions follow. The same argument presented above holds relevance to this finding.
- The principles of Meta-physics play a prominent role in for example African philosophy. Determining the ontological description of something such as Public Administration as a science requires meta-physics to be taken into account. The study of Meta-physics should be earnestly considered by scientists of Public Administration.
- Determining the ontic description of something such as Public Administration as a science necessitates a deep *noumenal* investigation, which delivers as outcome, knowledge of the thing in itself. To ascertain the *noumenal* ontic description of a thing delivers profound knowledge and insight.

### 6.5.4 Chapter 4 Conclusion

The objectives of Chapter 4 stated that this chapter will present, identify, describe and interpret the relevant theories and scientific explications that will guide this study towards the construction of an Ontological meta-theory, explicate Public Administration as being in its source, state, expression and condition. This chapter achieved the pre-determined target and in addition also presented the ontic description of Public Administration as a science.

Chapter 4 commenced by explicating the major religions in the Republic of South Africa, followed by nine (9) distinct presuppositions that emanate from these worldviews as it shapes human beings' being. Hereto, Chapter 5 introduced meta-physics and the role that it plays in determining the ontology of being. In the case of this study, being is perceived to be Public Administration as an academic discipline and in addition to the latter, Chapter 4 similarly presents the ontic description as it subsists in terms of Public Administration in one of its inherent ontic expressions, namely Public Administration as a science. Based on the fact the ontic descriptions have their roots in the descriptor's worldview, and since the author of this study's worldview is Christian Theism, the ontic description provided in this chapter has its roots in a Christian Theism religious worldview. It is however possible given the range of worldviews to understand that the ontic description of Public Administration and Public Administration as a science may appear wholly different given the fundamental religious worldview as angle of incidence.

Complementing Public administration with a meta-theory that explains the nature of this field and its practice, concretises ways through which practitioners can build theories and models that advance the practice. Hereto, practitioners, through Ontology, similarly gain the capacity to develop and design specific systems, relationships and hierarchies that has the capacity to advance the manner in which Public administration is executed.

Chapter 5 that follows will provide an encounter of the epistemological foundations that construct an epistemological meta-theory, which will give impetus to an understanding of knowledge, truth, validity, scope and methodology of the way in which human beings obtain knowledge and truth. Hereto, Chapter 5 similarly describes the epistemological meta-theory in context of Public administration and Public Administration as a science.

## **6.6 CHAPTER 5- (APEX III) – EPISTEMOLOGY, THE THEORY OF BELIEF, JUSTIFICATION, KNOWLEDGE AND TRUTH IN THE CONTEXT OF PUBLIC ADMINISTRATION AS A SCIENCE**

Public Administration's epistemological arrangement was investigated by means of a meta-theoretical framework, extrapolated from the theory of Teleology, Ontology, and Epistemology, the theory of the discipline and science, as established in Chapters 2, 3 and 4 of this study, as well as a post-modern epistemological perspective. With specific reference to the empirical part of this chapter, the content of four academic journals over a period of 20 years (1995 – 2015) will be examined to ascertain who are the 'knowers', or who examines the epistemology of Public Administration? What of the epistemology of Public Administration is investigated

and what were the contributions to the discipline? Why do such scholars investigate the epistemology of Public Administration? When did such scholars investigate the epistemology of Public Administration? How was the epistemology of Public Administration investigated? In order to avoid gross repetition, the research question and research objective relevant to chapter 3 is outlined respectively on page 8, and page 11 of this chapter.

### **6.6.1 Chapter 5 Research objective**

Apex III – Epistemology (theory of knowledge):

- Identified and presented, described and interpreted relevant theories and scientific explications that guided this study towards the compilation of an Epistemological meta-theoretical framework in which the latter directed the systematic construction of an academic discipline's theory of knowledge.
  - Constructed and presented Epistemological meta-theoretical framework, in which the latter directed the systematic construction of an academic discipline's theory of knowledge.
- Presented, analysed and interpreted Epistemological meta-theoretical and theoretical resultants, as product of juxtaposing relevant Public Administration data/theorems/theories against an Epistemological meta-theoretical framework that represents a structured display of Public Administration's theory of knowledge.

Against the context of the primary research questions and objectives that directed this study in the examination of a distinct phenomenon, section 1.5 follows by explicating initiating directing arguments posed by this study.

### **6.6.2 Chapter 5 Research findings**

- Three epistemological inquiries that shape an understanding of a field of study's meta-physical body.
- The role and function of belief justification, truth and knowledge in a system of thought.
- Do not attempt to fit either African and/or Indian Epistemology into the strictures of Western Epistemology. African and/or Indian Epistemology have their own, unique, fully functional Theories of Knowledge that are of critical importance, particularly in the case where research is conducted to understand Public Administration as a science in the Republic of South Africa.

### **6.6.3 Chapter 5 Research recommendations**

- In light of the sizable scope of this study, and the more sizable part of the landscape that this study did not investigate, all the findings made above requires additional investigation.
- Three epistemological inquiries that shape an understanding of a field of study's meta-physical body. Requires much more research to establish a body of epistemological knowledge for the discipline of Public Administration's science.
- The development of additional theories of knowledge that primarily considers African and Indian philosophy and epistemology.

### **6.6.4 Chapter 5 Conclusion**

Chapter 5 sets out to Identify and present, describe and interpret relevant theories and scientific explications that had to guide this study towards the compilation of an Epistemological meta-theoretical framework in which the latter directed the systematic construction of an academic discipline's theory of knowledge. In doing so, Chapter 5 commenced with three inquiries, documented as: what is knowledge of Public Administration as a science? ii) Human beings have a natural desire to understand how an individual can obtain knowledge (Santas, 2010:125). In that context, and in the context of this study, can human beings obtain knowledge of Public Administration as a science? and, iii) Stroud (2020:141, 142, 144, 145, 146) asks, what is the manner in which human beings can obtain knowledge? In that context and in the context of this study, what is the manner in which human beings can obtain knowledge of Public Administration as a science?

Knowledge is a primary building block to any practice. The manner in which Epistemology influences the scope of action in Public administration, given the latter's complex milieu, is of significant importance since knowledge enables human beings to evaluate, classify and understand the phenomena and anomalies that they observe by means of the senses.

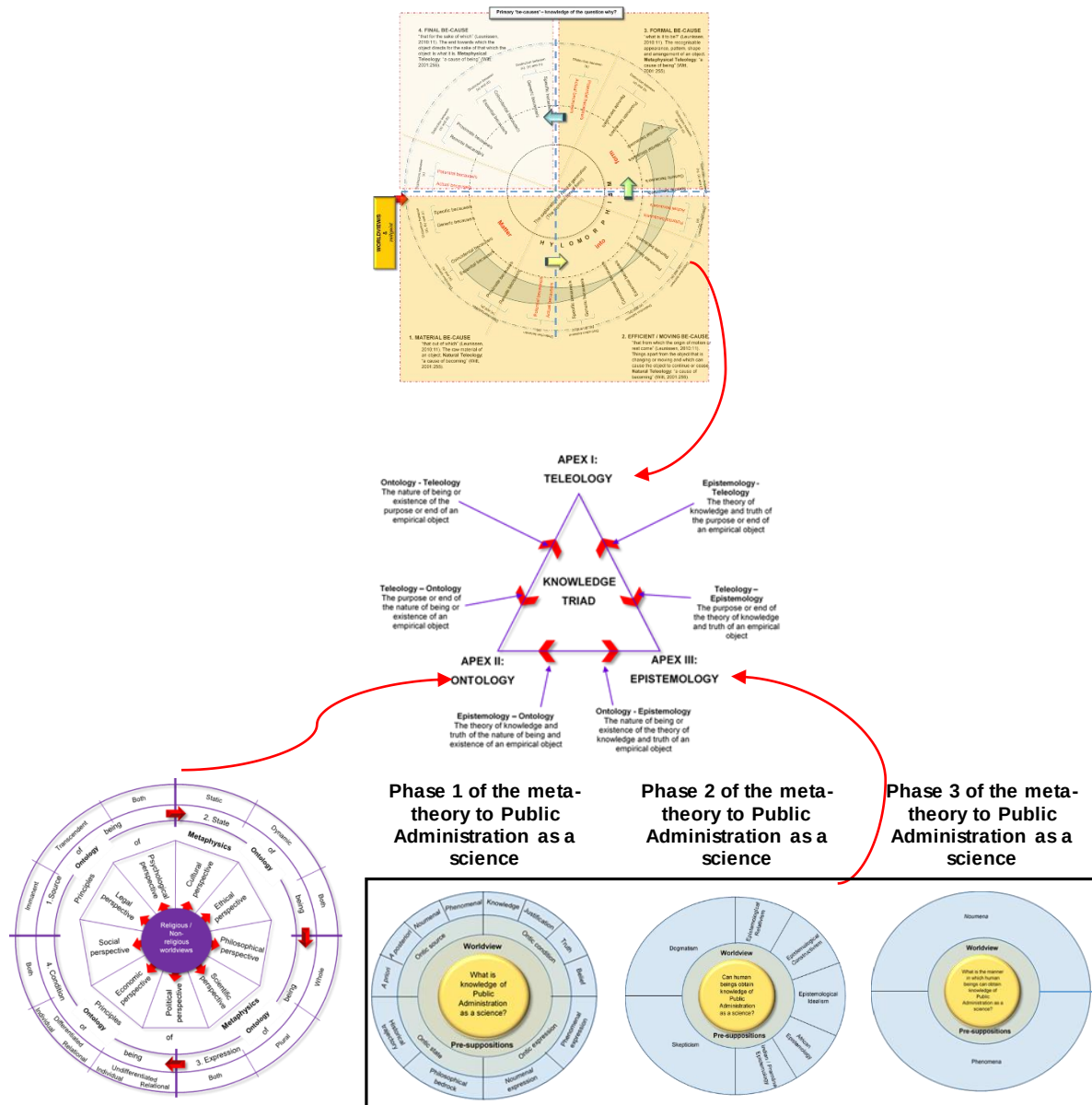
The result of the investigation into Public Administration as a science's Epistemology delivered three Phases to a meta-theoretical understanding of the Epistemology of this field of study and science as one of its three ontic expressions. Against the backdrop of the Chapter objectives, research findings, research recommendations and conclusions, Chapter 6 presents its final section as conclusion to the study.

## 6.7 CONCLUSION

This study titled “The science of Public Administration: a theoretical and meta-theoretical inquiry” commenced with an investigation of the anatomy and physiology of a science. The process revealed Public Administration as a science’s connection to the *noumenal* realm, where it became possible to investigate the corporeal morphology and its accompanying non-linear physiology. Significant was the realisation that before a scholar of this field of study can truly know and understand Public Administration as a science in its context (the thing in another), that it is quite important to understand Public Administration as a science in itself (the thing in itself).

Figure 6.1 represented the point of departure to this study or that which incited this study. In contrast, Figure 6.2 that follows, reflects the bodies of knowledge that were added in the process to one of the knowledge triads located in the Nucleus of a science. An understanding of Public Administration as a science in its Teleological, Ontological and Epistemological descriptions added largely to the body of knowledge related to this field of study. This study thus concludes with a *noumenal* contribution to the teleological, ontological and epistemological body of knowledge, out of which Public Administration as a science comprises. These contributions present itself as meta-theories in Chapters 3 – 5.

**Figure 6.2 Three meta-theories in one knowledge triad**



**Source:** Author's perspective

In the context of the content that Figure 6.2 presents, a journey into the Philosophical bedrock of P[p]ublic A[a]dministration is inevitable. The epistemic richness that future studies into the knowledge triads as nodal entity in the anatomy of a science presents will deliver a noumenal depth and richness to the Public Administration as a science.



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