

The right to science, the business analogy in academia and plagiarism: International law as a guide

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PREFACE

This study came about as a result of my interest in what constitutes plagiarism and how academics individually impose their view. Several high profile plagiarism cases caught the public's attention, and I was astonished at how divided public opinion was. Apart from the headlines, it was the sheer increase in plagiarism cases that really did the damage. But why the increase? As I delved deeper into research dishonesty and plagiarism, it was noticeable that intervention measures had had limited success. I came to the conclusion that measures to combat plagiarism were most likely unsuccessful because they were wrongly directed and thus, missing the mark. In search of the cause, I discovered there were two actors, the state and the modern-day university, and that the cause had to emanate from the state, the university, or both. After a holistic examination of possible upper level causes, the business analogy emerged as the leading cause of misconduct and plagiarism among academics.

*Most scientific publications are utterly redundant, mere
quantitative 'productivity'.*

—Gerhard Fröhlich

Recent history has ...shown only too tragically how easily and almost imperceptibly Universities can be deprived of their freedom until they become mere instruments for the dissemination of dogma and propaganda under authoritarian direction.

—Jonathan Jansen—

Contrary to common understanding, academic freedom is about much more than faculty speech.... Rather, academic freedom is central to the functioning and governance of colleges and universities.... It is not only about faculty research and teaching; it is also about the freedom of faculties to govern their institutions in a way that accords with academic values whether they are approving the curriculum, hiring faculty, or establishing graduation requirements for students.

—Judith Areen, "Government as Educator" (947)

ABSTRACT

This study provides a critical analysis of the increasing trend toward academic misconduct and plagiarism among students and staff, and the growing call for stricter regulation among the state and/or academic institutions. The aim of this study is to provide a progressive interpretation of the various binding legal provisions of international law on science (hard law) with normative detail supplemented in the form of UNESCO Recommendations (soft law) to address the problem of academic misconduct in the form of plagiarism. A "progressive interpretation" is one that seeks to find the right balance between the state's duty to protect science, university autonomy, academic freedom, and freedom of scientific research by virtue of a purposive interpretation of these concepts in the light of relevant international norms; it is sought to identify the various factors that may contribute towards such misconduct. These potentially include mainly the business analogy in science and other subsidiary factors contributing to misconduct. The dissertation seeks to address the problem more generally, rather than from a South African perspective or that of any other country. Accordingly, orthodox solutions for dealing with plagiarism within academia will be highlighted. The current measures that are used take the form of plagiarism awareness, software detection, plagiarism policy, legislative intervention, and the peer review process, all in an attempt to stem the tide of plagiarism. Why this is inadequate will also be highlighted. The enquiry is thus: will all jurisdictions, specifically that of South Africa, enjoy sufficient protection against the business analogy in academia, alongside other potential contributing factors that lead to academic misconduct in the form of plagiarism, if countries adopt the internationally protected right of persons to benefit from scientific progress and its applications (in short: the right to science), as brought forward via international norms.

Chapter 1 introduces various reasons for the increase in misconduct cases, both among students and staff. All potential contributing factors that cause an increase in misconduct cases will be explored, as well as what possible progressive measures can be implemented to curb misconduct effectively, both by state departments and

academic institutions. Chapter 2 provides a foundation to emphasise the importance of various international legal norms that protect science from excessive state interference, in particular the business analogy. Chapter 3 will be concerned with the establishment of legal framework legislation, incorporating internationally accepted norms into the South African constitutional democracy to protect academic/scientific freedom against ideologies that aim to steer science. Chapter 4 will be concerned with identifying the leading contributing factors to academic misconduct and plagiarism among students and staff and the extent of their contribution. Chapter 5 will highlight orthodox solutions in dealing with plagiarism within academia, as well as why these measures are considered inadequate. Chapter 6 will provide the answer to the research question: whether countries adopting the internationally protected "right to science", as brought forward via international norms, will provide sufficient protection to all jurisdictions (specifically in a South African context) against the business analogy in academia, alongside other potential contributing factors that lead to academic misconduct in the form of plagiarism. Furthermore, if this is the case, what specific measures should be adopted to effectively curb such misconduct?

KEYWORDS

Academic freedom, right to science, adequate for science, business analogy

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LIST OF ABBREVIATIONS

CESCR	Committee on Economic, Social and Cultural Rights
DoE	Department of Education
DHET	Department of Higher Education and Training
ICESCR	International Covenant on Economic, Social and Cultural Rights
NGO's	Non-Government Organizations
NWU	North-West University
POP	Publish or Perish
REBSPA	Right to Enjoy the Benefits of Scientific Progress and its Applications
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UCT	University of Cape Town
Wits	University of the Witwatersrand

Chapter 1 Introduction

1.1 Background

The fact that incidences of academic misconduct, in the form of plagiarism, have increased despite restraining measures (among both students and academic staff), forms the background of this study.

The word plagiarism is derived from the Latin word *plagiarius*, meaning someone who kidnaps a child or a slave of another.¹ The Oxford Dictionary defines plagiarism as "the practice of taking someone else's work or ideas and passing them off as one's own".²

Similarly, the Encyclopaedia Britannica defines plagiarism as "the act of taking the writings of another person and passing them off as one's own".³ According to Gipp:

academic plagiarism is the use of ideas, concepts, words, or structures without appropriately acknowledging the source to benefit in a setting where originality is expected.⁴

According to a 2019 study, plagiarism among academics is sharply on the increase. Professor of Management at the University of Johannesburg, Adèle Thomas, states in a TimesLIVE article that the practices surrounding the "Publish or Perish" syndrome must be exposed and examined, and that higher education authorities must reconsider how they subsidise research.⁵ Moosa⁶ relates the idea that malpractices, falsification, fabrication, plagiarism, and duplicate publications have been the result of pressure put on academics, which leads to academic misconduct - or at least questionable ethics. He takes the balanced view that pressure to publish is indeed not the only factor contributing to misconduct, but that logically, it is the most important factor. In his book he refers to various studies conducted regarding

¹ Weber-Wulf False Feathers: A Perspective on Academic Plagiarism 3.

² Knowles 2005 <https://www.oxfordreference.com>.

³ The Editors of Encyclopaedia Britannica 2017 <https://www.britannica.com>.

⁴ Gipp *Citation-based Plagiarism Detection* 10.

⁵ Farber 2019 <https://www.timeslive.co.za>.

⁶ Moosa *Publish or Perish* 56.

the "Publish or Perish" (POP) culture, which has led to various forms of misconduct, plagiarism, violations of generally accepted research practices, falsification, fabrication of data, and many others.⁷

Errami and Garner also believe that publication pressure is to blame for misconduct because they uncovered a growing trend of duplicate publications in the study of biomechanical literature (from just below 2 per 1000 in 1975 to just below 10 in 1000 in 2005). Spooner⁸⁹ states in an article that university professors find themselves under extreme pressure to publish and meet specific research and funding targets. In reaction to the increased trend of academic dishonesty, India has opted to adopt certain regulations to curb the growing trend of plagiarism. The same regulations, namely The Promotion of Academic Integrity and Prevention of Plagiarism in Higher Education Institutions, were adopted by the University Grants Commission, a statutory scientific body.¹⁰

These regulations compel universities to implement certain measures to curb plagiarism in tertiary institutions. They were accepted in May 2018 and are binding for all universities in India.¹¹ These regulations entail a policy that enforces four tiers. The first tier, allows 10% of what it classifies as 'similarities', which would carry no penalty. The second tier, in which 10% to 40% of a document is plagiarised, would require students to submit a revised manuscript and force faculty members to withdraw the plagiarised paper. In cases where 40% to 60% of the document is plagiarised, a student would be suspended for a year, and the faculty member would forfeit an annual pay raise and be prohibited from supervising any students for 2 years. Students who plagiarise more than 60% of their thesis would

⁷ Moosa *Publish or Perish* 56.

⁸ Errami and Garner 2008 *Nature* 398.

⁹ Spooner 2015 <https://ottawacitizen.com/news/national/marc-spooner-publish-or-perish-culture-has-broad-consequences>.

¹⁰ The University Grants Commission of India is a statutory body set up by the Indian Union government in accordance with the *University Grant Commission Act of 1956* under the Ministry of Human Resource Development, and is charged with coordination, determination and maintenance of standards of higher education and comprises mostly of academics.

¹¹ The Gazette of India 2018 Part III sec 4.

be removed from the program; the penalties for faculty members would be extended to a 2-year pay raise loss and a 3-year ban on supervising students.

This surge in plagiarism would seem to indicate that academic institutions and/or the state are neglecting their duty to uphold academic integrity. One might be inclined to state that this obliges the legislature to act to protect science.

From this type of regulatory intervention, certain legal questions arise. Are measures that are as intrusive as in the Indian example compatible with academic freedom, freedom of scientific research, and institutional autonomy? Is it primarily the role of the state, or rather that of the scientific community itself, to regulate science? Further, what instruments should be used: legislation, government regulations, policies designed by statutory bodies of science or individual universities, or an appeal to academic self-duty of honesty?

The question remains: should the regulation of science not provide for the decentralisation of power, with states delegating certain functions to academic institutions themselves because of the autonomous nature of science? The measures adopted in the Indian context appear intrusive. Furthermore, certain writers are critical of the way not only states but also academic institutions are over-incentivising science and compromising the so-called autonomous laws of science.¹²

Science by its very nature follows its own laws. In its key *Hochschul-Urteil* (University Judgment) of 1973, the German Constitutional Court emphasises the "autonomous character of science", which refers to the fact that "science follows its own laws". Science does not flow from specific research plans with targets narrowed down at the outset. Therefore, incentivising science would compromise the required large-scale absence of the state, and in effect compromise the autonomous laws of science.¹³

¹² Beiter 2019 *ILR* 268.

¹³ *BVerfG* (Federal Constitutional Court, Germany), *BVerfGE* 35, 79 – *Hochschul-Urteil* [University Judgment], 29 May 1973, paras 132;145), Here the court implied a measure of "absolute freedom from state interference".

It can be argued that the Indian measures are inadequate or excessive measures, notably hyper-incentives, for managing scientific performance and creative activity. Competitive funding and publication pressure seem to be popular instruments to incentivise science.¹⁴ Competitive funding is funding that is aimed at putting a greater amount of pressure on academic staff to publish in so-called high profile journals to receive funding from a limited pool of money, whereas publication pressure is the pressure scientists feel to publish in these prescriptive high profile journals extensively and exclusively.

Corporatism, one could argue, has become the guiding principle in decision-making processes in science.¹⁵ This means that a business analogy is being applied to science. This entails several things: underfunding of science by the state, incentivising funding from various sources through competition, the installation of line management hierarchy in science, the cultivation of an audit culture (performance management) to "steer" science, and the alignment of science with economic growth in a country.¹⁶ The facts seem to indicate that these incentives are contributing to an atmosphere of instant gratification and a culture of academic misconduct.¹⁷

The question is whether the state and/or academic institutions - via the above neoliberal instruments of responsabilisation – are contributing to the current climate of academic misconduct and plagiarism.

Related hereto is the question of what role other factors are playing in causing academic misconduct and plagiarism. Which are the main causes and which are subsidiary? It is important to acknowledge that misconduct among students and academics can also be attributed to other factors; these include the desire to be recognised and/or career advancement. Career advancement in academia depends on publication, which is related to hyper-incentivisation, and forms part of the business analogy. Added reasons for plagiarism include apprehension about writing

¹⁴ Moosa *Publish or Perish* 1.

¹⁵ Beiter 2019 *ILR* 262.

¹⁶ Collini *What are Universities For?* 28.

¹⁷ Moosa *Publish or Perish* 1.

in proper English (even for native speakers), and the inability to express complex ideas in their own words. Again, these factors are all related to the hyper-incentives. It can also be argued that plagiarism is not always intentional, but that it can be accidental, resulting from careless writing, dishonest research practices and over-reliance on only a few sources. It could also result from a lack of understanding of what plagiarism is.¹⁸

Fanelli and others hold the view that different factors are associated with a higher rate of misconduct; namely a lack of research integrity policy and cash rewards for individual publication performance. They also identify early career researchers and those working in environments where mutual criticism is hampered as the most vulnerable groups. They maintain that misconduct can best be prevented by promoting research integrity policies, improving mentoring and training, and by encouraging transparent communication among researchers.¹⁹

Science and the factors which contribute to misconduct among academics and students should be regarded as universal. Nevertheless, there are indeed significant differences among the subsidiary causes contributing to misconduct within different jurisdictions.

In South Africa, for instance, the socio-economic climate could play a much greater role in misconduct incidence than elsewhere.²⁰ Ultimately, we believe that the business analogy for science should be regarded as the prime reason for misconduct among academics and students. This is very prominent in the South African context, and the authorities should reconsider how research is subsidised.²¹ These subsidiary causes derive from the main cause. Thus, without the main cause, which is the business analogy, these subsidiary reasons would still play a significant role, but to a lesser extent and would even cease to exist in some jurisdictions.

¹⁸ Moosa *Publish or Perish* 62.

¹⁹ Fanelli Costas and Larivière 2015 *PLoS one* e027556.

²⁰ Lee and Schrank 2010 *SF* 1245. The authors argue that the risk of scientific misconduct would be highest in "developmental" states, for example countries in which economic growth is prioritised at the expense of regulation.

²¹ Farber 2019 <https://www.timeslive.co.za>.

1.2 Research question

Adopting a perspective from the internationally protected "right of everyone to benefit from scientific progress and its applications" (in short: the right to science) leads us to the question: in what way, if any, does the application of the business analogy in academia, alongside other potential contributing factors, lead to academic misconduct in the form of plagiarism, and, if so, what measures should be adopted to curb such misconduct effectively?

1.3 Aims and objectives

The aim of this study is to provide a progressive interpretation of the various binding legal provisions of international law on science (hard law) with normative detail supplemented in the form of United Nations Educational, Scientific and Cultural Organization (UNESCO) recommendations (soft law) to address the problem of academic misconduct in the form plagiarism.

A progressive interpretation is one that seeks to find the right balance between the state's duty to protect science, university autonomy, academic freedom, and freedom of scientific research by virtue of a purposive interpretation of these concepts in the light of relevant international norms. This interpretation is sought to identify the various factors that may contribute towards such misconduct.

Potentially, these include the main cause, the business analogy, as well as other subsidiary factors, which include socio-economic factors, an unhealthy desire for recognition and/or career advancement, and precarious working conditions, among others. The focus, however, will be on the business analogy. The justification for this approach is due to the author's belief that these varying subsidiary factors crystallised because of the emergence of the business analogy.

This dissertation seeks to address the problem more generally rather than from a South African perspective or that of any other country. The reason for this is that although the South African constitution does include academic freedom and freedom of scientific research in Section 16(1)(d) of the Constitution, there is little

to no applicable case law to be found.²² The reference made to academic freedom and freedom of scientific research in the Bill of Rights could be construed as the right to science in a broader sense as codified in the International Covenant on Economic, Social and Cultural Rights (ICESCR).

Interpreting the Bill of Rights in Section 39(1)(b) of the Constitution requires that courts "must consider international law".²³ It has signed and ratified the ICESCR; therefore, the rationale is that international law must also be regarded, and, according to Section 39(1)(c) foreign national law might also be considered.²⁴

Although the author is from South Africa, this study will not seek to address the problem from an exclusively South African viewpoint; however, the South African scientific landscape does serve as a good example to illustrate the various points made in this dissertation.

Notably, the highly incentivised research environment in South Africa offers a good laboratory to test the dissertation's hypothesis that such incentivisation is a principal cause of research misconduct and plagiarism. This affords a suitable domestic norm that may help to incorporate the progressive interpretation of the right to science and its constituent elements into South African law. At the same time, it should be emphasised that the treatment of the topic will allude to "best" or "bad" practices in other countries as well.

This is because the South African socio-economic rights jurisprudence requires guidance from more established democracies and from internationally accepted norms; Hence, a fully-fledged comparative study will not be endeavoured.

The aim is to offer insight and recommendations from an international law perspective on how international conventions and norms can assist in providing normative detail to the right to science. This includes academic/scientific freedom, the state's duty to protect citizens "against science" (e.g., nuclear research), and

²² Section 16(1)(d) of the *Constitution of the Republic of South Africa*, 1996.

²³ Section 39(1)(b) of the *Constitution of the Republic of South Africa*, 1996.

²⁴ Section 39(1)(c) of the *Constitution of the Republic of South Africa*, 1996.

the state's duty to ensure citizens benefit from scientific progress and its applications (i.e., ensure a scientific environment that allows benefits to flow from science to society).²⁵ The relationship between the first and third element is of special interest here. Academic/scientific freedom (and linked thereto, institutional autonomy) must be protected in order to guarantee scientific progress. Yet, unbridled freedom could lead to scientific misconduct, jeopardising benefits for the citizen. However, regulation to ensure benefits to citizens may again stifle academic/scientific freedom in a way that prevents scientific progress.

Similarly, measures to promote scientific benefits for citizens (such as applying the business analogy in academia) may have a contrary effect. They may lead to excesses such as misconduct and plagiarism. A stronger protection of academic/scientific freedom would achieve a better effect, but the exact appropriate balance is not immediately apparent. This will be explored in this dissertation.

It will be necessary to look at relevant international norms, conventions, and agreements regarding the right to science. This necessitates the clarification of the normative content of relevant provisions of international legal instruments, such as the UNESCO Recommendation Concerning the Status of Higher-Education Teaching Personnel of 1997; the General Comment No. 13 of 1999; the Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications (REBSPA) the UNESCO Recommendations on Science and Scientific Researchers of 2017; General Comment No. 25 on Science and Economic, Social and Cultural Rights. While the ICESCR is legally binding on states party thereto, all the other instruments constitute soft law.²⁶

²⁵ Par 3 of the *Venice Statement*, 2009.

²⁶ On 12th January 2015, South Africa became the 163rd State Party to the *International Covenant on Economic, Social and Cultural Rights (ICESCR)*. In the statement of Declaration after the ratification, the United Nations expressed its hope that by ratifying the ICESCR, "the Government of the Republic of South Africa will give progressive effect to the right to education, as provided for in Article 13 (2) (a) and Article 14, within the framework of its National Education Policy and available resources." After signing the ICESCR 20 years ago, South Africa has now ratified it, demonstrating its commitment to being legally obligated to comply with the provisions of the ICESCR.

Because this dissertation seeks to test its hypothesis particularly within the South African science context, it is also necessary to conduct an analysis of the meaning and significance of academic freedom and freedom of scientific research as protected by South Africa's Constitution in Section 16(1)(d). How has this been interpreted by scholars and the courts? Does this provision cover a wider right to science? Moreover, what does higher education and science legislation specify in support of these rights and freedoms? What instruments does it implement that might jeopardise these rights and freedoms? Simultaneously, "best" or "bad" practices from other jurisdictions will be referred to as well.

It will specifically be endeavoured to identify the threats to freedom of science arising from the instruments being used to incentivise science, such as managerial and financial steering, publishing incentives, publication subsidies, competitive funding, and performance management.

A critically analysis will be included regarding whether a balance can be struck between the state's obligation to provide an enabling or motivational academic environment and still providing academics and academic institutions with enough room for creative discovery. States should, it would seem, "exercise restraint in pushing science through time limits and incentive instruments offering rewards" (and punishments).²⁷

It will examine whether ideologies in the form of corporatism, managerialism, and globalism, cause academics in higher education institutions to become engaged in research misconduct in the form of plagiarism by creating funding acquisition and publication pressures. Do these ideologies threaten the independence of universities? The extent to which academic freedom and freedom of scientific research may or should be legitimately limited by the state will receive attention in the analysis.

It is submitted that freedom of scientific research should always be the default position in science-related policy; it should be held in high regard given the

²⁷ Beiter 2019 *ILR* 261.

important purposes that it serves (it notably guarantees the discovery of the truth); and it should only be limited by regulation if, and to the degree that, this is justified in the light of other important and legitimate constitutional, public, or human rights interests.²⁸ The autonomous character of science should be respected. The German Constitutional Court, for instance, stresses the "autonomous" character of science. It states that science should be allowed to follow its "own inherent laws" to guarantee scientific progress. In other words, science is not really, or only in a limited way, subject to planning and management. Planning and management prevent scientific discovery from taking its course, as it were.²⁹

If UNESCO's 1997 Recommendation concerning the Status of Higher-Education Teaching Personnel is followed, then individual academic freedom should be guaranteed, which must be accompanied by "institutional autonomy (academic freedom on an institutional level), self-governance, collegiality and tenure". Individual academic freedom, self-governance, and collegiality "are essential components of meaningful autonomy for institutions of higher education".³⁰

1.4 Hypothesis and assumptions

Academic freedom and freedom of scientific research are vital for the proper functioning of higher education institutions in South Africa. They are constituent elements of an enabling scientific environment. In this way, they guarantee scientific progress and accordingly make it possible for citizens to benefit from science and its applications. Hence, academic/scientific freedom is the most crucial component of a science system that permits the realisation of every citizen's right to benefit from scientific progress and its applications. Well-intentioned (or ill-intentioned) state (and university) measures to accelerate scientific progress are often

²⁸ Thaldar and Steytler 2021 *SALJ* 258.

²⁹ Par 128 of the *BVerfG* (Federal Constitutional Court, Germany), *BVerfGE* 35, 79 – *HochschulUrteil* [University Judgment], 29 May 1973.

³⁰ Par 21 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997).

counterproductive, especially if they interfere with the autonomous laws of science through hyper-incentivisation and bureaucratisation of science.

The notion that government should somehow seek to regulate every new scientific development is erroneous, as freedom should be the default position in science-related policy; it should only be limited by regulation if, and to the extent that, this is constitutionally justified. While various factors contribute to academic misconduct, *inter alia* in the form of plagiarism, it is assumed here that neoliberal instruments, such as hyper-incentivisation and bureaucratisation of science, are root causes of academic misconduct and plagiarism. Evidence will be presented to confirm this assumption. Academic misconduct and plagiarism amount to a violation of the right of every citizen to benefit from scientific progress and its applications. Therefore, the state has a duty both to prevent such misconduct and not itself cause it directly or indirectly through its science steering mechanisms.

International conventions place a duty on the state to regulate science, but over-regulation in the form of neoliberal instruments lead to non-compliance with these internationally accepted legal norms. Academic freedom must be respected to the furthest extent in order for science to thrive.³¹

It is submitted that neoliberal instruments in "higher education and science constitute financial and managerial attacks on higher education and science".³² States deliberately underfund this sector and increasingly focus on competitive funding. This entrepreneurial attitude increasingly threatens the independence of universities and their researchers. This places added pressure on academics and restricts their freedom to conduct their own research. The pressure leads to the publication of questionable articles, plagiarism and to unethical conduct. It is a major cause of academic misconduct.

³¹ Venice Statement (2009).

³² Beiter 2019 *ILR* 289.

The determination of what is adequate for science is of utmost importance, and points towards reduced incentives and de-bureaucratisation of science. Adequacy for science should be considered a guiding value under the right to science.³³

1.5 Methodology

The increase in instances of academic/research misconduct, and the inability to restrain such misconduct, have motivated this study.³⁴ In recent times, there have been attempts to combat plagiarism and other forms of academic misconduct, but these have been largely unsuccessful. As mentioned above, state regulations compel universities in India to implement certain measures to curb plagiarism. Institutions of higher learning have developed policies and adopted software such as Turnitin to curb plagiarism, yet it seems that their fundamental failure flows from the fact that they only attempt to address the symptoms and have not been able to reach the students' and academics' hearts and minds. This constitutes a misdiagnosis of sorts, as research misconduct and plagiarism are continuing unbridled.³⁵

This dissertation will attempt to address the causes of research misconduct by, first, scrutinizing all applicable UNESCO Recommendations, United Nations (UN) general Comments, and international literature on specific norms relating to academic and scientific freedom.

Second, this study will focus on an interpretation of the norms in the light of the limited legal literature that is available.

The concept of academic freedom covers freedom of research and is linked to the intrinsic duty of scientific integrity. It is incumbent upon the state to protect science, academic freedom, freedom of scientific research, and institutional autonomy.

³³ In his article published in the *Israel Law Review*, Beiter makes 22 suggestions as to when a science system can be considered "adequate for science".

³⁴ Marsh 2018 <https://www.theguardian.com/education/2018/apr/29/cheating-at-top-uk-universities-soars-by-30-per-cent>.

³⁵ Marsh 2018 <https://www.theguardian.com/education/2018/apr/29/cheating-at-top-uk-universities-soars-by-30-per-cent>.

These international norms, in accordance with the rule of law, can be incorporated into our constitutional democracy and developmental legislation to protect science and researchers against pressures accompanied by undue state influence.³⁶

The main provisions on this duty as put forth in the Recommendations are stipulated below. Article 15(1)(b) of the ICESCR identifies three elements of the REBSPA: first, "the creation of an enabling and participatory environment for the conservation, development, and diffusion of science and technology, which implies *inter alia* academic and scientific freedom".³⁷

Second, the REBSPA aims "to protect individuals against the abuse of science", which includes considerations of ethics in science. Individuals should have "the right to be protected against the adverse effects of science and scientific progress". Therefore, science should not be allowed to be to the detriment of society.³⁸

Third, the REBSPA protects the "individual's right to the enjoyment of the benefits of progress of science". This includes the provision that science should be conducted on relevant topics, the results thereof should be properly distributed, and that everyone should benefit. As mentioned above, the state has a duty to create an enabling environment while also respecting the right of academics to conduct their research without interference.³⁹

Furthermore, paragraph 29 of the UN Recommendation concerning the Status of Higher-Education Teaching Personnel refers to the duty of academics to do research honestly. It mentions that academics are subject to "nationally and internationally" recognised professional principles of "intellectual rigour, scientific inquiry, and research ethics".⁴⁰

³⁶ Alston and Quinn 1987 *HRQ* 166.

³⁷ Par 16(a) of the *Venice Statement* (2009).

³⁸ Par 16(c) of the *Venice Statement* (2009).

³⁹ Macfarlane Research with Integrity 9.

⁴⁰ Par 29 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

In addition, the UNESCO Recommendations on Science and Scientific Researchers of 2017 also bestows a duty on researchers to conduct research in an honest manner. Paragraph 12 of the Recommendation emphasises that science requires "scientific researchers of integrity and intellectual maturity, combining high, intellectual qualities and respect for ethical principles".⁴¹

Last, to further expand upon Article 15 of the ICESCR, it is worth mentioning that the United Nations Committee has published a new and long-awaited interpretation and guidance on the relationship between science and the enjoyment of economic, social, and cultural rights in April 2020. This is the General comment No. 25 on the right to enjoy the benefits of scientific progress and its applications.

These recommendations also protect institutional autonomy, self-governance, collegiality, and tenure. These norms will be interpreted progressively to ensure contradictory elements are harmonised. They will be interpreted in such a way as to offer maximum protection within the ambit of the right to science.

Additionally, with the above-mentioned goal in mind, specific focus will be given to the South African constitutional democratic context and how the international legal norms mentioned earlier can be integrated into the South African constitutional legal reasoning in general.

The method to introduce international norms that safeguard academic freedom and freedom of scientific research should be one that seeks to find the right balance between the state's duty to protect science, university autonomy, academic freedom, and freedom of scientific research. It is sought to identify the various factors that may contribute to academic misconduct. The reason for this is that the South African socio-economic rights jurisprudence requires guidance from binding and non-binding international instruments.

⁴¹ Par 12 of the United Nations Recommendations on Science and Scientific Researchers (2017).

The purpose is not to engage in a detailed comparative analysis between states, but to provide the reader with a broader context within which academic freedom and the right to freedom of scientific research can be understood and enhanced.

Following our progressive interpretation, the symptomatic decline of academic integrity, research misconduct, and the inability to restrain such misconduct has motivated this study.⁴² In recent times, there have been many unsuccessful attempts to combat plagiarism and other forms of academic misconduct. As mentioned above, state regulations require Indian universities to take certain measures to combat plagiarism. Higher education institutions have developed policies and adopted software (like Turnitin) to combat plagiarism, but it appears their fundamental failure stems from only attempting to treat the symptoms and not the root cause. The extent of the problem seems to be greatly underestimated.

Thomas and de Bruin conducted a study where they submitted 371 published academic articles appearing in 19 South African management journals in 2011 through the plagiarism detection software program Turnitin. "High levels of plagiarism were detected". It was calculated that the cost to government for subsidising unoriginal work was approximately ZAR7 million for the period under review.⁴³

These findings are troubling in the sense that academic personnel have a duty to act in an ethical manner and be role models for their students. The presence of plagiarised material can have repercussions on the reputations of both the journals and the institutions to which the authors are associated. In recent years, there has been a growing interest in students' plagiarism and there has been much research attention particularly in the areas of plagiarism detection and attempts of preventing it. Nonetheless, there has been very little published about plagiarism by academics and the research is mostly unreliable and hypothetical.⁴⁴

⁴² Lopez 2018 <https://www.oxfordstudent.com/2018/05/04/cheating-at-uks-top-universities-soars-by-40/>.

⁴³ Thomas and de Bruin 2015 *S&S* 1.

⁴⁴ Thomas and de Bruin 2015 *S&S* 1.

In the relevant literature, and among scholars, there does not seem to be universally accepted causes that contributes to academic misconduct. Identifying the leading contributing factors and the extent to which they contribute to academic misconduct and plagiarism among students and staff will be assessed. Research misconduct is a universal problem that tarnishes the reputation of researchers and research institutes, and inevitably compromises the independence, integrity, and credibility of the scientific community.⁴⁵ Therefore, the aim of this study is to expose the reader to current policies and guidelines relating to the management of research misconduct, both globally and in South Africa. Strategies should be aimed at preventing misconduct, rather than at repairing the damage it inflicts.

The study will focus on factors contributing to hyper-incentivisation and will examine all its possible causes throughout various jurisdictions. However, the primary focus will be to provide a blueprint for fostering a culture of impeccable research integrity in South Africa.

The dissertation seeks to approach the problem more generally than from the perspective of South Africa or any other country. This is motivated by the fact that the Constitution of South Africa includes academic freedom and freedom of scientific research in Article 16(1)(d) of the Constitution, but little or no applicable procedural law is found.

In South Africa, traditionally, the right to academic freedom accordingly includes the self-governing power of the institution to decide for itself on academic matters; those matters that are, in other words, related to teaching and research. Academic freedom would include the right to conduct research, to publish, and to assimilate learning without any interference from the government.⁴⁶ However, given the political and socio-economic climate, according to some writers it is unlikely that this negatively couched right, predicated on a history of apartheid government's incessant interference with the autonomy of tertiary institutions, can be translated

⁴⁵ Moosa *Publish or Perish* 56.

⁴⁶ Alston and Malherbe 2009 *JSAL* 105.

into a positive obligation to be imposed upon the state to provide the necessary financial resources for tertiary institutions.⁴⁷

This research dissertation will be of an interdisciplinary nature; research misconduct and plagiarism will partly resort under the field of linguistics/language and the legal aspects will resort under intellectual property law. International legal instruments will resort under international law. Academic freedom and freedom of scientific research within the South African context will resort under constitutional law. The sources used in this chapter will be indicative of those that will be used, including textbooks and articles on plagiarism and regarding aspects of the law, legislation, legal precedent, academic articles, and reports, as well as relevant policies and procedures of academic institutions and regulatory bodies. Opinion pieces and news articles will be used as far as they can be determined as reliable, to illustrate the current trends and legal climate.

Although not a fully-fledged comparative study, examples from other countries will be used to obtain a deeper understanding of law as a social phenomenon through the study of different legal orders; this will illustrate the norms of regulation in countries with or without constitutionally protected scientific freedom. This includes academic freedom and its institutional form, institutional autonomy. In addition, countries that have already taken steps in attempting to regulate science will be examined, as well as how such regulation could influence, interfere with, or enhance higher education institutions.

1.6 Definitions and terms

Science

"Science", as defined by UNESCO in 2017, is:

the enterprise whereby humankind (acting individually or in small or large groups) makes an organized attempt (by means of the objective study of observed phenomena and its validation through sharing of findings and data, and through peer review) to discover and master the chain of causalities, relations or interactions; this unites subsystems of knowledge by means of systematic

⁴⁷ Alston and Malherbe 2009 *JSAL* 7.

reflection and conceptualization in a coordinated form; thereby, it furnishes itself with the opportunity of using, to its own advantage, an understanding of the processes and phenomena occurring in nature and society;⁴⁸

Freedom of science

"Freedom of science" is a broader concept than academic freedom, academic freedom only accrues to staff and students in universities, "freedom of science" accrues to:

"every person involved in scientific endeavour. It may thus be claimed by ordinary citizens as researchers, researchers working for non-government organizations [NGOs] researchers employed by state corporations or public non-university research institutes pursuing a set research agenda, private companies conducting research, researchers in private companies, and scientific publishers - but also teachers, researchers, and students in universities".⁴⁹

Right to science

Article 15(1)(b) of the ICESCR of 1966 protects the right of everyone "[t]o enjoy the benefits of scientific progress and its applications", which is also referred to as the "right to science". The definition originates from the Venice statement, which emphasises the importance of the "right to enjoy the benefits of scientific progress and its applications", and notably identifies the REBSPA's three main elements: the "creation of an enabling environment for the conservation, development, and diffusion of science", which includes "freedom of science"; protection against science and benefits of science; the "enjoyment of the applications of the benefits of scientific progress", which implies, *inter alia*, "non-discriminatory access to the benefits of scientific progress and its applications", including "technology transfer and capacity building"; the "protection from abuse and adverse effects of science and its applications".⁵⁰

⁴⁸ United Nations Recommendations on Science and Scientific Researchers (2017).

⁴⁹ Beiter 2019 ILR 246.

⁵⁰ Par 13(a)-(c) of the Venice Statement (2009).

Academic freedom

The UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel of 1997 in paragraph 27 provides normative content to the term "academic freedom". Paragraph 27 states that:

higher-education teaching personnel are entitled to the maintaining of academic freedom, that is to say, the right, without constriction by prescribed doctrine, to freedom of teaching and discussion, freedom in carrying out research and disseminating and publishing the results thereof, freedom to express their opinion freely about the institution or system in which they work, freedom from institutional censorship, and freedom to participate in professional or representative academic bodies. All higher-education teaching personnel should have the right to fulfil their functions without discrimination of any kind and without fear of repression by the state or any other source. Academic freedom is linked to factors like institutional autonomy, self-governance, collegiality, and tenure.⁵¹

1.7 Scope and limitations of the study

Attempts to understand plagiarism as a form of academic misconduct have, in many instances, only led to frustration. Most studies regarding this topic have focused on providing definitions of plagiarism and have focused on the conduct which leads to plagiarism. Orthodox solutions have provided some level of understanding, but do not address the roots of the problem.

This study will be unique, in that it will attempt to analyse and understand the essential contributing factors, i.e. the conduct by states and academic institutions themselves that contributes to academic misconduct, notably in the form of plagiarism. The analysis will focus on identifying the factors propelling plagiarism, and on what obligations the state and the academic community respectively have to counter this phenomenon.

The study will analyse the relevant international legal norms and the available literature, as these address the state's duty to protect science, university autonomy and academic/scientific freedom, and the factors that influence academic conduct.

⁵¹ Par 27 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997).

The emphasis will be on adopting a progressive interpretation of the relevant international norms, focusing on how the tension between sometimes conflicting provisions—emphasising freedom and intervention at the same time—can be resolved in a way that is good, or rather “adequate”, for science. The progressive interpretation chosen will then have specific implications for how academic misconduct, and specifically plagiarism, at academic institutions should be dealt with by the law and in practice.

A limitation of this study is the fact that only plagiarism as a form of academic misconduct will be addressed. This is due to space constraints. It is to be noted that among the different forms of academic misconduct, plagiarism is one of the most prevalent.

1.8 Rationale and justification

The state and higher education institutions should nurture a spirit of freedom in which academics can operate. However, in practice, states and universities are consciously adopting managerial and financial steering mechanisms that adversely affect academic behaviour. These tend to suffocate freedom in universities, and alter the behaviour of academics, leading to an increased prevalence of academic misconduct in the form of plagiarism.

The argument is simple: if one does not change legislative and administrative policies at the state level by a proper reliance on internationally accepted legal norms to ensure an enabling academic environment for academics, one will also not be able to control plagiarism. Only treating a symptom will not resolve the cause. Addressing misconduct and plagiarism is crucial from the perspective of the right to science. Ultimately, citizens will not benefit from science if science fails to function properly.

The rationale for the analysis is that there are several international instruments that lay down provisions on freedom of science, academic freedom, institutional autonomy, self-governance, collegiality, academic duties, institutional accountability, honesty in research, sharing in scientific progress, *etcetera*. The

provisions tend to extend in opposing directions. There is a need to formulate an interpretation of the various norms that will sustain the scientific enterprise for the benefit of everyone. Once a blueprint for such an interpretation has been created, this will lend itself to concrete application, and especially to solving the question of how to address academic misconduct in the form of plagiarism. The crucial rationale for the protection of scientific endeavour should be the discovery of the truth.

1.9 Framework

Due to the growing international trend of increasing incidence of high profile academic misconduct and plagiarism among students and academic staff, there seems to be a growing call for stricter regulation among the state and/or academic institutions. This is the case, not only from a South African perspective but also internationally. Accordingly, states have attempted measures to curb academic misconduct among students and staff. From this type of regulatory intervention, certain questions arise. First, are states and/or higher education institutions identifying the leading contributing factors to the increase in misconduct among staff and students?

Chapter 1 introduces various reasons for the increase in misconduct cases, both among students and staff. All potential contributing factors to an increase in misconduct cases are explored, as well as what possible progressive measures can be implemented both by state departments and academic institutions to curb misconduct effectively. States and higher education institutions are attempting to curb the growing trend toward an increase in misconduct by introducing stricter measures in the form of regulations. Due to this fact, the question arises: are these measures incompatible with academic freedom, freedom of scientific research, and institutional autonomy?

Chapter 2 of this dissertation will provide a foundation to emphasise the importance of various international legal norms that protect science from excessive state interference. Article 15(1)(b) of the ICESCR of 1966, which protects the right of everyone 'to enjoy the benefits of scientific progress and its applications', abbreviated as the REBSPA and sometimes also termed the "right to science", will

be considered. The normative detail of the REBSPA will be analysed, as well as how this normative detail in conjunction with other international norms can be integrated both locally and internationally to provide a detailed roadmap to steer science to its primary goal, which is the "search for truth". Also, a short critical analysis will be made on the ICESCR, General comment No. 25 (2020) on science and economic, social and cultural rights, UN Doc. E/C.12/GC/25, 30 April 2020, where the Committee attempted to further flesh out the scope of Article 15 of the ICESCR.

Because this writer is an academic conducting research in South Africa, **Chapter 3** will be concerned with incorporating internationally accepted norms in accordance with the rule of law into our constitutional democracy and developmental legislation to protect science and researchers against pressures that accompany undue state influence.⁵² Internationally accepted norms afford an appropriate standard that may help to incorporate a progressive interpretation of the "right to science" and its constituent elements into the South African constitutional framework.⁵³ At the same time, it should be emphasised that the treatment of the topic will allude to "best" or "bad" practices in other countries as well and not only from a South African perspective. The justification for this is that although the South African constitution includes academic freedom in Section 16(1)(d) of the Constitution of the Republic, there is little to no case law to be found. Academic freedom is mostly interpreted in light of the right of freedom of expression; thus, a fully-fledged comparative study will not be attempted. The focus will remain more general, where norms from different countries will be included to provide a holistic interpretation of this South African constitutional right.

In both the literature and among scholars, it seems that certain factors are universally accepted as contributors to academic misconduct and plagiarism; thus, **Chapter 4** will be concerned with identifying the main and subservient causes, and

⁵² Alston and Quinn 1987 *HRQ* 166.

⁵³ Beiter refers to the following provisions of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997): "paras 17–21 (institutional autonomy), paras 27–29 (academic freedom), paras 31–32 (self-governance and collegiality), paras 45–46 (security of employment, including tenure)".

will examine to what extent they contribute to academic misconduct and plagiarism among students and academic staff.

Chapter 5 will highlight orthodox solutions in dealing with misconduct and plagiarism within academia. The current measures used take the form of plagiarism awareness, software detection, plagiarism policy, legislative intervention, and the peer review process. This is an attempt to stem the tide of plagiarism. We will also highlight why these measures are inadequate.

Chapter 6 will be the concluding chapter, and will provide the answer to the research question: will all jurisdictions, specifically that of South Africa, enjoy sufficient protection against the business analogy in academia, alongside other potential contributing factors that lead to academic misconduct in the form of plagiarism, if countries adopt the internationally protected right of persons to benefit from scientific progress and its applications (in short: the right to science), as brought forward via international norms?

Chapter 2 Essential international norms that protect science against neoliberal instruments and corporatism.

2.1 Introduction

The goal of this chapter is to provide a foundation that stresses the importance of various binding legal provisions of international law regarding science (hard law), with normative detail supplemented in the form of UNESCO Recommendations and General Comments of UN human rights treaty bodies (soft law), that is prepared to develop the right to science.⁵⁴

Corporatism has arguably become the guiding principle in decision-making processes in science.⁵⁵ This entails a number of things: underfunding of science by the state, incentivising funding from various sources through competition, the installation of line management hierarchy in science, the cultivation of an audit culture (performance management) to "steer science", and the alignment of science with economic growth in a country.⁵⁶

The question arises whether the state and/or academic institutions – via the above-mentioned neoliberal instruments of responsabilisation – are contributing to the current climate of academic misconduct and plagiarism. Related hereto is the question of what role other factors are playing in causing academic misconduct and plagiarism.

Internationally accepted legal instruments relating to freedom of science ought to protect science against the application of a business analogy. At the national level, fundamental rights should do the same. In South Africa, Section 16(1)(d) of the Bill of Rights in the Constitution, 1996, refers to academic freedom and freedom of scientific research. This can be construed as the right to science in a broader sense, as contained in Article 15(1)(b) of the ICESCR, laying down the right to enjoy the

⁵⁴ UNESCO *General Comment No. 25 on science and economic, social, and cultural rights* (2020).

⁵⁵ Beiter 2019 *ILR* 262.

⁵⁶ Beiter 2019 *ILR* 251.

benefits of scientific progress and its applications (the REBSPA). In interpreting the rights in the Bill of Rights, Section 39(1)(b) of the Constitution requires courts, parliaments, and the administration to consider international law.⁵⁷ Apart from the fact that South Africa has signed and ratified the International Covenant on Economic, Social and Cultural Rights, thus assuming international legal obligations, the rationale under Section 39(1)(b) is that any forum must (additionally) have regard for international law, and may also, according to Section 39(1)(c), consider foreign national law. In *S v Makwanyane*, the Constitutional Court held that "binding and non-binding international law must be considered when interpreting the rights in the Bill of Rights".⁵⁸

The ICESCR is undoubtedly the most significant treaty which ideally protects science from excessive state influence. In the light of the increasing relevance and continued neglect of the right to enjoy the benefits of scientific progress, several important international instruments have been adopted to provide normative content to the right to scientific progress and its applications (REBSPA), as is notably contained in Article 15(1)(b) of the ICESCR (in short: the "right to science").

The first of these documents in chronological order would be the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel of 1997. This international instrument sets out the "rights and responsibilities" of teachers in higher education institutions and expounds upon worldwide benchmarks for the ongoing professional development, in the form of "further education, recruitment, employment, teaching, and learning". Since its inception, this instrument has been regarded as a "guiding set of principles" to enhance the status of teachers. The recommendation is conscious of the fact that the "right to education, teaching and research can only be fully enjoyed in an that atmosphere of academic freedom and autonomy for institutions".⁵⁹

⁵⁷ Section 39(1)(b) states that "when interpreting the Bill of Rights, a court, tribunal or forum must consider international law".

⁵⁸ *S v Makwanyane* 1995 3 SA 391 (CC) para 35.

⁵⁹ UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

Second, the General Comment No 13 of 1999, adopted by the Committee on Economic, Social and Cultural Rights, provides interpretation and clarification of Article 13 of the ICESCR, with this provision protecting the right to education, including at the tertiary level relevant to science.

Third, the Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications, adopted by a group of independent experts under the auspices of UNESCO in 2009. It elaborates on the normative content of Article 15(1)(b) and Article 15(3) of the ICESCR.

Fourth, the Recommendation on Science and Scientific Researchers, adopted by UNESCO in 2017, provides recommendations and can be seen to give content to and clarify Article 15(1)(b) of the ICESCR. It revised the Recommendation that was adopted by the General Conference at its 39th session, superseding the 1974 text. Its name was also revised, to become the Recommendation on Science and Scientific Researchers. It is an important standard setting instrument that not only codifies the goals and value systems by which science is to operate, but also emphasises that these need to be specifically supported and protected if science is to flourish.

Last, General Comment No. 25 on the right to enjoy the benefits of scientific progress and its applications on (Art. 15(1)(b)) will be critically analysed because some regard it as being the first authoritative legal interpretation of the right in recent times by the committee charged with guiding and monitoring how states implement economic, social, and cultural rights.⁶⁰

2.2 Article 15(1)(b) and Article 15(3) of the International Covenant on Economic, Social and Cultural Rights (ICESCR)

Essential norms of international law that protect the right to share in scientific progress (and, with it, freedom of science) were first laid down in the non-binding Universal Declaration of Human Rights of 1948. Article 27(2) recognises the "right

⁶⁰ See Art 15(1)(b) 15(2) 15(3) and 15(4) of the UNESCO General comment No. 25 on science and economic, social and cultural rights (2020).

of everyone to share in scientific advancement and its benefits".⁶¹ Although the provision does not explicitly mention freedom of science, it must be considered implicitly covered thereby, as advancement in science cannot occur without such freedom.

Thereafter, the ICESCR of 1966 created binding legal obligations in Article 15(1)(b). It states that State Parties must recognise the right of everyone to enjoy the benefits of scientific progress and its applications.⁶²

In addition, Article 15(3) of the same Covenant stipulates that "State Parties to the Covenant undertake to respect the freedom indispensable for scientific research and creative activity".⁶³

Article 15(1)(b) would seem to suggest that the state must proactively regulate and protect science, and this in turn implies that the state should act against acts of plagiarism.⁶⁴

In contrast thereto, Article 15(3) implies that the state has an obligation to refrain from unduly interfering in science. Ultimately, a balance must be struck between these two opposing obligations.⁶⁵

Article 15(1)(b) and (3) must be read in conjunction with Article 15(2). This states that the realisation of the right to science will require steps "necessary for the conservation, the development and the diffusion of science and culture". This also implies steps against systemic plagiarism.⁶⁶

Article 15(4), finally, states that:

⁶¹ Art 27(2) of the Universal Declaration of Human Rights (1966).

⁶² Art 15(1)(b) of the International Covenant on Economic, Social and Cultural Rights (1966).

⁶³ Art 15(3) of the International Covenant on Economic, Social and Cultural Rights (1966). Art 15(2) is also relevant in this context. It requires states parties, in achieving the full realisation of this right, to take steps "necessary for the conservation, the development and the diffusion of science".

⁶⁴ Art 15(1)(b) International Covenant on Economic, Social and Cultural Rights (1966).

⁶⁵ Art 15(3) of the International Covenant on Economic, Social and Cultural Rights (1966).

⁶⁶ See article 15(1)(b) and (3) in conjunction with Article 15(2) of the *International Covenant on Economic, Social and Cultural Rights* (1966).

parties recognise the benefits to be derived from the encouragement and development of international contacts and co-operation in the scientific and cultural fields.⁶⁷

2.2.1 The state's obligation to regulate science

All rights in the ICESCR must be understood in the light of Article 2(1). This provision defines the general nature of state obligations under the Covenant. Article 2(1) states that:

Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realisation of the rights recognised in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.⁶⁸

Article 2(1) thus requires that state parties must take active measures "to the maximum of their available resources" and "by all appropriate means" to realise the rights in the Covenant. For the purpose of the discussion, it will be analysed what "appropriate means" are and what the state obligation to realise these rights consists of.

When analysing these obligations, the state must proactively "do something" that would bring these rights to fruition. Donders⁶⁹ suggests that state obligations imply "not only legislative measures but also administrative, financial, educational, social, and other measures, including judicial remedies". Alston and Quinn⁷⁰ in their influential article on Article 2(1), consider what "appropriate means" are and categorise their findings under legislative and administrative measures.

2.2.2 Legislative measures

Alston and Quinn⁷¹ state that ratification of a treaty does not necessarily mean that states are obligated to enact legislation to fulfil the right. However, it is apparent that legislative action is necessary in the instance of the *International Covenant on*

⁶⁷ Art 15(4) of the International Covenant on Economic, Social and Cultural Rights (1966).

⁶⁸ Art. 2(1) of the International Covenant on Economic, Social and Cultural Rights (1966).

⁶⁹ Donders 2015 *EJHR* 494.

⁷⁰ Alston and Quinn 1987 *HRQ* 166.

⁷¹ Alston and Quinn 1987 *HRQ* 166.

Civil and Political Rights because of the nature of the obligation placed upon states parties by Article 2.

The writers argue that it is not completely clear whether state parties are required to act. If they are, the following questions arise: whether action should include incorporation of the Covenant into domestic law, and if so, by what means? If incorporation is unnecessary, what legal measures are considered sufficient? If legal measures are not required, what other means might be "appropriate" and what role is envisaged for legislation per se? Finally, who shall determine whether the means that have been adopted are both comprehensive and "appropriate"?⁷²

Alston and Quinn⁷³ further argue that "legislation is not mandatory under the terms of the Covenant and that it is for each state party to decide whether it is needed". However, in the modern state, and in accordance with the rule of law, legislation will usually be necessary because the regulation of science must have a basis in law.⁷⁴ That requirement is based upon the requirements of the "rule of law". Regulation of science at only administrative and executive levels lacks democratic legitimacy and is in violation of the "rule of law".⁷⁵ An absence of such legislation will constitute a threat to academic freedom and institutional autonomy.⁷⁶

Thus, the drafters concluded that the question whether legislation is to be incorporation into domestic law should be left to each state, subject only to the requirement that parties fulfil their obligations under the Covenant.

2.2.3 Administrative and other measures

The Committee on Economic, Social and Cultural Rights (CESCR) has adopted an explanatory comment, General Comment No. 3, on the nature of state parties' obligations regarding Article 2(1). According to the General Comment, the Covenant obligates state parties to "take steps" to meet their obligations. These steps should

⁷² Alston and Quinn 1987 *HRQ* 166.

⁷³ Alston and Quinn 1987 *HRQ* 166.

⁷⁴ Vrielink, Lemmens and Parmentier 2011 *PSBS* 137.

⁷⁵ Beiter 2019 *ILR* 259.

⁷⁶ Beiter, Karran and Appiagyei-Atua 2016 *EJCLG* 260.

be "deliberate, concrete, and targeted as clearly as possible towards meeting the obligations recognised in the Covenant". These "include, but are not limited to, administrative, financial, educational, and social measures".⁷⁷

The narrow view that legislation alone can be sufficient is also refuted by the suggestions contained in the guidelines governing the form and content of states' reports under the Covenant. The guidelines clearly indicate that states should provide specific detail not only of relevant laws but also of relevant agreements, court decisions, policies, programs, techniques, measures, *etcetera*.⁷⁸

The ILO Commission of Inquiry has clearly stated that the enactment of legislation does not constitute a discharge of other obligations.

It states:

to make the provisions of the Convention effective in law and in fact. Full conformity of the law is therefore essential but taken alone is not enough.⁷⁹

Therefore, when reading Article 15(1)(b) together with Article 2(1), state parties must—in some way or another—regulate scientific research and conduct. In fact, one could potentially adopt an interpretation to the effect that science must be regulated extensively. However, the question is whether extensive regulation by way of direct legislative and executive state action is meaningful. Regulation could legitimately also take the form of written and unwritten statutes, by-laws, procedures, rules, and conventions originating formally and informally within the scientific community itself.⁸⁰

⁷⁷ Par 1 of ICESCR of the General Comment No. 3: The Nature of States Parties' Obligations (1990).

⁷⁸ A consolidated set of the guidelines is contained in U.N. Doc. A/40/600/Add.1 (1985), Annex at 3-22.

⁷⁹ Report of the Ghana-Portugal Commission of Inquiry (1962) 231.

⁸⁰ Beiter 2019 *ILR* 260.

2.3 Normative detail and analysis of applicable legal sources

2.3.1 UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel of 1997

The UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel of 1997 is the most important international instrument that sets out norms and standards for the state and the academic community in higher education institutions, and as such is of unique importance. It is not legally binding, but concretises international human rights requirements in respect of academic freedom.⁸¹ Paragraphs 17-19, 27-29, and 31-34 specifically are pertinent, as they provide "legal" definitions with specific reference to the topic of this study. They define honesty in research, academic freedom, institutional autonomy, self-governance and collegiality. Paragraph 27 provides protection for "higher education teaching personnel". It emphasises they are "entitled to the maintaining of academic freedom", which implies that they are entitled to unfettered freedom in "carrying out research and disseminating and publishing the results". They also have the "freedom to express freely their opinion about their institution or system of work", participate in academic organisations, and are exempt from "institutional censorship". Higher Education teaching personnel should have the right to carry out their duties and responsibilities without "fear of repression" by the government.⁸²

However, it is not immediately apparent why academic freedom is of the utmost importance, and what the rationale of the Recommendation is. Academic freedom can be described as the freedom that academics rely on to discover the truth, this signifying the important distinction between freedom of expression and academic freedom.⁸³ Freedom of expression is different in the sense that it is not directed at truth, but at a multitude of views being heard in order to support democracy. Academic freedom is the freedom essential to the ability to discover truth. It is thus also inherent in the concept of academic freedom that plagiarism and other forms

⁸¹ Beiter, Karran and Appiagyei-Atua 2016 *VJTL* 597.

⁸² Par 27 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

⁸³ Beiter, Karran and Appiagyei-Atua 2016 *IHRLR* 113.

of academic dishonesty should not be allowed. There is an inherent duty of honesty in research, which is not present in the concept of freedom of expression.⁸⁴

Paragraph 29 refers to freedom of research, but simultaneously emphasises the duty of academics to do research honestly. It states:

Higher-education teaching personnel have a right to carry out research work without any interference, or any suppression, in accordance with their professional responsibility and subject to nationally and internationally recognized professional principles of intellectual rigour, scientific inquiry and research ethics.⁸⁵

Paragraph 33 and 34 deals with the duties and responsibilities of higher education teaching personnel, stating the following:

academic freedom carries with it the duty to use that freedom in a manner consistent with the scholarly obligation to base research on an honest search for truth.⁸⁶

Institutional autonomy is the institutional form of academic freedom.⁸⁷ Paragraph 17 of the Recommendation provides a definition of institutional autonomy when it states:

that degree of self-governance necessary for effective decision-making by institutions of higher education regarding their academic work, standards, management and related activities consistent with systems of public accountability, especially in respect of funding provided by the state, and respect for academic freedom and human rights.⁸⁸

Universities also have a clear responsibility, *inter alia*, for the "effective support of academic freedom" and have:

⁸⁴ Susan B Anthony List v Driehaus 2014 573 U.S.

⁸⁵ Par 29 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

⁸⁶ See par 33 and 34 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

⁸⁷ Par 17 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

⁸⁸ Par 17 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

a commitment to quality and excellence in their research functions, and an obligation to protect and ensure the integrity of their research against intrusions inconsistent with their academic missions.⁸⁹

Last, the principles of self-governance and collegiality are explained in Paragraphs 31 and 32. Self-governance encapsulates the notion of academics, as those closest to the scientific endeavour, being the decision-makers rather than "managers"; this would thus speak against the "executive" university. Collegiality refers to the absence of hierarchy in science and would thus speak against line management. Both self-governance and collegiality serve to protect academic freedom, which, in turn, enables the discovery of the truth.

The American Association of University Professors has long upheld that "academic freedom is only one leg of a metaphorical three-legged chair". "Academic freedom, shared governance, and tenure together support the higher education system" we have had in place for over half a century.⁹⁰ According to Karran, self-governance entails that, in order to guarantee academic freedom, academic staff must, first, have the right to voice their opinions; second, have the determinant voice and prominent role in decision-making processes; third, be able to appoint, from among their number, people into positions of managerial authority, and hold them to periodic account by agreed democratic processes; and fourth, be able to determine who shall serve as rector. Where possible the rector should be appointed from within the University by a democratic process, with the support of the majority of academic staff.⁹¹

Collegiality embodies the idea of joint decision-making by academics to avert a concentration of power in certain administrative positions in universities. The "principle of collegiality is closely related to academic self-governance".⁹²

According to Beiter, Karran and Appiagyei-Atua the principle of collegiality entails:

⁸⁹ See par 22(b) and (c) of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

⁹⁰ Nelson 2010 No University is an Island: Saving Academic Freedom 31.

⁹¹ Karran 2009 *HEP* 163-189.

⁹² Beiter, Karran and Appiagyei-Atua 2016 *IHRLR* 107, 135-138.

the participation of all in decision-making relating to matters having a bearing, one way or another, on science and scholarship. The purpose of the principle is to prevent powers from being concentrated in a single person or a few persons (for example, the rector [rectorate] or dean [dean's office]), as this will increase the likelihood of decisions being taken that are not "in the best interest of science and scholarship and which infringe upon individual academic freedom."⁹³

2.3.2 UNESCO Recommendations on Science and Scientific Researchers of 2017

The UNESCO Recommendations on Science and Scientific Researchers of 2017 is also a soft law instrument. This revised recommendation was adopted by the General Conference at its 39th session, superseding the 1974 text of the Recommendation on the same topic. This Recommendation may be seen as providing content to and clarifying Article 15(1)(b) of the ICESCR. The preamble specifically refers to this right.⁹⁴

These suggestions are extremely helpful now, especially for poorer nations as they expand their scientific capacities and institutions, given the importance of research in achieving sustainable development goals and addressing climate change. The recommendation provides a useful checklist of the conditions that growing nations must meet in terms of politics and institutions.

Its main purpose is described in the preamble, and explains that science can help solve many problems, but that it can also be a danger to society. This document, therefore, attempts to regulate science and protect the status of the researcher, thereby also providing guidelines for protecting persons against the abuse of science.⁹⁵

An excerpt from the "UNESCO General Conference 39 C /Resolution 85" highlights ten key areas in exploring the Recommendations on Science and Scientific

⁹³ Beiter, Karran and Appiagyei-Atua 2016 *IHRLR* 107, 135-138.

⁹⁴ The preamble of the UNESCO Recommendations on Science and Scientific Researchers (2017).

⁹⁵ The preamble of the UNESCO Recommendations on Science and Scientific Researchers (2017).

Researchers of 2017. We will accordingly enumerate these areas in exploring the UNESCO Recommendation fully.⁹⁶ They are:

1. The Recommendation underlines the responsibility of science towards the United Nations' ideals of human dignity, progress, justice, peace, welfare of humankind and respect for the environment.⁹⁷
2. The Recommendation emphasizes the need for science to meaningfully interact with society and vice versa.⁹⁸
3. The Recommendation recognizes the role of science in national policy and decision making, international cooperation and development.⁹⁹
4. The Recommendation promotes science as a common good.¹⁰⁰
5. The Recommendation calls for inclusive and non-discriminatory work conditions and access to education and employment in science.¹⁰¹
6. The Recommendation emphasises that any scientific conduct is subject to universal human rights standards¹⁰²
7. The Recommendation balances the freedoms, rights and responsibilities of researchers.¹⁰³
8. The Recommendation calls for scientific integrity and ethical codes of conduct for science and research and their technical applications.¹⁰⁴

⁹⁶ Resolution adopted on the report of the SHS Commission at the 18th plenary meeting, on 13 November 2017.

⁹⁷ See also para 4, 5e, f, 13d of the UNESCO *Recommendations on Science and Scientific Researchers* (2017).

⁹⁸ See also para 4, 5c, 13d, 19, 20, 22 of the UNESCO *Recommendations on Science and Scientific Researchers* (2017).

⁹⁹ Also see par 5g, 7, 8, 9 of the UNESCO *Recommendations on Science and Scientific Researchers* (2017).

¹⁰⁰ Also see par 6, 13e, 16a-v, 18b, c, d, 21, 34e, 35, 36, 38 of the UNESCO *Recommendations on Science and Scientific Researchers* (2017).

¹⁰¹ See also par 13a, b, c, 24b, c, 33, 34d of the UNESCO *Recommendations on Science and Scientific Researchers* (2017).

¹⁰² See also par 18a, e, 20a, b, c, 21, 22, 42 of the UNESCO *Recommendations on Science and Scientific Researchers* (2017).

¹⁰³ See also par 10, 11, 16a, b, 40 of the UNESCO *Recommendations on Science and Scientific Researchers* (2017).

¹⁰⁴ See also par 5d, 14c, d, 16a, 18b, d, e, 20a, 25, 39a, b of the UNESCO *Recommendations on Science and Scientific Researchers* (2017).

9. The Recommendation recognises the vital importance of human capital for a sound and responsible science system.¹⁰⁵
10. The Recommendation stresses the role of Member States in creating an enabling environment for science and research.¹⁰⁶

After a thorough review of this Recommendation, Beiter states that the document includes "quite a wide range of rights". He identifies certain aspects regarding scientific and academic freedom which are recognised by the Recommendation. They include "status (current working conditions)", "scientific freedom in a more generic sense", "specific scientific freedom rights of scientific researchers", "employment security", "certain rights of collegiality or participation", as well as "rights of employers, funders, and institutions".¹⁰⁷

The Recommendation also introduces "clear implications for scientific and academic freedom" (for example, peer review, ethics codes and committees, protection of confidential personal data, *etcetera.*), but according to Beiter it does not provide "sufficient safeguards".¹⁰⁸

2.3.3 Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications (REBSPA)

The Venice Statement constitutes, without a doubt, an important step in defining states' obligations under the REBSPA.¹⁰⁹ It is classified as an expert document, drafted by experts of international law, and is therefore not of a binding nature.¹¹⁰ It was adopted following experts' meetings initiated by UNESCO in 2007, 2008, and 2009, and elaborates on the normative content of Article 15(1)(b) of the ICESCR, laying down the right to enjoy the benefits of scientific progress and its applications

¹⁰⁵ See par 27, 28, 29, 30, 31, 32, 34, 41 of the UNESCO Recommendations on Science and Scientific Researchers (2017).

¹⁰⁶ See par 5, 11, 14a, 17, 24a, 26, 37, 43, 44, 45, 46, 47 of the *UNESCO Recommendations on Science and Scientific Researchers* (2017).

¹⁰⁷ Hence for a more detailed description visit Beiter 2019 *ILR* 271.

¹⁰⁸ Beiter 2019 *ILR* 271.

¹⁰⁹ Muller 2009 *HRLR* 782.

¹¹⁰ The Statute of the International Court of Justice sets out the sources of international law. It confirms that that the opinions of the most highly qualified jurists are a subsidiary way of confirming a norm. The Venice Statement would fall into the category of opinions of jurists.

(the REBSPA). Muller indicates that the Venice statement does not clearly provide a definition of "science" or "scientific progress", but it does however indicate what "elements" could be essential for the formulation of such a definition.¹¹¹ Donders¹¹² analyses the REBSPA and the "relevant state obligations" by employing a "textual interpretation of the provisions contained within the ICESCR". She is of opinion that the REBSPA should be read "in conjunction with other human rights", most importantly the "right to education and information".

The normative content contained in the Venice Statement identifies "three elements of the REBSPA": first, the "creation of an enabling and participatory environment for the conservation, development, and diffusion of science", notably including freedom of science.¹¹³

Second, the "enjoyment of the applications of the benefits of scientific progress", which means "non-discriminatory access to the benefits of scientific progress and its applications...".¹¹⁴

And third, the "protection from abuse and adverse effects of science and its applications".¹¹⁵

The Venice Statement divides states' obligations that flow from the REBSPA into a duty to "respect, protect, and fulfil", as this is also the "framework in which obligations under the ICESCR tend to be analysed" by the CESCR, states, and scholars.¹¹⁶

The state obligation to respect the REBSPA under paragraph 14(a) should include:

¹¹¹ Muller 2009 *HRLR* 770.

¹¹² Venice Statement (2009) Experts Meeting 9.

¹¹³ Par 13(a) of the *Venice Statement* (2009).

¹¹⁴ Par 13(b) of the *Venice Statement* (2009).

¹¹⁵ Par 13(c) of the *Venice Statement* (2009).

¹¹⁶ See, for example, the following *CESCR General Comment 18*: The right to work (2006); par 22-28 *CESCR, General Comment 14*: The right to the highest attainable standard of health (2000); par 33-37 *CESCR, General Comment 12*: The right to adequate food (1999).

To respect the freedom indispensable for scientific research and creative activity" such as freedom of thought, freedom to hold opinions without interference, and freedom to seek, receive, and impart information and ideas of all kind.¹¹⁷

Beiter believes this duty to respect gives rise to a claim for persons to be entitled to benefit from science. The need to respect also establishes a separate right of scientists, reinforced under Article 15(3) of the Convention. It is important that scientist exercise this right largely in the interest of society.¹¹⁸

Thus, the UNESCO Recommendation of 2017 broadly states:

that scientific researchers have the responsibility ... to pursue, expound and defend the scientific truth as they see it. ¹¹⁹

Additionally, apart from the obligation to respect, there is also the positive state "obligation to protect" the right by preventing infringement by "third parties", especially by "private industry".

Accordingly, paragraph 15(a) states:

to take measures, including legislative measures, to prevent and preclude the utilisation by third parties of science and technologies to the detriment of human rights and fundamental freedoms and the dignity of the human person by third parties.¹²⁰

Paragraph 15(b) of the statement adds an important specification to the obligation to protect the rights of people who are subject to scientific research. It holds that states must ensure that these people have given their "free and informed consent" and enjoy their full right to receive all relevant information related to the research activities, including on any risks involved. ¹²¹

¹¹⁷ Par 14(a) of the *Venice Statement* (2009).

¹¹⁸ Beiter 2019 *ILR* 240.

¹¹⁹ Para 16(a)(i) of the UNESCO Recommendation on Science and Scientific Researchers (2017).

¹²⁰ Par 13(c) of the *Venice Statement* (2009). Around 60% of research and development in industrialised nations is being funded by the private sector; See Chapman 2009 *JHR* 24.

¹²¹ Par 15(b) of the *Venice Statement* (2009). This obligation is strengthened by Article 7 *ICCPR* ("No one shall be subjected without his free consent to medical or scientific experimentation").

To ensure that participants are fully informed about all the dangers and benefits associated with the research and can offer their informed consent, Chapman contends that states "should establish oversight committees to oversee research programs involving human subjects".¹²²

Under paragraph 16(a), the "duty to fulfil" should include:

to adopt a legal and policy framework and to establish institutions to promote the development and diffusion of science and technology in a manner consistent with fundamental human rights. The relevant policies should be periodically reviewed based on a participatory and transparent process, with particular attention to the status and needs of disadvantaged and marginalized groups.¹²³

This quote contains a reiteration of the requirements mentioned above from the ICESCR. Legislation and policy/administrative measures are to be adopted. According to the Venice Statement, the legal-, institutional-, and policy framework that states are required to develop, as part of the REBSPA implementation, must be "reviewed on a regular basis in a participatory and transparent manner". Particular attention must be paid to the status and "needs of disadvantaged and marginalised groups".¹²⁴

Paragraph 16(b) specifies that the "duty to fulfil" should include:

to promote access to the benefits of science and its applications on a non-discriminatory basis including measures necessary to address the needs of disadvantaged and marginalized groups.¹²⁵

Also, paragraph 16(e) further stipulates that the "duty to fulfil" should provide:

opportunities for public engagement in decision-making about science and technology and their development.¹²⁶

¹²² Chapman 2009 *JHR* 21.

¹²³ Par 16(a) of the *Venice Statement* (2009).

¹²⁴ Par 16(a) of the *Venice Statement* (2009).

¹²⁵ Par 16(b) of the *Venice Statement* (2009).

¹²⁶ Par 16(e) of the *Venice Statement* (2009).

Audrey Chapman "proposes a set of functions" as a starting point for a conversation on the responsibilities involved in realizing the advantages of science and technology:

They include but are not limited to a clear and explicit dedication to the advancement of "science and technology for human benefit"; Formulating regulations and creating institutions with the aim of fostering the advancement and dissemination of scientific knowledge in a manner "consistent with fundamental human rights principles"; Identifying key areas and channelling ample resources towards a deliberate science and technology development that can yield social advantages, "especially to poor and disadvantaged groups"; If a robust scientific base is lacking, it is important to possess the capability to assess innovations and technologies originating from other regions, with the purpose of importing them for the "benefit of their populations"; Creating legal frameworks, thus "developing laws, institutions, and policies" that support the oversight and management of "science and technology", including an "adequate process" to predict possible adverse impacts; of "science and technology and using that data to inform the public"; Delivering a comprehensive science education curriculum "at all levels", especially within the "state-sponsored school system", to cultivate a significant number of proficient individuals with the "skills necessary to develop and adapt science and technology"; Continuously engaging in outreach and educational initiatives aimed at enhancing individuals' comprehension of the importance of advancements and engage in "decision-making about priority setting"; Providing avenues for substantial public involvement in "decision making about science and technology"; Possessing or establishing channels of distribution that can broadly extend the advantages of science and technology to various groups and communities, especially those that have previously lacked "access to these benefits"; and Lastly, formulating a comprehensive "national plan of action" that includes a timeline and objectives for addressing current inadequacies along

with a "monitoring strategy" to assess the degree to which these benchmarks are being achieved.¹²⁷

She accordingly states that "very few states fulfil these obligations", and that the majority of nations lack the indispensable capacities, framework, resources, and/or the governmental determination" to accomplish this.¹²⁸

Muller is pessimistic and concludes that states' "biggest challenge" would be that of the substantial investment of "human and material resources, capabilities, and infrastructure" required, but that is currently beyond the means of many states.¹²⁹

2.3.4 General Comment No. 13 on the Right to Education (CESCR)

General Comment No 13 by the CESCR can be described as a soft law document. It seeks to fully explain the right to education as protected in Article 13 of the ICESCR. It is included in this discussion because it explains academic freedom as an integral part of the right to education.¹³⁰ "Academic freedom is considered a core obligation under the right to education".¹³¹

In Paragraph 38, the Committee states that it has come to the conclusion that the "right to education can only be enjoyed if accompanied by the academic freedom of staff and students".¹³² Beiter¹³³ is critical when the CESCR, in its General Comment No 13 on the Right to Education, states that "staff and students throughout the education sector are entitled to academic freedom". He believes this statement is incorrect. In fact, he believes that the committee meant to say that "rights in education are to be enjoyed throughout the education sector".¹³⁴

¹²⁷ Chapman 2009 *JHR* 25.

¹²⁸ Chapman 2009 *JHR* 25.

¹²⁹ Müller 2010 *HRLR* 782.

¹³⁰ Par 38 of the CESCR General Comment No 13 (1999). The complexity of many modern scientific processes may complicate this, but should not be advanced as a reason not to induce changes towards this end.

¹³¹ Karran, Beiter and Appiagyei-Atua 2017 *PRHE* 228.

¹³² Par 38 of the CESCR General Comment No 13 (1999).

¹³³ Beiter 2019 *ILR* 272.

¹³⁴ Par 38 of the CESCR General Comment No 13 (1999).

In Paragraph 39, the Committee states that the academic community should be free to "pursue, develop, and transmit knowledge and ideas, through research, teaching, study, discussion, documentation, production, creation, or writing".¹³⁵

Last, Paragraph 40 explains that the enjoyment of academic freedom requires the autonomy of institutions of higher education.¹³⁶

2.4 General Comment No. 25 on the right to enjoy the benefits of scientific progress and its applications (Art. 15(1)(b))

2.4.1 Introduction and basic premises

As stated earlier, special attention will be given to the General Comment No 25 on the right to enjoy the benefits of scientific progress and its applications on Art 15(1)(b) because some consider it to be the "first authoritative legal interpretation of the right" by the committee charged with guiding and monitoring how states implement economic, social, and cultural rights.¹³⁷ The "intense and rapid development of science and technology has had many benefits" concerning the enjoyment of economic, social, and cultural rights. Simultaneously, "the risks, and the unequal distribution of these benefits and risks have sparked "a rich and growing discussion on the relationship between science and ESCR".¹³⁸

Despite these developments, "science is one of the areas of the Covenant that State Parties give least attention to in their reports and dialogues with the Committee".¹³⁹ This situation "have led the Committee, after a wide consultative process, to develop this General Comment on the relationship between science and ESCR". It primarily focuses on the "right of everyone to enjoy the benefits of scientific progress and its applications".¹⁴⁰

¹³⁵ Par 39 of the CESCR General Comment No 13 (1999).

¹³⁶ Par 40 of the CESCR General Comment No. 13 (1999).

¹³⁷ Frick 2020 *Tagline* 3.

¹³⁸ General comment No. 25 (2020) science and economic, social, and cultural rights (article 15 (1) (b), (2), (3) and (4) of the International Covenant on Economic, Social and Cultural Rights).

¹³⁹ General comment No. 25 (2020) on science and economic, social, and cultural rights (article 15 (1) (b), (2), (3) and (4) of the International Covenant on Economic, Social and Cultural Rights).

¹⁴⁰ General comment No. 25 (2020) on science and economic, social, and cultural rights

2.4.2 Normative content

The term "science" refers to the pursuit in which people, either independently or in small or large groups, systematically endeavour to comprehend and govern the series of causal relationships, associations, or interconnections. This involves organising disparate areas of knowledge through structured contemplation and conceptualisation, thereby equipping humanity with the means of utilising insights into the workings of the natural and societal world for its own benefit.¹⁴¹

The CESCR adds that "knowledge should be considered as science only if it is based on critical inquiry and is open to falsifiability and testability". It states further that "applied science (or science applications) refers to the implementation of science" to a specific population's needs and includes "new technologies deriving from scientific knowledge".¹⁴²

The Committee adopts a "broad interpretation of the right to enjoy the benefits of scientific progress", protected by Article 15(1)(b) of the ICESCR. Considering the "context, the object and the purpose of this provision, in accordance with article 31 of the Vienna Convention on the Law of Treaties", the Committee rejects a narrow interpretation of the right and states that it not only refers to the science "derived from research conducted by scientists," but also includes "citizen science" (ordinary people doing science).¹⁴³

Paragraphs 16-20 contain five "interrelated and essential elements" of the right. The five elements of the right are: first, availability, which is "linked to states' obligation to take steps for the conservation, the development, and the diffusion of science;" second, accessibility, which "means that scientific progress and its applications should be accessible for all persons, without discrimination"; third, quality, which

(article 15 (1) (b), (2), (3) and (4) of the International Covenant on Economic, Social and Cultural Rights).

¹⁴¹ Par 4 of the General Comment on the Committee on Economic, Social and Cultural Rights (2020).

¹⁴² See par 5,6 and 7 of the General comment No. 25 on the Committee on Economic, Social and Cultural Rights (2020).

¹⁴³ See par 9 and 10 of the General Comment No 25 on the Committee on Economic, Social and Cultural Rights (2020).

"refers to the most advanced, up-to-date, and generally accepted and verifiable science"; fourth, acceptability, which requires efforts to "ensure science is explained and disseminated" in a manner that "facilitates public and community acceptance", and "integrates ethical standards"; and, fifth, "protection of freedom of scientific research".¹⁴⁴

2.4.3 Limitations

Paragraph 21 of the UN Recommendations discuss the "limitations on the right to participate in and enjoy the benefits of scientific progress, and its applications". These limitations "might be necessary" due to the potential impact that "science and its applications" can have on "economic, social and, cultural rights".¹⁴⁵

The limitations on the right "must respect the requirements of article 4 of the Covenant": first, "limitations have to be determined by law"; second, they must promote "the general welfare in a democratic society"; third, "any restriction must be compatible with the nature of the right restricted". "As understood by the Committee, this implies that limitations must respect the minimum core obligations of the right and must be proportionate to the aim pursued".¹⁴⁶

This consequently means "that where there are several means reasonably capable of achieving the legitimate aim of the limitation, the one least restrictive to ESCRs must be selected". Moreover, the "burdens imposed on the enjoyment of the right should not outweigh the benefits of the limitation".¹⁴⁷

Clearly, "any limit on the content of scientific research implies a strict burden of justification by States, to avoid infringements on freedom of research".¹⁴⁸

¹⁴⁴ Par16-20 of the General comment No. 25. on the Committee on Economic, Social and Cultural Rights (2020).

¹⁴⁵ See par 21 of the General Comment No 25 on the Committee on Economic, Social and Cultural Rights (2020).

¹⁴⁶ See par 21 of the General Comment No 25 on the Committee on Economic, Social and Cultural Rights (2020).

¹⁴⁷ Par 21 and 22 of the General comment No. 25 on the Committee on Economic, Social and Cultural Rights (2020).

¹⁴⁸ Par. 22 of the General comment No. 25 on the Committee on Economic, Social and Cultural Rights (2020).

2.4.4 State obligations

Paragraph 23 of the Comment explains that:

States Parties must take steps, to the maximum of their available resources, for the full realisation of the REBSPA. While full realisation of the right may be achieved progressively, steps towards it must be taken immediately or within a reasonably short period of time. Such steps should be deliberate, concrete and targeted, using all appropriate means, including the adoption of legislative and budgetary measures.¹⁴⁹

The right places both positive and negative obligations on states. Moreover, "state parties are under an immediate obligation to eliminate all forms of discrimination", which includes "taking steps to overcome persistent inequalities in scientific advancement".¹⁵⁰

In Paragraph 28, the Committee implores states:

to pay special attention to groups who have experienced systemic discrimination in the enjoyment of the right to participate in and enjoy the benefits of scientific progress.¹⁵¹

From paragraphs 29-40 the General Comment includes additional guidelines and measures to remedy the "exclusion of women, persons with disabilities, persons living in poverty, and indigenous people from scientific progress".¹⁵² In addition to elaborating on "states' obligations to respect, protect, and fulfil the right to enjoy the benefits of scientific progress", the General Comment lays out "core obligations that a state party must satisfy", or make "every reasonable effort to comply with".¹⁵³

Some of the core obligations are: to "eliminate laws and policies that limit access to certain groups or individuals", such as laws and policies that "undermine women's

¹⁴⁹ Par. 23 of the General comment No. 25 on the Committee on Economic, Social and Cultural Rights (2020).

¹⁵⁰ Par. 24-27 of the General comment No. 25 on the Committee on Economic, Social and Cultural Rights (2020).

¹⁵¹ Par. 28 of the General comment No. 25 on the Committee on Economic, Social and Cultural Rights (2020).

¹⁵² Par 29-40 of the General comment No. 25 on the Committee on Economic, Social and Cultural Rights (2020).

¹⁵³ Par. 41-51 of the General comment No. 25 on the Committee on Economic, Social and Cultural Rights (2020).

and girls' participation in scientific areas"; to "develop a participatory national framework law and implement a strategy for the realization of the REBSPA"; to "ensure that people have access to basic scientific education and skills"; to "prioritise research" in areas where there is a "need for scientific progress", such as "health, food, and other basic needs"; to "adopt mechanisms aimed at aligning government policies and programs" are founded on "accepted scientific evidence"; to ensure that "health professionals receive adequate training" by "applying modern technologies and medicines resulting from scientific progress"; to promote "accurate scientific information" and avoid "deliberately misinforming the public", and to implement "protections against pseudoscience-based practices"; and, to foster "development of international contacts and cooperation in the scientific field".¹⁵⁴

2.5 Concluding comments

The goal of this section is to provide a foundation that stresses the importance of various international legal provisions that protect access to science. It is furthermore submitted that these provisions, by implication, forbid the application of a business analogy in the governing of science because it ultimately obstructs scientific advancement and creative activity. In an attempt to adopt an international perspective, the legal literature on the specific norms that relate to the protection of the right to science and scientific research was examined. Principles such as the state's duty to advance science, academic freedom, and institutional autonomy were explained.

The right to science, as described in Article 27(2) of the UDHR, is expanded upon in Article 15 of the ICESCR. Nevertheless, the treaty text, which is less than 150 words, is insufficient in explaining the nature and extent of state obligations. Legal scholars, activists, and governments have not fully interpreted this right, leading to it being referred to as "the forgotten human right" by human rights scholars. It has

¹⁵⁴ Par 52 of the General Comment No 25 on the Committee on Economic, Social and Cultural Rights (2020).

been overlooked to the point that it is considered one of the least important economic, social, and cultural rights.¹⁵⁵

An analysis of the international instruments generally relied upon to determine the nature and scope of state obligations under the REBSPA was conducted; these are, first, the "UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel of 1997"; second, the "General Comment No 13 of 1999", adopted by the CESCR; and third, the "Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications". The Venice Statement of 2009 divides the obligations of the states, as stipulated by the REBSPA, into the "obligations to respect, protect, and fulfil"; this is "patterned after the framework in which obligations under the ICESCR tend to be analysed" by the CESCR, states, and scholars.¹⁵⁶

In April 2020, the Committee released their long-awaited "General Comment on Article 15(1)(b) of the ICESCR". General Comment No 25 is the first authoritative legal interpretation of the right by the principal international Committee, which was charged with "guiding states in implementing and monitoring how they implement economic, social, and cultural rights".¹⁵⁷ The General Comment "focuses on the parts of Article 15 that address the right of everyone to enjoy the benefits of scientific progress and its applications".

The recent General Comment No 25 should provide additional protection for science against the application of a business analogy. Although the REBSPA obliges the state to regulate science, many questions remain, including which party should act to regulate science in which circumstances: the legislator, the government, individual universities, or the organised scientific community?

Article 2(1) of the ICESCR obligates "state parties to take steps to meet their obligations". These steps should be "deliberate, concrete, and targeted" as directly

¹⁵⁵ Frick 2020 *Tagline* 4.

¹⁵⁶ See footnote 184 above.

¹⁵⁷ See footnote 138 above.

as possible towards meeting the obligations.¹⁵⁸ Frick is however critical and states that the Committee should have defined the "actual steps to be taken by governments to fulfil the right to science".¹⁵⁹

When reading Article 15(1)(b) together with Article 2(1), state parties must, in one way or another, regulate the area of scientific research and conduct. In fact, as has been stated above, a possible interpretation could entail the extensive regulation of science. The question however is whether extensive regulation, specifically by way of direct legislative and executive state action, is meaningful.

Chapter 3 The development of a progressive interpretation within the South African Constitutional framework

3.1 Introduction

Chapter 3 will be concerned with incorporating internationally accepted norms for science into South Africa's constitutional democracy in order to protect academic/scientific freedom against pressures brought on by undue state influence.¹⁶⁰ These internationally accepted norms afford an appropriate standard that may help to incorporate a progressive interpretation of the "right to science" and its constituent elements into the South African constitutional framework.¹⁶¹ The standard is concerned with what is adequate for science. It should be emphasised that the treatment of the topic will not only include the South African legal perspective but will also allude to some "best" or "bad" practices in other countries.

The above-mentioned is justified because there is little to no case law to be found even though the Constitution of the Republic of South Africa includes academic/scientific freedom in Section 16(1)(d). Academic freedom is mostly

¹⁵⁸ See footnote 78 above.

¹⁵⁹ Frick 2020 *Tagline* 6.

¹⁶⁰ Alston and Quinn 1984 *HRQ* 166.

¹⁶¹ See the following provisions of the *UNESCO Recommendations* (1997): paras 17–21 (institutional autonomy), paras 27–29 (academic freedom), paras 31–32 (self-governance and collegiality), paras 45–46 (security of employment, including tenure).

interpreted at the hand of the right of freedom of expression; however, a fully-fledged comparative study will not be attempted. The focus will remain a more general one; practical examples from domestic law, foreign law, and case law (where it has relevance) will be incorporated to provide a broader context whereby the right to academic and scientific freedom can be understood.

This dissertation will expand on academic/scientific freedom rights and explore the (prior and prospective) challenges faced in achieving academic/scientific freedom within the South African legal context. The rationale for providing a historical overview is to demonstrate prior and prospective threats posed by the state and/or academic institutions and their incessant need to steer science. The UNESCO Recommendation on Science and Scientific Researchers states that scientific researchers have the responsibility "to pursue, expound and defend the scientific truth as they see it".¹⁶² Attacks on academic/scientific freedom, as a result of "new" public management in science, raise an important question: are these attacks leading to academic misconduct in its most prevalent form, plagiarism.

3.2 The adoption of framework legislation on science

The adoption of "framework legislation" for the scientific community is essential because it is undemocratic and against the rule of law for the state to regulate the science industry, whether broadly, or only at the "executive or administrative" level.¹⁶³ First, legislation in the field of science should ensure rights, establish guidelines for resolving disputes, and stabilise the scientific community financially and organisationally. Such laws would create balance.¹⁶⁴ Beiter, Karran, and Kwadwo Appiagyei-Atua are of the opinion that:

Higher Education legislation should expressly provide for higher education institutions to be autonomous, detailing the various constituent elements of meaningful autonomy (organisational, financial, staffing, and academic), to then weave the parameters of these into the fabric of the legislative framework as a whole.¹⁶⁵

¹⁶² Par 16(a)(i) of the UNESCO Recommendation on Science and Scientific Researchers (2017).

¹⁶³ Vrielink, Lemmens and Parmentier 2011 *PSBS* 137.

¹⁶⁴ Beiter, Karran and Kwadwo Appiagyei-Atua 2016 *EJCLG* 254.

¹⁶⁵ See Beiter, Karran and Kwadwo Appiagyei-Atua 2016 *EJCLG* 306.

Beiter makes suggestions for organising or regulating science in respect of an "adequate framework". According to Beiter the term "adequate for science" entails that "the courts must be competent to safeguard the constitutionality of the legislation", ensuring that it attains "a balance between positive and negative state obligations under the REBSPA".¹⁶⁶

According to Beiter the term means that:

structures, arrangements and decisions in the field of science must be such as will be 'in the best interest of science and scholarship' – rather than, for example, that of political, economic or social usefulness or expedience. The term connotes respect for the intrinsic requirements of science. It connotes the according of a central role to scientists themselves in organising science, appreciating that they, by reason of their training and experience, understand the needs of science 'best'.¹⁶⁷

Accordingly, "government may not contravene the boundaries of its powers, as granted by legislation".¹⁶⁸ Moreover, legislation must adhere to the requirements that constitute what is "adequate for science". "Acts, as well as the scientific fraternity, are subject to the courts' review competence in respect of scientific and academic freedom". In his 11th recommendation, Beiter proposes a science system "adequate for science" in that:

The legislature is the structural; the scientific fraternity is the everyday; and the judiciary is the final guardian of the science system. Insofar as pure science is concerned, the role of the government is to focus on financing, providing, encouraging, mediating and supervising.¹⁶⁹

"State regulation of universities should clearly imitate a hands-off approach", wherein the state intervenes only "where academia is clearly in dereliction of its duties". Further, "all state action should be subject to judicial control".¹⁷⁰

¹⁶⁶ Beiter 2019 *ILR* 288.

¹⁶⁷ Beiter 2019 *ILR* 238.

¹⁶⁸ Beiter 2019 *ILR* 288.

¹⁶⁹ Beiter 2019 *ILR* 288.

¹⁷⁰ Beiter 2019 *ILR* 288.

3.2.1 The South African constitutional framework

The South African Constitution is not unique; the explicit inclusion of academic freedom is also shared among other countries. In a survey conducted that specifically focused on academic freedom, it was concluded that, since December 2012, 20 state constitutions include "explicit protection" of academic freedom, 99 include "direct protection", and 77 include "indirect protection".¹⁷¹ The survey includes references to freedom of science, the right to publish, the right to teach, or freedom of education. South Africa is included in the 20 state constitutions that provide explicit protection.¹⁷² It appears to be more recent Constitutions that include explicit protection, where countries may be exiting a period of conflict, repression, or dictatorship.

Section 14 of the 1992 Interim Constitution provided that every person should have:

the right to freedom of conscience, religion, thought, belief and opinion, which shall include academic freedom in institutions of higher learning.¹⁷³

This right of academic and scientific freedom is now included in Section 16(1)(d) of the (final) Constitution of the Republic of South Africa, 1996, as part of the right of freedom of expression.¹⁷⁴ Section 16 reads as follows:

*(1) Everyone has the right to freedom of expression, which includes –
(a) freedom of the press and other media.
(b) freedom to receive or impart information or ideas.
(c) freedom of artistic creativity; and
(d) academic freedom and freedom of scientific research.*

The drafting history emphasises the complexity of academic freedom and the close association thereof with other rights. Freedom of thought, conscience, and opinion,

¹⁷¹ Quinn and Levine *IJHR* 912.

¹⁷² Quinn and Levine *IJHR* 912. According to oral information provided by the authors of that article, the 20 state constitutions which includes "explicit protections" are South Sudan (2011), Ecuador (2008), Kosovo (2008), Thailand (2007), Sudan (2005), Albania (1998), Gambia (1997), South Africa (1996), Uganda (1995), Malawi (1994), Peru (1993), Ghana (1992), Sierra Leone (1991), Namibia (1990), Nicaragua (1987), Philippines (1987), Liberia (1986), El Salvador (1983), Spain (1978), and Japan (1946).

¹⁷³ Section 14 of the Constitution of the Republic of South Africa 200 of 1993.

¹⁷⁴ Section 16(1)(d) of the Constitution of the Republic of South Africa, 1996.

as well as freedom of association and expression all relate to academic freedom and freedom of scientific research. Academic freedom as it is protected in the Constitution does not stand alone, but must be interpreted within the framework of the Bill of Rights and the Constitution as a whole.¹⁷⁵

Historically and contextually, the right, even under the heading "freedom of expression" accrues to individuals and institutions in relation to academic matters.¹⁷⁶ There does not seem to be a logical reason for excluding juristic persons from the protection of the right in respect of academic/scientific research freedom. However, should a court wrongly interpret Section 16(1)(d) to limit its protection only to individuals, it would not leave institutions completely vulnerable because the "residual freedom rights" and the right to freedom of association would extend protection to institutions, enabling them to engage in their academic work without undue interference.¹⁷⁷ However, freedom of science and academic freedom "need to be clearly distinguished from freedom of expression".¹⁷⁸ Academic/scientific freedom entail more extensive rights than freedom of expression, including more vigorous speech rights.

Beiter believes the essential difference in rationale is:

scientific and academic freedom, on the one hand, and freedom of expression, on the other, are based on two very different rationales. The latter is essentially about upholding democracy, entitling every person, as it were, to say whatever they desire in the interest of a multiplicity of views being heard. It even covers the right "to tell lies". Scientific and academic freedom are more pronouncedly about discovering the truth and advancing knowledge (even if this is also crucial, eventually, in building a democratic society).¹⁷⁹

The interpretation of the relevant Constitutional provisions contained in Section 16(1)(d), is supplemented by Section 39(1)(b) that states that those "interpreting the Bill of Rights must consider international law". In contrast, section 39(1)(c)

¹⁷⁵ *S v Makwanyane* 1995 3 SA 391 (CC) para 10; *Case v Minister of Safety and Security* 1996 (3) SA 617 (CC) para 27; *Khumalo v Holomisa* 2002 (5) SA 401 (CC) para 8.

¹⁷⁶ Ex parte Chairperson of the Constitutional Assembly, Certification of the Constitution of the RSA (1996) para 57.

¹⁷⁷ *Ferreira v Levin* NO 1996 (1) SA 984 (CC).

¹⁷⁸ Beiter 2019 *ILR* 247.

¹⁷⁹ Beiter 2019 *ILR* 19.

states that "a forum may consider foreign law". Hence, section 39(1)(b) is worded as a clear obligation in the interpretive process.¹⁸⁰

Therefore, anyone tasked with interpreting the Bill of Rights is obligated to consider international norms. Section 39 states the following:

- (1) When interpreting the Bill of Rights, a court, tribunal, or forum
 - (a) must promote the values that underlie an open and democratic society based on human dignity, equality and freedom.
 - (b) must consider international law; and
 - (c) may consider foreign law.¹⁸¹

It is thus clear that Section 39(1)(b) demands that international law "must" be considered when interpreting the Bill of Rights. In contrast section 39(1)(c) states that it "may" consider foreign law.¹⁸²

3.3 International legislative framework and its limits

International conventions constitute the clearest and most express form of consent by the states to human rights norms. Given the difficulties associated with the identification of customary international law, the limited number of human rights rules of customary status, and the large number of treaty provisions on human rights, treaties will, in practice, constitute the most useful primary source of international law to be used by courts interpreting the Bill of Rights. The point at which a treaty becomes binding on a state, in terms of international law, depends on the intention of the parties to the treaty, but it usually becomes binding on ratification. On 12th January 2015, South Africa became the 163rd State Party to the ICESCR.

Article 15(1)(b) and Article 15(3) of the ICESCR and the Venice Statement seek to find the right balance between the state's duty to protect science, university

¹⁸⁰ Section 39(1)(b) of the Constitution of the Republic of South Africa, 1996.

¹⁸¹ Section 39 (1)(a)-(c) of the Constitution of the Republic of South Africa, 1996.

¹⁸² Section 39(1)(b) of the Constitution of the Republic of South Africa, 1996.

autonomy, academic freedom, and freedom of scientific research. There are many international norms that aim to protect the aforementioned rights, as described previously in Chapter 2; hence this Chapter, will primarily focus on Article 15(1)(b) and Article 15(3) of the International Covenant on Economic, Social, and Cultural Rights (ICESCR), and the way in which the Venice Statement suggests States should fulfil their duty to adopt an adequate framework.¹⁸³

3.3.1 Article 15(1)(b) and Article 15(3) of the International Covenant on Economic, Social and Cultural Rights (ICESCR)

As stated, South Africa has ratified ICESCR, which means they are bound by Article 15(1)(b) which states:

1. The States Parties to the present Covenant recognise the right of everyone:
(b) To enjoy the benefits of scientific progress and its applications.

and Article 15(3) that states:

3. The States Parties to the present Covenant undertake to respect the freedom indispensable for scientific research and creative activity.

Article 15(1)(b) would seem to suggest that the state must proactively regulate and protect science. This, in turn, could imply that the state should act immediately when academics and institutionalised science show signs of dereliction of their duty to protect science (to act against misconduct and plagiarism). In contrast thereto, Article 15(3) implies that there is an obligation on the state to refrain from unduly interfering in science. Clearly, a balance must be struck between these two opposing rights in the present Covenant.

The Venice Statement, an expert document, clarifies this balancing act and defines states' obligations under the REBSPA.¹⁸⁴ Although the Venice statement does not

¹⁸³ Par 22-28 of the *CESCR General Comment 18*: The right to work (2006). *CESCR General Comment 14*: The right to the highest attainable standard of health (2000).

¹⁸⁴ *Venice Statement* (2009). The Statute of the International Court of Justice sets out the sources of international law. It confirms that that the opinions of the most highly qualified jurists are a subsidiary way of confirming a norm. The Venice Statement would fall into the category of opinions of jurists. Also see Muller 2009 *HRLR* 782.

"provide a detailed definition of science or scientific progress", it highlights the critical components that are "important for such definitions as well as the aims of science that are compatible with the REBSPA".¹⁸⁵ The Venice Statement delineates three component of the REBSPA. Two noteworthy elements include: first, the "creation of an enabling environment for the conservation, development, and distribution of science, notably including freedom of science";¹⁸⁶ second, to realise "access to the benefits of science and its applications" to citizens.¹⁸⁷ These two elements in particular reflect the tension between positive and negative components of the right to science.

The Venice Statement divides "states' obligations" that flow from the REBSPA into a "duty to respect, protect, and fulfil", this is also the "framework in which obligations under the ICESCR tend to be analysed by the CESCR, states, and scholars".¹⁸⁸ Paragraph 16(a) clearly stipulates that the "duty to *fulfil* should include the adoption of a legal and policy framework to promote development that is consistent with fundamental human rights", and that these policies should be systematically and periodically reviewed.¹⁸⁹

Such implementation of legislation is thus critical in establishing "a balance between positive and negative state obligations" contained in the REBSPA. Beiter submits that legislation should portray "a procedural character and only a modest level of regulatory density"; it should "provide the basis for bodies and structures", but should assign ultimate decision-making ability to the scientific community. Consequently, the court must be the custodian in safeguarding legislation in order to ascertain what is "adequate for science".¹⁹⁰

Government should not be granted "free rein" to regulate science based on instrumental ideologies that are destructive to the disinterestedness of science. As

¹⁸⁵ Muller 2010 *HRLJ* 770.

¹⁸⁶ Par 13(a) of the *Venice Statement* (2009).

¹⁸⁷ Par 16(b) of the *Venice Statement* (2009).

¹⁸⁸ Par 22-28 of the *CESCR General Comment 18: The right to work* (2006). *CESCR General Comment 14: The right to the highest attainable standard of health* (2000).

¹⁸⁹ Par 16(a) of the *Venice Statement* (2009).

¹⁹⁰ Beiter 2019 *ILR* 288.

stated previously, there are many international norms that protect against excessive state influence; which will not be elaborated on here again.

Another important interpretative source which may be considered, in accordance with section 39(1)(c), is foreign law.

Accordingly, "good" and "bad" international practices (foreign law) that may be considered when interpreting the rights in Section 16(1)(d) of the Constitution will be assessed in the following section.

3.4 International "good" and "bad" practices

This subsection is essential to consider as foreign law can provide a rich source of jurisprudence. It is important to study countries that have implemented regulations on science and how they may affect higher education institutions, both positively and negatively. Scrutinizing the effect of diverse legislative practices and policies on academia is crucial to identify effective and sustainable measures to address existing injustices and enable future initiatives.

As there are limited appropriate interventions, it was decided to present both sides of the coin. There will be a discussion of how the concept of "*Wissenschaftsadäquanz*" (adequacy for science), a hands-off approach to university regulation, could be more suitable for scientific research and endeavour. On the other hand, it will be explored whether a prescriptive approach, as seen in the Indian example, would be more compatible with academic freedom, freedom of scientific research, and institutional autonomy.

3.4.1 The German concept of 'Wissenschaftsadäquanz' (adequacy for science)

The rationale of Wilhelm von Humboldt's ideas, the Frankfurt Constitution of 1849, and the German concept of "*Wissenschaftsfreiheit*" (freedom of science) could be regarded as the beginnings of the theory of freedom of science. This idea had an impact on legal advancements in Europe as well as the United States. It could be

contended that German case law is the most comprehensive resource for interpreting the theory of freedom of science.¹⁹¹

"Wissenschaftsadäquanz" is often used to measure whether government actions that regulate science are constitutional; therefore, whether they "are in the best interest of science and support inherent goals of science (rather than interests beyond science)", and if they are in effect "adequate for science".¹⁹² "Structures, arrangements, and decisions" will be "in the best interest of scholarship" if they facilitate the "discovery of the truth".¹⁹³

According to Beiter, "adequacy for science" entails that "the courts must be competent to safeguard the constitutionality of the legislation" and must guarantee "that it achieves a balance between positive and negative state obligations under the REBSPA".¹⁹⁴

Thus, "the government may not transgress the boundaries of its powers, as granted by legislation". Accordingly, legislation must adhere to the requirements that constitute what is "adequate for science". The individual and collective acts of scientists "are subject to the courts' review competence in respect of scientific and academic freedom".¹⁹⁵ To repeat what Beiter suggests in his 11th recommendation in the Israel Law Review:

The legislature is the structural; the scientific fraternity is the everyday; and the judiciary is the final guardian of the science system. Insofar as pure science is concerned, the role of the government is to focus on financing, providing, encouraging, mediating and supervising.¹⁹⁶

A hands off approach to university regulation would be adequate for science and scientific endeavour. The state should, accordingly, only become involved when

¹⁹¹ Beiter 2019 *ILR* 237.

¹⁹² Beiter 2022 *BJIL* 27.

¹⁹³ Beiter 2019 *ILR* 288.

¹⁹⁴ Beiter 2019 *ILR* 288.

¹⁹⁵ Beiter 2019 *ILR* 260.

¹⁹⁶ Beiter 2019 *ILR* 288.

academic institutions are blatantly failing in their obligations. Additionally, all government actions should be subject to judicial oversight.¹⁹⁷

It is submitted that the German concept "*Wissenschaftsadäquanz*" is an internationally accepted good practice. The framework "adequacy for science" "safeguards disinterested science, ensures generous state funding", affords a "more sincere interpretation of the concept of public accountability", is "characterised by a minimum of administrative requirements at all levels", and permits "scientists to turn inwards" (meaning that they fulfil their ethical duty to protect science).¹⁹⁸

3.4.2 The University Grants Commission of India

In reaction to increased instances of academic misconduct, the Indian government created a statutory body in accordance with the University Grants Commission Act of 1956 under the Ministry of Human Resource Development, which is charged with the coordination, determination, and maintenance of the standards of higher education. These regulations, called the "Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions", which were adopted by the University Grants Commission (UGC), compel universities to implement certain measures to curb plagiarism in tertiary institutions of higher education. They were accepted in May 2018 and are binding for all universities in India.¹⁹⁹ These regulations entail a governmental policy regarding plagiarism that creates four tiers of required action.

The first allows 10% of similarities; these would carry no penalty. The second tier, in which 10% to 40% of a document are plagiarised, would require students to submit a revised manuscript and force faculty members to withdraw the plagiarised paper. In cases where 40% to 60% of the document are plagiarised, a student would be suspended for a year and the faculty member would forfeit an annual pay raise and be prohibited from supervising students for 2 years. Students who

¹⁹⁷ In justifying neo-liberal instruments to steer science Naledi Pandor, higher education minister stated that: The "inequalities and inefficiencies" of higher education are due to a disregard for this accountability.

¹⁹⁸ Beiter 2019 *ILR* 290.

¹⁹⁹ The *Gazette of India* (2018) Part III sec 4.

plagiarise more than 60% of their thesis would be removed from the program; the penalties for faculty members would be extended to a 2-year pay raise loss and a 3-year ban on supervising students.

Certain legal questions arise from this type of regulatory intervention. Are measures that are as prescriptive as in the Indian example compatible with academic freedom, freedom of scientific research, and institutional autonomy? Is it the role of the state or rather that of the scientific community itself to regulate science? Further, what instruments should be used? Ought measures to take the form of legislation, government regulations, policies designed by statutory bodies of science or individual universities, or merely an appeal to academic self-duty?

Should the regulation of science not provide for the decentralisation of power, with states delegating certain functions to academic institutions themselves because of the "autonomous nature" of science? The measures adopted in India appear intrusive and should be regarded as an ill-conceived method for addressing academic misconduct and plagiarism, especially because they arise from state supported over-incentivisation of science and publication in the first place.²⁰⁰

3.5 Limitation of the right to science

Section 36(1) states that the "rights in the Bill of Rights may be limited, in terms of law of general application", only to the degree "that the limitation is reasonable and justifiable in an open and democratic society" centred on "human dignity, equality, and freedom".²⁰¹ The limitation clause can be seen as entailing a two-stage inquiry.²⁰² The first is to determine whether the right has been infringed upon. The second is to ascertain whether that specific infringement can be justified as a reasonable limitation to that right. Most importantly, when attempting to limit these rights contained in the Bill of Rights, certain factors must be considered, including:

(a) the nature of the right;

²⁰⁰ Vaidyanathan 2019 *SNL* 307.

²⁰¹ Section 36(1) of the Constitution of the Republic of South Africa, 1996.

²⁰² See *S v Zuma and Others* 1995 (4) BCLR 401 (CC), at 414, following *R v Oakes* 1986 26 DLR (4th) 200.

- (b) the importance of the purpose of the limitation;
- (c) the nature and extent of the limitation;
- (d) the relation between the limitation and its purpose; and
- (e) less restrictive means to achieve the purpose.

Accordingly, "except as provided in subsection (1) or in any other provision of the Constitution, no law may limit any right entrenched in the Bill of Rights".²⁰³ Article 4 (general limitation clause) contained in the International Covenant of Socio-Economic and Cultural Rights, 1966, is similar, stating:

The States Parties to the present Covenant recognise that, in the enjoyment of those rights provided by the State in conformity with the present Covenant, the State may subject such rights only to such limitations as are determined by law only in so far as this may be compatible with the nature of these rights and solely for the purpose of promoting the general welfare in a democratic society.

It is argued that "States should neither limit nor interfere with academic/scientific freedom". While it should be taken into account that "scientists should have the freedom of research", it should also be recognised that "scientists have an individual responsibility while undertaking scientific research".²⁰⁴

Beiter²⁰⁵ contends that "scientific and academic freedom may be regulated, rather than limited, by law". He believes it would be remarkably "difficult to justify limitations of scientific or academic freedom". This is a result "of the importance of the truth-function of scientific and academic freedom". In contrast thereto, the Minister of Education's national plan for higher education (domestically) expressly states that academic freedom, in its institutional form (institutional autonomy), would not be allowed to oppose change to transformation within the higher education environment.²⁰⁶

As stated above, science can be engaged in a particular political or corporate interest. In this way, freedom can also be limited. Where science serves specific

²⁰³ See s 36 (1) and (2) of the Constitution of the Republic of South Africa, 1996.

²⁰⁴ Par 28 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997).

²⁰⁵ Beiter 2019 *ILR* 64.

²⁰⁶ GG 22138 Vol 429 2001 3-91.

political or economic interests it can, at best, furnish a very compartmentalised version of the truth. It is clear that domestically, in the last few decades, the state's interest to limit and or steer science to further its preferred "national interests" has received a renewed interest.

3.6 History of state interference within South Africa universities

Academic/scientific freedom is explicitly protected in the South African Constitution. This signifies that lessons have been learnt from events prior to 1994. Undue governmental interference in respect of admission requirements to institutions that are unrelated to academic merit and not permitted by the Bill of Rights, infringe on academic/scientific freedom. Undue restrictions to stifle criticism or critical analysis of governmental actions or policies, and unjustifiable and illegitimate conditions relating to university funding are clear contraventions of academic freedom, yet they still continue to this day. That is perhaps why academic/scientific freedom warranted specific inclusion in the Bill of Rights; it was likely to be threatened in the future, based on incidents that occurred in the past. Accordingly, the history of the right, pre and post 1994, will be inspected because of the relevance of the first democratic elections which took place in South Africa; in so doing, excessive levels of state interference will be highlighted.

3.6.1 Prior to 1994

Prior to 1994, South African universities were grouped into two distinct categories. First, the open universities, which enjoyed many privileges. Second, the "other" universities, which were tightly controlled by the government.²⁰⁷

Moodie²⁰⁸ studied the "open universities" under the apartheid regime of South Africa, which included the University of Cape Town (UCT), the University of Natal, the University of the Witwatersrand (Wits), and Rhodes University. The study found that these universities enjoyed a very high level of institutional autonomy. He argues that, for the most part, these institutions were able to manage their own internal

²⁰⁷ Kori 2016 *IJTE* 45.

²⁰⁸ Moodie 1994 *HE* 1-40.

affairs, determine their curriculum, conduct research in areas of their choice, and teach in the manner that they saw fit. Some writers do not agree with Moodie's assessment and claim that he fails to realise that these institutions were not allowed to choose who they would teach. Oppressive legislation either excluded black students from universities outright, or required that they obtain ministerial permission to study there; this constituted government interference, and accordingly no institutional autonomy and academic freedom.²⁰⁹

3.6.2 Post 1994

Kori²¹⁰ states that the post-1994 era saw the Constitution of the Republic of South Africa promising academic/scientific freedom. The new government adopted new policies creating a unitary tertiary education system. This was built around the "cooperative governance" framework. The Bill of Rights in the South African Constitution of 1996 lists "academic freedom and freedom of scientific research" among the fundamental rights of South African citizens.²¹¹

According to Kori, since 1999 the most significant development in higher education has been the "expansion of state control over higher education institutions".²¹² This has gone against the expectations of many predictors. During apartheid, many educational institutions had served as focal points of opposition to the apartheid state during the 1970s and 1980s; many people believed that the post-1994 higher education sector would be based on the liberal South African university model, with a high degree of institutional autonomy (particularly concerning the use of funds and curriculum formulation) and a national department of education that would use a light hand in guiding the higher education sector.²¹³

²⁰⁹ Dr Davie, former principal of the University of Cape Town, stated in a 1953-address to students that "academic freedom of a university" involves "four essential freedoms" ... "to determine for itself on academic grounds who may teach, what may be taught, how it shall be taught and who may be admitted to study".

²¹⁰ Kori 2016 *IJTE* 45.

²¹¹ Constitution of the Republic of South Africa, 1996.

²¹² Kori 2016 *IJTE* 46.

²¹³ Hall and Symes 2005 *SHE* 2.

This has unfortunately not been the case. The Higher Education Act of 1997, and particularly its series of successive amendments which have substantially extended the authority of the state, have accordingly diminished the autonomy of these higher education institutions.

3.7 Policy instruments used to transform higher education institutions since 1994

The Higher Education Act, 1997, regulates higher education as well as providing for the "establishment, composition, and functions of the Council of Higher Education".²¹⁴ Alston and Malherbe highlight the following instruments that are used to increase state control over higher education institutions.²¹⁵ The below-mentioned 7 policy instruments used to increase state control of higher education institutions from 1995 until 2009.

- (a) The first was the "1997 White Paper on Higher Education", which advocated for a single, "unified higher education system" controlled by the state.²¹⁶
- (b) The second was the 1997 Higher Education Act, which revoked the private acts of universities and gave the Minister of Education increased powers to "establish, merge, and govern higher education institutions".²¹⁷
- (c) The third instrument was the 2001 National Plan for Higher Education, which established "size and shape" targets for the higher education system, including "institutional composition, program offerings, and growth and participation levels". The plan necessitated "lowering admission requirements, transferring registrations from humanities to natural and applied sciences, and attaining predetermined graduation targets". The program also called for significant "restructuring and merging

²¹⁴ Act No. 101 of 1997.

²¹⁵ Alston and Malherbe 2009 *JSAL* 102.

²¹⁶ Alston and Malherbe 2009 *JSAL* 120.

²¹⁷ Alston and Malherbe 2009 *JSAL* 120.

of existing institutions", with each institution's program offerings being "prescribed based on specific criteria". The document expressly stated that academic freedom in the form of institutional autonomy "would not be allowed to oppose change" and transformation.²¹⁸

- (d) Shortly following the national plan, a "so-called New Academic Policy" announced a comprehensive policy framework for the "registration, accreditation, and evaluation of qualifications and programmes". It seeks to "standardise entrance and exit points of qualifications, obtaining credits, articulation, and quality control". One implication is that an "individual institution will not be allowed to set its own admission requirements". A further step that was considered at the time was the co-establishment of a national applications centre, which would centralise all applications and would eventually be in a position to allocate students to different institutions.²¹⁹
- (e) Supporting these initiatives is the "single, integrated National Qualifications Framework", in terms of which all qualifications must be "vocationally classified and standardised" in detail according to "learning outcomes, admission requirements, assessment methods, credits, and access to other qualifications".²²⁰ All qualifications must be "centrally approved", and quality control vested in state-appointed bodies. Even an institution's authority to decide who will teach a particular programme has been indirectly centralised through this mechanism.²²¹ The national qualifications framework constitutes a "serious infringement of the academic freedom of academics and their institutions".²²²

²¹⁸ National plan for higher education 2001 GG 22138.

²¹⁹ Dept of Education "The establishment of a national higher education information and applications service for South Africa" (no date, ISBN 1919917845).

²²⁰ See South African Qualifications Authority Act 58 of 1995.

²²¹ Alston and Malherbe 2009 *JSAL* 120.

²²² Alston and Malherbe 2009 *JSAL* 120.

- (f) In yet another policy document, detailed recommendations were made relating to the "internal structures and organisation of higher education institutions".²²³ In this document, the concept "conditional autonomy" surfaced for the first time to describe the centralised state control being imposed over higher education by all these initiatives.²²⁴ A major step was finally taken when, in a controversial move, the "existing 39 higher education institutions in South Africa were reduced to 22 almost overnight" through mergers and other forms of reconfiguration.²²⁵
- (g) The imposition of Curriculum 2005 and the National Curriculum Statements pose serious problems regarding "external assessment at the end of each phase", grade 3, 6, and 9, and, as explained, "places severe restrictions on educators introducing wider issues or going beyond the curriculum".

The excessive level of state interference in higher education (as described above), along with the trend toward turning universities into for-profit corporations, jeopardises the "right to academic freedom".

Many of these managerial and governmental policies disregard and undermine academic freedom.²²⁶ In actuality, universities are reduced to state-run "qualifications factories" that strictly manage the production of the components that are needed by a top-down system, which are produced on a conveyor belt of prescribed structures, programs, outcomes, and targets rather than pursuing liberal educational and intellectual ideals.²²⁷

²²⁴ Alston and Malherbe 2009 JSAL 120.

²²⁵ A new institutional landscape for higher education May 2002.

²²⁶ Alston and Malherbe 2009 JSAL 120.

²²⁷ Cloete and Maassen *The limits of policy* 484. They concluded that the government "reverted from a state steering model to a state control model": "The institutional merger processes are prescribed and not voluntary, a change in approach to governance that can be described as a "shift from co-operative governance to coerced co-operation".

3.8 Implications of state interference on academic freedom and institutional autonomy

According to Southall and Cobbing, a key feature that defines the post-apartheid university is the increase in managerialism and the shift of power from faculty to administration.²²⁸ Holiday concurs that academics complain that the state has become increasingly domineering, and that there is an ambivalent relationship between the academy and the state, underscored by the impression that the state does not trust the academy to transform itself to meet the demands of a democratic society.²²⁹

Higgins contends that the current government wants more control over higher education institutions, but that we should not trade one political rationale for another. The "well-meaning" nature of the post-apartheid state is a poor justification for giving up on the idea of academic independence, interpreted as institutional autonomy. He further states that by doing this, the university's mission is betrayed. He argues that the university is not an instrument of state policy for delivering on the needs of the economy that are disguised as the "needs of society". It exists as the one social organisation that is dedicated to the absolute pursuit of truth.²³⁰

Jansen relates South Africa to the rest of Africa, noting that as states become more authoritarian, they immediately target universities:

If and when that point arises in the future, on what grounds will the South African university be able to challenge the post-apartheid state?²³¹

Not surprisingly, Jansen's view was challenged by the then Minister of Education, Naledi Pandor, who argues that institutional autonomy cannot be unfettered and must be linked to public accountability. The "inequalities and inefficiencies" of higher education, she says, are due to a disregard for accountability.²³²

²²⁸ Southall and Cobbing 2001 *Social Dynamics* 1-42.

²²⁹ Holiday *Cape Times* 1.

²³⁰ Higgins 2000 *BJLC* 110.

²³¹ Jansen 2004 *UCT News* 10.

²³² Pandor *Sunday Independent* 1.

Habib, Morrow, and Bentley²³³ state that certain institutions merit this criticism, but Pandor appears to imply that everyone is complicit and uncooperative, necessitating intervention to ensure that the academy fulfils its constitutionally mandated job. This exhibits a utilitarian understanding of academic freedom, which is unmistakably at the other extreme of that of Higgins and Jansen.²³⁴ The answer to balancing these opposing positions may lie in a participatory conception of academic freedom between the state and the institution. In du Toit's words:

the challenge is the necessary and ongoing transformation of the institutional culture of the university; this is no external threat to academic freedom; on the contrary, it is needed to secure effective academic freedom itself.²³⁵

This transformation cannot be externally imposed by the state; it should be acknowledged that academic freedom contains an inherent duty to deracialise and decolonise institutions. This is incompatible with a state-defined agenda and instead calls for the academic community to organise itself. By accepting its responsibility to seek out and express the truth, it may assert its independence and fulfil its vital social and educational duties.²³⁶

Habib, Morrow, and Bentley²³⁷ conclude that, since 1994, a "comprehensive, methodical, and far-reaching plan to restructure and transform education has been undertaken". The initiative seeks to eradicate "historical disparities and disadvantages and create an educational system" that caters for all South Africans. More concerning, however, is the fact that the plan is ideologically biased toward the development of a centralised educational system, which gives the state total control over all aspects of education and provides little room for academic independence.

Apart from these legislative interventions, Jansen sparked another debate when he accused the Department of Education (DoE) of undermining academic/scientific

²³³ Habib, Morrow and Bentley 2008 *SD* 140-155.

²³⁴ Habib, Morrow and Bentley 2008 *SD* 140-155.

²³⁵ Du Toit 2000 *LCS* 91-104.

²³⁶ Habib, Morrow and Bentley 2008 *SD* 140-155.

²³⁷ Habib, Morrow and Bentley 2008 *SD* 140-155.

freedom and institutional autonomy by using the competitive funding formulae and increasing publication pressure. Competitive funding is funding that is aimed at putting a greater amount of pressure on academic staff to publish in so-called high profile journals to receive funding from a limited pool of money, whereas publication pressure is the pressure scientists feel to publish in these prescriptive high profile journals extensively and exclusively. This is a serious violation of academic freedom. The UNESCO Recommendations Concerning the Status of Higher Education and Teaching Personnel of 1997 include the "freedom to publish in any journal of one's choice".²³⁸ It states that:

higher education teaching personnel should be free to publish the results of research and scholarship in books, journals and databases of their own choice²³⁹

The South African government, with its current funding model of accredited journals, manages publication behaviour in that it forces academics to publish in these so-called high profile journals. Academics receive no subsidy if they do not publish in these journals. Insufficient funding for universities forces their academic personnel to depend on this income to finance their research activities, to some extent. This effectively means that "staff who publish in non-accredited journals" may not have "sufficient funds available to attend conferences or pursue other academic activities". "This constitutes a serious violation of academic freedom".²⁴⁰

Consequently, the question arises: does the creation of funding acquisition and publication pressures account for the increased occurrence of academic misconduct and plagiarism in higher education institutions, or at the very least questionable research behaviour. Many authors agree that this is the case. Moosa states that malpractices, falsification, fabrication, plagiarism, and duplication of publications have been the result of pressure put on academics.²⁴¹ Errami and Garner also believe that publication pressure is to blame for misconduct, since they uncovered a

²³⁸ Par 12 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997).

²³⁹ Par 12 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997).

²⁴⁰ Beiter 2019 ILR 267.

²⁴¹ Moosa *Publish or Perish* 56.

growing trend of duplicate publications in their study of biomechanical literature (from just below 2 per 1000 in 1975 to just below 10 in 1000 in 2005).²⁴² Kelley and Chang agree that valuing production over study quality leads to plagiarism because the individuals are trying to produce the most publications possible in the least amount of time.²⁴³ Spooner²⁴⁴ states in his article that university professors find themselves under extreme pressures to publish, and meet specific research and funding targets, which leads to questionable ethics. Wanjek confirms misconduct as a longstanding issue, stating that "there has been a 10-fold increase in the percentage of scientific papers retracted because of fraud since 1975".²⁴⁵ Apart from being an internationally recognised tendency, recent studies within South African management journals showed that the cost to government "for funding unoriginal work in these journals, for a specific period in 2011, was calculated at approximate ZAR7 million."²⁴⁶

As far as the criteria for government subsidy are concerned, academics also argue that it creates the tendency to compromise the quality and standard of research, teaching, and supervision.²⁴⁷ Academic staff of publicly funded universities operate in an increasingly competitive environment. This may comprise teaching, research, consultancy skills, or other applications in the form of academic knowledge. Academics claim that their roles as academics have been changing significantly because of higher education policy changes since 1994 - policies permeated by new managerialism and corporatist ideals.²⁴⁸ Thus, various indications prompt the question: could an increase in pressure on academics be contributing to an increase in cases of academic misconduct and plagiarism?

²⁴² Errami and Garner 2008 *Nature* 398.

²⁴³ Kelley and Chang 2007 *JHE* 402.

²⁴⁴ Spooner 2015 <https://ottawacitizen.com/news/national/marc-spooner-publish-or-perish-culture-has-broad-consequences>.

²⁴⁵ Wanjek 2015 <https://www.livescience.com/53228-top-retracted-science-papers-2015.html>.

²⁴⁶ Thomas and de Bruin 2015 *SAJS* 7.

²⁴⁷ GG 38552 Vol 597 2015 para 5.

²⁴⁸ Ntshoe *et al* 2008 *SAJHE* 399.

3.9 Conclusion

Chapter 3 is concerned with incorporating internationally accepted norms in accordance with the rule of law into South Africa's constitutional democracy; the intent is to provide a legislative framework that protects science and researchers against pressures accompanied with undue state influence.²⁴⁹ The "adoption of framework legislation" for the scientific community is suggested because it is undemocratic and against the "rule of law" for the state to regulate science, whether broadly or only at the "executive or administrative level". Article 15(1)(b) and Article 15(3) of the ICESCR and the Venice Statement is commended, as it seeks to find the right balance between the state's duty to protect science, university autonomy, academic freedom, and freedom of scientific research. The legal obligation to include international law when interpreting or promulgating new laws is explored. It is clear that a balance must be struck between the state's duty to protect science and academic freedom. This will ensure a framework adequate for science.

Apart from the relationship between the state and these internationally accepted norms, some challenges (prior and prospective) to academic/scientific freedom were explored. Some current threats to the South African higher education institution was also highlighted. The rationale was to illustrate that the state's excessive management of science leads to breaches of academic/scientific freedom.

The Higher Education Act of 1997, and particularly its series of subsequent amendments from 1997 onwards, substantially extended the authority of the state while diminishing the autonomy of higher education institutions.²⁵⁰ Academics argue that the current funding model also creates the tendency to compromise the quality and standard of research, teaching, and supervision.

It is thus imperative that a developmental legal framework is designed and implemented, which includes internationally accepted legal norms in conjunction

²⁴⁹ Alston and Quinn 1984 *HRQ* 166.

²⁵⁰ Alston and Malherbe 2009 *JSAL* 105.

with current constitutional safeguards, which would act as protection against undue influences that undermine academic/scientific freedom. The concluding chapter will suggest the prevailing elements that ought to be included in such legislative framework to protect academic/scientific freedom. The court should accordingly be a competence actor and final guardian in determining what is "adequate for science".

Chapter 4 The business analogy and the leading contributory factors for misconduct among academics, students, and staff

4.1 Introduction

The fourth chapter is concerned with identifying the leading contributing factors, as well as the extent to which they contribute to the different forms of academic misconduct and plagiarism among students and staff. It could be argued that corporatism has become the guiding principle in decision-making processes in science.²⁵¹

The "business analogy" refers mainly to three distinct ideologies, which include corporatism, globalism, and managerialism.²⁵² States have formulated different mechanisms in line with this analogy to steer science, with the ultimate goal of economic growth in a relevant country.²⁵³ These mechanisms include: First, deliberately awarding insufficient funding; second, competitive funding formulae; third, incentivising funding from various sources through competition; fourth, setting up a line management hierarchy in science; and fifth, cultivating an audit culture (performance management). The use of these mechanisms lead to numerous breaches in academic freedom and institutional autonomy.

It is important to acknowledge that misconduct among students and academics can also be attributed to other factors. These secondary factors can contribute to misconduct to a greater or lesser degree. Secondary factors will include, but are not limited to, first, socio-economic factors, such as career advancement and lack of job security. Second, there may be a lack of education and training, which includes apprehension about writing in proper English (even for native speakers) and an

²⁵¹ Beiter 2019 *ILR* 262.

²⁵² An ideology is a set of opinions or beliefs of a group or an individual. Very often ideology refers to a set of political beliefs or a set of ideas that characterise a particular culture or system. Corporatism, globalism and managerialism can also resort under the broader term neoliberalism, but for purposes of this chapter corporatism, globalism and managerialism will resort under the umbrella term business analogy.

²⁵³ Beiter 2019 *ILR* 289. The latter article makes some "suggestions as to when a science system can be considered adequate for science in the light of scientific and academic freedom".

inability to express complex ideas in one's own words. It can also be argued that plagiarism is not always intentional, but that it can be accidental, resulting from careless writing or a large-scale reliance on only a few sources. It could also result from a lack of understanding of what constitutes plagiarism, as well as a failure on the part of the university to improve mentoring and encourage transparent communication among researchers. Third, increased instances of misconduct could be due to an absence of research integrity policies. Fourth, "consumerism"; a customer orientated perspective of science. Last, the university as a "fractured institution". Thus, proper attention will be given to all possible factors that can contribute to academic misconduct and plagiarism.²⁵⁴

Ultimately, it will be argued that the business analogy in science seems to be the prime reason for increased misconduct in academia. All other factors that have crystallised over time, and that different scholars have identified as contributors to misconduct, have either been a direct result of the business analogy or have derived from it to some extent. The analysis will show that many of these factors are subsidiary in nature and are related to the main cause, the business analogy.

4.2 The business analogy.

The term business analogy is derived from the writings of Stefan Collini. He states:

But one of the main sources of confusion these days is the misleading analogy between a university and a commercial company. We have become so used to this analogy that we hardly notice it anymore, nor do we much notice how many of the terms used in speaking about higher education are in fact transplants from the commercial world. But in fact, we are constantly asked to 'measure our productivity', to demonstrate the 'value added' by our teaching, to clarify the 'line-management structure' of our administration, to quantify our 'public output', to accelerate our 'student throughput', to increase our 'brand recognition', and much more in the same vein.²⁵⁵

He further highlights that universities are increasingly required to "operate with a commercial notion of 'efficiency' which is associated with increased output at

²⁵⁴ Smyth *The Toxic University: Zombie Leadership, Academic Rockstars and Neoliberal Ideology* 115.

²⁵⁵ Collini *What are Universities For?* 84.

reduced cost".²⁵⁶ Ntshoe et al. prefer the term "business values or ethos" to analogy. They state:

Corporatism in the context of this article refers to the increasing tendency in higher education to emulate the values and ethics of the corporate world because of the changing economic conditions of the twenty-first century.²⁵⁷

Beiter explains that, because of the increased pressure these ideologies place on academics, they are becoming increasingly outspoken in questioning these ideologies, as opposed to "keeping quiet" and complying with what is termed "a dispossessive model of the university and of science".²⁵⁸ The Manifesto: "Reclaiming Our University", a document prepared by staff and students" at the University of Aberdeen, Scotland states:

We stand at a pivotal moment in the long history of our university, a fork in the path that offers two ways forward. One is to follow the business model of higher education to its logical conclusion, in a competition for students, research funding and ratings that values constant change as an end in itself. The other is to rediscover the civic purpose of the university as a necessary component of the constitution of a democratic society, with the responsibility for educating its citizens and furnishing them with the wisdom and understanding that will enable them to fashion a world fit for future generations to live in.²⁵⁹

Beiter²⁶⁰ agrees that we are at a precipice, clearly witnessing "a paradigm shift, involving "across-the-board abandonment of a thousand-year-old notion of the university" He reveals his disappointment by stating that the "modern university solely serves economic growth as an end in itself". He feels that "universities have never before forfeited criticality as absolutely as they do today".

4.2.1 Corporatism imposed as a purely economic rationale

Ntshoe et al. infer that corporatism is the increased tendency in higher education to emulate the values and ethics of the corporate world because of the shifting

²⁵⁶ Collini What are Universities For? 84.

²⁵⁷ Ntshoe *et al* 2008 *SAJHE* 393.

²⁵⁸ Beiter 2019 *ILR* 264. "University management has also been entirely complicit in the erosion of the ethos of academic science".

²⁵⁹ Para 2 of the Manifesto: Reclaiming Our University (2006).

²⁶⁰ Beiter 2019 *ILR* 279.

economic conditions of the twenty-first century.²⁶¹ Beiter maintains that corporatism in science imposes a "purely economic rationale on science through means drawn from the business world, in the form of multiple incentives, hierarchical governance, and quality audits".²⁶²

Academic freedom has been jeopardised in the last two decades because of the business analogy in science. A study in 2016 that reviewed the "legal protection of academic freedom in 28 European countries", found appalling results and that it had also been deteriorating over the last two decades.²⁶³ According to this study, academic freedom has become somewhat of an "empty phrase". Binswanger is of the view that universities today are fundraising institutions, on the one hand, who are willing to receive as many research funds as possible; on the other hand, they are publication factories that are trying to maximize their publication output. He explains that the ideal professor will be a mixture of a fundraiser, a project manager, and a mass publisher, whose main concern is a measurable contribution to "scientific excellence," rather than increasing public knowledge. He feels that in order to make professors deliver results, faculty managers have been recruited for each department in addition to [or instead of] traditional deans. This leads to managers making decisions about academic matters, which will inevitably lead to frustration.²⁶⁴

The Manifesto: Reclaiming Our University, makes a bold statement when it states:

In our university, however, research will be driven neither by market demand nor by the expectation of novelty. It will be driven rather by curiosity – by the burning desire to find things out. We are curious because we care deeply about the things we study. Care, not impact, is the hallmark of the ethically responsible search for truth. And in our university, care and curiosity will be recognised as two sides of the same coin.²⁶⁵

UNESCO Recommendation Concerning the Status of Higher-Education Teaching Personnel, 1997, does not specifically deal with the threat of corporatism, yet it

²⁶¹ Ntshoe *et al* 2008 *SAJHE* 393.

²⁶² Beiter 2019 *ILR* 263.

²⁶³ Beiter, Karran and Appiagyei-Atua 2016 *VJTL* 597.

²⁶⁴ Binswanger "Excellence by Nonsense: The Competition for Publications in Modern Science" 49-72.

²⁶⁵ Par 19 of the Manifesto: Reclaiming Our University (2006).

does provide protection in the form of opposing rights, such as "institutional autonomy, academic freedom, self-governance, as well as collegiality and tenure". Nonetheless Beiter states that "the idea of the university being a business" that produces for the populace has for the moment "colonised the minds of policy makers in higher education and science". This has led to a full-scale attack on science.²⁶⁶

4.2.2 Globalisation

Given the end of the Cold War, globalisation, the opening of markets on a global scale, and rising competition, national economies seem to operate on the assumption that they will only survive if policies promoting research, innovation, and technology are given more weight.²⁶⁷ These neoliberal instruments are likely to influence the education sector increasingly for the foreseeable future.²⁶⁸ According to some, the notable changes include increased student enrolment (driven by an increasing demand for higher education and the expansion of the sector), increasing entrepreneurship and quasi-marketisation activities, changes in funding and accountability, a greater emphasis on performance-related incentives, and an emphasis on efficiency and cost cutting.²⁶⁹

In their formative work, Slaughter and Leslie describe globalisation as:

a set of political and economic changes that are putting pressure on national higher education policy makers to change the way tertiary education does business.²⁷⁰

Clark and Bruno argue that the "forces of globalisation and the increasing influence of markets" have encouraged public institutions to look for entrepreneurial sources of revenue.²⁷¹ As a result, institutions of higher learning have adopted market-like behaviours and quasi-marketisation strategies to secure additional funding in the face of dwindling state funding and fierce competition. Ntshoe et al. fatefully state

²⁶⁶ Beiter 2019 *ILR* 265.

²⁶⁷ Altbach 2004 *TEM* 3.

²⁶⁸ Ntshoe et al 2008 *SAJHE* 392.

²⁶⁹ Beiter 2019 *ILR* 280.

²⁷⁰ Slaughter and Leslie Academic capitalism: Politics, policies and the entrepreneurial university 29.

²⁷¹ Clark and Bruno 2000 *CJHE* 172.

that the neoliberal economic revolution demands that universities be run on business principles and that academics should be entrepreneurs, and that this has resulted in an adverse effect on job satisfaction among academics.²⁷²

Altbach has suggested that globalisation has led to the "McDonaldization" of universities.²⁷³ Beckmann and Cooper concur that, in terms of this neoliberal globalisation theory, nation states need to liberalise all areas of welfare in the interests of global capitalism and open up essential services, like education and health, to market liberalism.²⁷⁴ Deem, Mok, and Lucas point out that the quest for best practices and more advanced systems leads to "policy copying", a phenomenon which has resulted in non-Western higher education systems being strongly influenced by the Anglo-American standards and ideologies in this sphere.²⁷⁵ Moosa agrees that neoliberal thinking dictates that whatever is done in America "is right" for the rest of the world.²⁷⁶

Globalisation rests on neoliberal discourses, which consider the role of the state in the economy, cutbacks in state expenditure, deregulation, and liberalisation. Colpaert outlines major changes that have transformed the academic landscape, including the impact of neoliberal ideologies on the evaluation of academic quality. This ideology has led to a policy whereby universities are held accountable for the scholarly output they produce, as measured by the numbers of publications and citations.²⁷⁷

Altbach describes the changing environment in universities as follows:

Universities worldwide are becoming marketized, privatized, differentiated, and otherwise changed to meet the demands of an academic environment that stresses accountability and mass access. Higher education is increasingly seen as a 'private good' – a commodity that should be subject to the logic of the market. These changes have had a profoundly negative impact on the academic profession – the heart of any academic enterprise. Working conditions and career paths for the academic profession are deteriorating. The spread of POP is like the spread of

²⁷² Ntshoe *et al* 2008 *SAJHE* 394.

²⁷³ Altbach 2004 *TEM* 3.

²⁷⁴ Beckmann and Cooper 2004 *JCEPS* 1-27.

²⁷⁵ Deem, Mok and Lucas 2008 *HEP* 83-97.

²⁷⁶ Moosa *Publish or Perish* 13.

²⁷⁷ Colpaert 2012 *CALL* 383-391.

McDonald's (and the junk-food industry in general), which came with globalisation.²⁷⁸

4.2.3 *Managerialism*

According to West, the "managerial university" has three identifiable features. First, it has a firm belief that "university academics are generally out for themselves", and that this selfish belief is something that should be used to entice and control them, most notably through a mixture of incentives and rewards.²⁷⁹

Secondly, the way to accomplish this is to measure what they do by using a variety of "metrics", and to present the results of such measurement as if they were self-evident indicators of "quality", "excellence", and "impact"—terms that are sufficiently vague as to be meaningless.²⁸⁰ In constructing individual hierarchies of reputational status, West argues that:

The essential tool of the new managerialism is thus the spreadsheet, whereby qualitative complexities, varieties of insight and originality and disciplinary differences can be reduced to a table of figures.²⁸¹

He notes that managers are attracted to "computable data, where judgements can be dispensed with altogether", and managers "no longer feel the need to read and try to understand the work of those they assess". The third feature West stipulates is:

how the managerial university focusses on outputs and metrics, which leads to the increasing reliance on image and reputation. The direct, inevitable, and extremely disturbing effect of this gross distortion and subversion of academic purpose is the increasing obsession with image over substance. That is to say, what ensues is an ungainly scramble to try and secure and maintain market share— of students, research grants, and reputational status itself—as established universities trade heavily on their long-held reputations, while newer universities starting from a much lower base, try to cut corners in fast-tracking themselves reputationally by making an impression through clever marketing and branding strategies rather than through substantive achievements.²⁸²

²⁷⁸ Altbach 2004 *TEM* 3.

²⁷⁹ West 2016 <http://demosjournal.com/article/the-managerial-university-a-failed-experiment>.

²⁸⁰ West 2016 <http://demosjournal.com/article/the-managerial-university-a-failed-experiment>.

²⁸¹ West 2016 <http://demosjournal.com/article/the-managerial-university-a-failed-experiment>.

²⁸² West 2016 <http://demosjournal.com/article/the-managerial-university-a-failed-experiment>.

4.3 *Intended consequences of a business analogy in science*

Behavioural changes in academics can be attributed to the aforementioned business analogy, i.e. the corporate ethos being applied to science. Moosa contends that the "Publish or Perish" (POP) phenomenon (a phrase that describes the pressure put on academics to publish rapidly and continually in scholarly journals as a condition for finding employment, promotion, and even maintaining their job) is to blame for the rising tendency to indulge in research related misconduct of various forms; at the very least, it leads to questionable ethics.²⁸³ This is also prevalent in the South African context; authorities should reassess the way in which they subsidise research.²⁸⁴ The current funding formulae have led to serious violations of academic freedom, not only by universities but also the state. This is evident in the way they have prescribed to academics where and when they must publish their research findings. As previously indicated, this is in direct violation of international legal norms that include the "right to publish, which covers the choice of medium".²⁸⁵ Hoole states:

It is crucial that the Department of Higher Education and Training (DHET) relook at its policies related to higher education and how it should be funded. It is a much broader than offering monetary rewards for research outputs. The very essence of government's role in higher education must be questioned, as well as the changing role of universities and how they must be supported.²⁸⁶

Thus, the most common ideologies contained within the term "business analogy" include corporatism, globalism, and managerialism. These analogies lead to the state deliberately steering science in various ways, such as providing insufficient funding, applying competitive funding formulae, incentivising funding from various sources through competition, setting up a line management hierarchy in science, and cultivating an audit culture (performance management). These identifiable steering mechanisms will be addressed in the following section.

²⁸³ Moosa *Publish or Perish* 1.

²⁸⁴ Farber 2019 <https://www.timeslive.co.za>.

²⁸⁵ Par 12 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel Document (1997).

²⁸⁶ Hoole 2019 *SAJIP* 4.

4.3.1 Insufficient funding by the state

Insufficient funding by the state is a direct result of the business analogy being applied to science. Beiter states that there are currently "only two forms of justification for state funding": first, "manpower planning"; and second, "narrowly defined benefits of research, particularly medical, technological, and economic benefits".²⁸⁷

Paragraph 16(a) includes funding obligations under the "duty to fulfil". This confirms that funds ought to be made available to fully realise these rights. A common view among university managers is "that if one were to give academics freedom, it would only lead to unrestrained chaos". Thus the advent of the "authoritarian or disciplinary university is not coincidental, but clearly intentional".²⁸⁸

If academics were allowed to regulate themselves freely, they would often opt for research that is not useful and does not in some way contribute to economic growth. The funding rationale, with regard to university research topics, is contentious and has only two available options: one, management determines what is relevant, as academic freedom would grant "academics a right to do what is irrelevant" and, according to this rationale, relevance should not be determined by academics "themselves, but by the state and university management"; two, "academic freedom does not include a right to do what is irrelevant"; however, this second rationale does imply the "right of academia to define relevance, as opposed to government or university management".²⁸⁹ The problem is thus contained in that the state, in line with the corporatist ideology, interprets relevant research as something that is economically viable and useful. This could lead to a scenario where the principles of a free market become dominant in the field of science, potentially resulting in a form of authoritarian rule.

²⁸⁷ Beiter 2019 *ILR* 244.

²⁸⁸ Beiter 2019 *ILR* 263.

²⁸⁹ Beiter 2019 *ILR* 263.

It is the "obligation of the state" to fulfil its role in facilitating and promoting the free exercise of science, in line with the UNESCO Recommendation.²⁹⁰ Where the state establishes universities, it must also provide them with proper funding. Beiter suggest that for a "proper balance to be struck, block funding must be increased substantially, and competitive funding decreased".²⁹¹

Beiter²⁹² states that "neoliberal instruments of responsabilisation in higher education and science" amount to "financial (and managerial) attacks on higher education and science."²⁹³ This is not "adequate for science". The sector is deliberately being underfunded by states, there is an "excessive focus on competitive funding", and institutions have a "financial dependence on contract research for the government or industries". Additionally, "top-down forms of governance" in higher education institutions are installed, as well as an audit culture.²⁹⁴

4.3.2 The competitive funding formulae

The term competitive funding refers to funding that is aimed at putting greater pressure on academic staff to publish, notably in so-called high profile journals, as a condition for receiving funding from a limited pool of money, whereas publication pressure is the pressure scientist feel to publish, especially relating to high profile journals.

In the last three to four decades, there has been a tendency in many countries to make access to public funds increasingly competitive. It is therefore not surprising that there are contradictory opinions on funding policies.

The term performance-based funding is being used increasingly often in discussions on university funding policies in the national arena, as well as in Europe. Performance-based funding is also often perceived as competitive funding, due to the fact that it is used to allocate a fixed amount of money to different institutions

²⁹⁰ Par 16(a) of the *Venice Statement* (2009).

²⁹¹ Beiter 2019 *ILR* 260.

²⁹² Beiter 2019 *ILR* 262.

²⁹³ Beiter 2019 *ILR* 289.

²⁹⁴ Beiter 2019 *ILR* 262.

based on their relative performance. Performance or development contracts is also associated with performance-based funding, as are target agreements, whereby certain goals are agreed upon between the funder and the university. However, these do not always have a direct impact on funding. From both a "human rights and economic perspective, pure science should be subsidised at high levels". The importance on "competitive funding should be reduced".²⁹⁵

Boden and Epstein state that if "the research imagination is managed" (and thus curtailed), the research goal is narrowed down at the outset.²⁹⁶ Academics need time for reflection due to the inherent nature of scientific research. In line with this thinking, Hurley posits the ideal way to promote creativity. He identifies several essential factors for scientific or academic institutions and the discovery of new knowledge. These include the researcher's scientific knowledge and skills, their personal characteristics, the availability of adequate organizational resources, and favourable organisational dynamics. The latter encompasses factors such as autonomy of scientists, a positive organisational culture, a lack of hierarchical structures, trust, and a reduced emphasis on evaluation.²⁹⁷

Beiter²⁹⁸ is of the opinion that competitive funding should be reduced and that "pure science should be subsidised at high levels". Incentivised funding may actually entail a waste of public resources. To mention a case in point: In a domestic context, recent studies in South African management journals show that the cost to government for funding unoriginal work published in South African management journals, for the specific period of 2011, was calculated at approximately ZAR7 million.²⁹⁹ As academics serves as "role models to students", these findings raise

²⁹⁵ Beiter 2019 *ILR* 289.

²⁹⁶ Boden and Epstein 2006 *GSE* 223.

²⁹⁷ Hurley Organisation and scientific discovery 82.

²⁹⁸ Beiter 2019 *ILR* 289.

²⁹⁹ Period under review: "371 peer-reviewed articles that were published in 2011 in 19 South African management journals (spanning the major fields of management) through the Turnitin software program to identify similarities between the articles and other published material, i.e., to identify plagiarism."

concerns for "the reputations of the institutions to which the authors are affiliated", as well as for the journals that publish articles containing plagiarized material.³⁰⁰

4.3.3 Incentivising funding from various sources through competition

According to Muller, within the landscape of South African higher education, a shift towards incentivising research outputs as part of the government's funding model is one of the few available opportunities that universities must use to supplement their income.³⁰¹ The reason for this is that the government adopted a neoliberal ideology that drastically curbs social spending, such as the funding of public education. This practice has often been criticised by academics.

The pressure to "publish or perish" is a direct result of this strategy. The pressure to publish is *de facto* a worldwide pandemic, and many authors have warned of its perils.³⁰² Beiter³⁰³ is of the opinion that "financial and moral over-incentivisation in the science sector should be terminated". Binswanger is critical of the tendency as well, saying that, in general, "competition in science for publications, citations, and third-party projects" have contributed to the rise in "more and more nonsense", referring to publications and projects.³⁰⁴

Nedeva and Boden state that universities must learn to "play the game well" because of these additional pressures. The operative phrase here is "playing the game" and academics are incentivised to employ its close relative "gaming the system", i.e. doing what it takes, or what works. They state that this is a very slippery slope. University management relays these "external pressures" to

³⁰⁰ Thomas and de Bruin 2015 *SJS* 17.

³⁰¹ Muller Mail and Guardian 40.

³⁰² "Publish or Perish" is a phrase employed by, for example, Moosa in describing the pressures put on academics to publish in scholarly journals rapidly and continually as a condition for employment, promotion, and even maintaining their job. In the Oxford Dictionary of Phrase and Fable, "publish or perish" is used to refer to an attitude or practice existing within academic institutions, whereby researchers are put under pressure to produce journal publications in order to retain their positions or to be deemed successful. The POP issue is primarily relevant to those working in academic institutions.

³⁰³ Beiter 2019 *ILR* 290.

³⁰⁴ Binswanger "Excellence by Nonsense: The Competition for Publications in Modern Science" 49-72.

individual academics and departments; on occasion, management usurps even modest attempts from lower down in the hierarchy by steering from the top - often on a non-consultative basis and by being woefully ill-informed about current situations in scholarly disciplines or epistemic communities of scholars.³⁰⁵

4.3.4 Line management hierarchy in science

There appears to be an inherent mistrust between the state and academics; this is inherent and mirrored in the way in which management attempts to control and manage researchers and their circumstances. Beiter states that this is echoed in a number of ways, most notably "the research content, the research process, and the research purposes".³⁰⁶

Van Niekerk states that the separation between different subsectors within the university sector gives rise to hierarchies within the university. A good example of this is the division between academics, and the management and support staff, which gave rise to managerialism i.e. a culture of "us" vs. "them". As such, the recruitment of university leaders is often based more on business acumen and less on expertise in education or commitment to lifelong learning.³⁰⁷

Van Niekerk states further that managing people is not a mechanical process, yet executive managers are regularly appointed under the assumption that they do not necessarily need an understanding of the institution or the field per se. Van Niekerk notes that this frequently results in a variety of issues, including the leader's lack of experience with the particular situation or the history of the organisation, not having a sufficient understanding of the needs and aspirations of academic staff, nor the unique conventions, laws, and organisational culture of the institution. These elements frequently lead to a period of inaction, or "re-inventing the wheel", until the workforce has eventually grown to trust the new management and have caught up with the unwritten rules.³⁰⁸

³⁰⁵ Nedeva and Boden *Prometheus* 278.

³⁰⁶ Beiter 2019 *ILR* 265.

³⁰⁷ van Niekerk 2016 *AA* 38.

³⁰⁸ van Niekerk 2016 *AA* 27-47.

Smyth concludes that:

the long and short of it is that university managers are ill-equipped to judge quality research—they rely solely on what are often deeply flawed metrics, their purview is constrained, their grasp of scholarship is too out of touch, and besides, they are frequently blinded by the glittering goal of their own enhanced status or that of their institution.³⁰⁹

Wolhuter qualifies this, stating that research management negatively impacts the "motivation of staff". He states that within the "corporate university, academic staff motivation has significantly declined in the past 20 years". A study conducted in South Africa on academic staff motivation identifies the "organisational culture of managerialism and performativity", along with the demanding tasks assigned to universities, such as "promoting economic productivity", as key factors contributing to this burden. The top-down management style and heavy workload assigned to academics, which involve "spending a substantial amount of time on administrative tasks", exacerbate this situation.³¹⁰

According to Boden and Epstein, when universities focus on research management to improve their output and generate useful outcomes, it has a dual impact of significantly limiting critical thinking. This constriction has two manifestations:

First, there is the limitation of the institutions themselves and their recasting of themselves as producers only of 'useful' knowledge. There is a structural adjustment (with all of its development economics connotations) here that renders institutions virtually incapable of facilitating critical research. Second, there is the accelerating transformation of academic labour into anatomised, post-Fordist research proletariat that is, for the most part, constitutionally incapable of critical imagination.³¹¹

They further state that under the "current framework of evaluation, the meaning of research has been corrupted beyond recognition". It has become a game, in which universities and their academic personnel are players.³¹²

³⁰⁹ Smyth 2017 *The Toxic University: Zombie Leadership, Academic Rockstars and Neoliberal Ideology* 110.

³¹⁰ Wolhuter "Job satisfaction around the world" 209-222.

³¹¹ Boden and Epstein 2006 *GSE* 223.

³¹² Boden and Epstein 2006 *GSE* 234.

4.3.5 Cultivation of an audit culture (research performance management)

Cultivating an audit culture entails regularly "measuring the performance of staff and institutions by counting output". Performance appraisals are commonly used to evaluate and document how well an employee is carrying out his or her duties. Within neo-liberal thinking, university performance management forms part of a company's performance management system. Performance appraisals are based on the employee's progress against goals set by their line manager once a year.

However, Collini argues that valuable scholarly work cannot always be measured or quantified by university administrators. Instead, it should be evaluated by the broader scientific community over the long term.³¹³ "Performance appraisals" are part of a system that "attempts to enhance scholarly output through reward, (either financial or moral)", and "punishment (refusal of funding, non-promotion, or dismissal)".³¹⁴

A recent phenomenon is that "researchers can become "rock star" academic researchers"; Smyth defines them as researchers in universities who outwardly do all the right things in terms of procuring research grants, publishing research prolifically, being skilful at securing industry partnerships, attracting large numbers of bright young research students, bringing considerable prestige to the university in the process, and elevating its status in international league tables.³¹⁵ He problematises what is happening to university researchers, as well as the culture of research in universities.³¹⁶ He emphasises:

For more than three decades, universities around the world have been assailed and assaulted by the tenets of neoliberalism—marketization, managerialism, audit

³¹³ Collini What are Universities For? 86.

³¹⁴ Beiter 2019 *ILR* 284.

³¹⁵ Smyth 2017 *The Toxic University: Zombie Leadership, Academic Rockstars and Neoliberal Ideology* 99.

³¹⁶ Smyth 2017 *The Toxic University: Zombie Leadership, Academic Rockstars and Neoliberal Ideology* 56.

accountability, entrepreneurialism, competitive individualism, rating and ranking performance, and internationalization.³¹⁷

Yet, in many instances, universities have been complicit and have embraced many of these ideals.

However, Collini remains defiant, stating that "no performance appraisal can measure intellectual quality in research".³¹⁸ Some academics feel that staff performance appraisals should rather take the form of a "constructive dialogue between the university or research institution and the staff member" to discuss how the university/institute "may better facilitate the scientist's work".³¹⁹

4.4 Secondary factors leading to misconduct

This study has accordingly identified the leading factors that contribute to misconduct under the umbrella term 'business analogy', which includes neo-liberal ideologies such as the corporatisation of universities, managerialism, and globalisation. The study has also identified the mechanisms used to steer science deliberately through economic growth in a country; these mechanisms often result in greater pressure to publish. In the previous chapter different authors' opinions were highlighted, providing credible evidence that pressure to publish is a leading factor that contributes to misconduct. Moosa states that the pressure placed on academics have resulted in malpractice, falsification, fabrication, plagiarism, and duplication of publications.³²⁰ In their study on biomechanical literature, Errami and Garner provide additional proof that publication pressure is often to blame for misconduct.³²¹ Kelley and Chang agree that prioritising production over study quality leads to plagiarism.³²² Spooner³²³ states that university professors find themselves under extreme pressures to publish, as well as meet specific research and funding

³¹⁷ Smyth 2017 *The Toxic University: Zombie Leadership, Academic Rockstars and Neoliberal Ideology* 56.

³¹⁸ Collini *What are Universities For?* 22.

³¹⁹ Beiter 2019 *ILR* 290.

³²⁰ Moosa *Publish or Perish* 56.

³²¹ Errami and Garner 2008 *Nature* 398.

³²² Kelley and Chang 2007 *JHE* 402.

³²³ Spooner 2015 <https://ottawacitizen.com/news/national/marc-spooner-publish-or-perish-culture-has-broad-consequences>.

targets, which leads to questionable ethics. In South Africa, pressure to publish has contributed to the DHET funding plagiarised work in South African management journals.³²⁴ The government subsidy system also places academics under pressure, creating the tendency to compromise the quality and standard of research, teaching, and supervision.³²⁵ As stated before, academic staff of publicly funded universities are forced to function within an increasingly competitive environment. This does, and will in the future, compromise research integrity and lead to a higher incidence of misconduct among students and staff. Moosa concurs with these identifiable main and secondary factors.³²⁶ While pressure to publish is certainly not the only reason for misconduct, there is clear evidence that it is the most significant.³²⁷

Accordingly, the following section will discuss the secondary factors behind misconduct which are arguably related to hyper-incentives stemming from the business analogy; these secondary factors are also intrinsically linked to the business analogy. The rationale is that unwelcome effects should be anticipated when universities are forced to embrace relationships between themselves and the business sector. Moosa maintains that when people are put under pressure, it is human nature to use all “necessary means” to respond.³²⁸ Thus, these secondary factors have various manifestations, but originate from excessive pressure exerted by the business analogy on university personnel. These factors can be identified, first, as socio-economic factors, which include career advancement and the absence of job security; second, some authors feel that there may be a lack of education and training, which includes apprehension about writing in proper English (even for native speakers) or an inability to translate intricate ideas into one’s own words. It can also be argued that plagiarism is not always intentional, but that it can occur accidentally, as a result of careless writing, a heavy reliance on relatively few sources, or a lack of understanding what constitutes plagiarism. It may also be the result of failure on the part of the university to improve mentoring and encourage

³²⁴ Thomas and de Bruin 2015 *SAJS* 7.

³²⁵ GG 38552 Vol 597 2015 para 5.

³²⁶ Moosa *Publish or Perish* 62.

³²⁷ Moosa *Publish or Perish* 75.

³²⁸ Moosa *Publish or Perish* 75.

transparent communication among researchers. Third, there may be an absence of research integrity policies. Fourth, consumerism may be a factor. And last, the university as a “fractured institution” may also be a contributing factor.

Though the factors that contribute to misconduct among academics and students should be considered universal, there are significant differences between the secondary factors that cause misconduct within different jurisdictions. For instance, the socio-economic climate in South Africa may play a much greater role in misconduct than elsewhere, due to the challenges (both past and present) to academic freedom and institutional autonomy within the South African legal framework and higher education institutions.³²⁹

4.4.1 Socio-economic factors

Many students in developing countries enter university without the requisite “cultural capital”. They are first-generation university attendees from poor socio-economic backgrounds and English is not their first language. Thus, socio-economic circumstances can contribute immensely to the lack of awareness that students have towards research integrity, ethics, academic misconduct, and plagiarism. Thus, these socio-economic factors can contribute to academic misconduct; this has crystallised in various forms since the increase in the POP phenomenon. The desire for excellence, recognition and/or career advancement, a promotion leading to greater financial stability (the promise of escaping poverty) results in unhealthy competition. Some students and academics have families that rely on them for income and contributes to the increasing pressure to excel. Another contributing factor among young academics is an unhealthy desire for recognition; thus, this results in a prevalence of predatory journals and the rise in misconduct and plagiarism. Some academics are forced to function in precarious working conditions, as there is a growing trend among higher education institutions to “casualise” academic work. This creates an unstable work environment for staff in academia, *inter alia*, working conditions that include fixed-term and temporary contracts. In a

³²⁹ Moodie 1994 *HE* 1-40.

study done in the higher education sector in South Africa, one participant noted with concern:

The general trend in most institutions is that instead of acquiring services of full-time and qualified academics, there is a widespread tendency to make use of temporary and/or part-time staff as a strategy of saving costs.³³⁰

Employees are appointed on a temporary basis; these temporary contracts get extended indefinitely, without the prospect of permanent employment.³³¹ This is in direct conflict with the intention of the legislature to provide secure employment; it exploits temporary employees, keeping them in a state of limbo without certainty or job security.³³² Thus, universities create a reasonable expectation of future employment in terms of Section 186 (1)(b) of the Labour Relations Act, yet temporary employees never obtain permanent appointments, and are eventually forced to abandon the institution in search of secure employment.³³³

Beiter Karran and Appiagyei-Atua confirm this sentiment, stating that the law that regulates the "conditions of employment of academic staff" in higher education is increasingly directed by concepts of "flexibilisation". This legitimises the "termination of fixed-term service contracts (without long-term prospects)", even at "post-entry level positions", and ensures that "service contracts can be terminated on operational grounds without restraint".³³⁴

As was discovered, socio-economic factors already exert pressures on aspiring academics, whether they come from a poor background or are forced to function in an unstable work environment; if these elements are combined with the exceeding

³³⁰ Ntshoe *et al* 2008 *SAJHE* 398.

³³¹ Source protected for reason of confidentiality.

³³² Labour Relations Act 66 of 1995.

³³³ Employee details are protected for reasons of confidentiality. This specific employee was employed at a well-known South African University since February 2018 on a temporary contract with no prospect of being permanently employed. When questions are asked, the temporary contract merely does not get renewed. This of course breaches academic freedom.

³³⁴ Beiter, Karran and Appiagyei-Atua 2016 *VJTL* 256.

pressures exerted by the business analogy, the conditions create fertile ground for misconduct to thrive.

4.4.2 Education and training

Another possible contributing factor to misconduct and plagiarism may be a lack of proper education and training regarding misconduct and what constitutes plagiarism. Tayyaba confirms this assessment, claiming that raising general awareness is an important step to combat misconduct. He argues that higher education authorities and institutions should make concerted efforts to ensure that students and staff of all levels of the institution, as well as the relevant stakeholders, are aware of the concept of plagiarism and originality of work.³³⁵

Eldin and Ela provide a possible solution, stating that libraries within higher education institutions could organise training and education programmes to increase academics' knowledge as soon as they are appointed.³³⁶ Training on plagiarism detection software should also be provided. These sessions should inform research scholars of the personal, professional, and ethical repercussions of plagiarism.³³⁷ They suggest a well-written guide on the library website that provides a clear definition of plagiarism and the institution's policy on plagiarism and academic misconduct; it should also elaborate on what is and is not plagiarism at the hand of examples.³³⁸ Fanelli, Costas, and Larivière conclude in their summary:

Efforts to reduce and prevent misconduct, therefore, might be most effective if focused on improving mentoring and training, and encouraging transparent communication amongst researchers.³³⁹

Clearly, a lack of awareness and training on the seriousness of plagiarism and originality of work can account for some misconduct among students and staff; however, this alone cannot account for the steady increase. However, if you add into the mix the exceeding pressures and lack of time for proper education and

³³⁵ Tayyaba 2013 *2013 DE* 1-17.

³³⁶ Eldin and Ela 2017 *JNEP* 7(1).

³³⁷ Eldin and Ela 2017 *JNEP* 7(1).

³³⁸ Eldin and Ela 2017 *JNEP* 7(1).

³³⁹ Fanelli Costas and Larivière 2015 *PLoS one* e027556.

training (which is the result of the business analogy) a serious contributing factor is unveiled.

4.4.3 Absence of research integrity policies

Fanelli, Costas, and Larivière, among other researchers, identify a lack of research integrity policies as a possible contributing factor to misconduct among academics.³⁴⁰ Responsible conduct of researchers and research integrity has become a key concern in research policy, resulting in a number of soft law documents, such as codes of conduct at national and supranational levels. The Singapore Statement on Research Integrity is one example; it stipulates the basic principles and responsibilities that should be common to all good research.³⁴¹ Rather than being a policy document, the intent of the Singapore Statement is to provide ethical guidance for research organisations, governments, and scientists for developing policies, regulations, and codes of conduct.³⁴²

Tayyaba emphasises the importance of anti-plagiarism policies, noting that higher education authorities should make reforms to include anti-plagiarism policies as part of their agenda in different forums. He is of the opinion that teachers and students alike are as yet unaware of anti-plagiarism software such as Turnitin. Hence, seminars and conferences should be held at universities with the participation of students, teachers, research supervisors, and even parents to ensure that the concept is shared with all stakeholders.³⁴³ Research integrity policies should provide academic institutions with clear guidelines and procedures to help combat the lack of research integrity. However, policies can only be effective if they are properly implemented. The business analogy results in a lack of time and prioritisation of raising awareness due to the excessive pressure demanded by this philosophy.

³⁴⁰ Fanelli Costas and Larivière 2015 *PLoS one* e027556.

³⁴¹ The North-West University, for example, "adapted the four principles described in the *Singapore Statement on Research Integrity* (2010)" as supported by the North-West University (NWU) Code of Conduct for Researchers. "Honesty in all aspects of research; Accountability in the conduct of research; Professional courtesy and fairness in working with others; Good stewardship of research on behalf of others".

³⁴² World Conference on Research Integrity *Singapore Statement* (2010).

³⁴³ Tayyaba 2013 *2013 DE* 1-17.

4.4.4 Consumerism

It has been suggested that the modern neoliberal university model is largely based on consumerism; this is typically considered a distinctive political and economic philosophy.³⁴⁴ When a university adopts a customer-oriented perspective in order to gain a competitive advantage, its success becomes dependent on the delivery of student satisfaction. Therefore, the university holds students as a focal point in planning, strategising, and marketing. As such, students increasingly see themselves as consumers engaging in private investments (study loans), and they adjudge the benefit of what they “get out of” their university education entirely in personal vocational terms, rather than the wider social benefit of a university education³⁴⁵

As consumers they feel entitled to protection by the same laws that protect consumers, which is understandable. Their education becomes an exchange relationship.³⁴⁶ In Britain, academics are told to treat students like customers - and, as the saying goes, “the customer is always right”. This is a characteristic of what Ryan calls the “new consumerist mass system” that is prevalent today.³⁴⁷ A key determinant in this process is the fact that, over the decades, governments have been unable (if not reluctant) to sustain funding resources per student; consequently, spending per student has declined, academic staff salaries have fallen behind that of their former peers, and in some instances building maintenance has also been neglected. Al-Nakeeb describes the situation in Britain as follows:

In Britain too, under the present conservative government, public universities, which used to be free before the Thatcher-Reagan counter-revolution, are now charging students nine thousand pounds a year. Education no longer caters for merit but money.³⁴⁸

³⁴⁴ Peck and Tickell "Conceptualising Neoliberalism" 32.

³⁴⁵ Peck and Tickell "Conceptualising Neoliberalism" 45.

³⁴⁶ Shore 2010 *SA* 18.

³⁴⁷ Ryan 2005 *TM* 657.

³⁴⁸ Al-Nakeeb "Two Centuries of Parasitic Economics" 99.

Clearly the consumerist philosophy is driven by the business analogy; they are running mates in a sense, and combine perfectly to disregard research integrity at the expense of "big business".

4.4.5 The university as fractured institution

In the past few decades, universities around the world (public and private alike) have transitioned to become akin to consumer-oriented corporate networks as a response to the increase in students' numbers. In the past couple of years, a campus is no longer a community of like-minded individuals who care about the community they serve, but have transitioned into a community of politically minded leaders implementing changes that serve purposes "greater" than those of the local students.³⁴⁹ This paradigm shift has led to the marketisation and privatisation of education, a trend evidenced by the emergence of new managerial concepts such as the "entrepreneurial university".³⁵⁰

Since the mid-1990s, South African universities have been under pressure to provide "mass education" - a term that refers to making education accessible to large numbers of students. However, despite this expectation, the resources allocated to universities have not proportionately increased. Consequently, class sizes have grown, resulting in an unfavourable shift in the student-teacher ratio. In some cases, lecturers have delegated grading responsibilities to either teaching or student assistants. Additionally, there has been an increase in the number of students with inadequate English proficiency admitted to English-medium universities. These factors have created more significant challenges in the faculty-student relationship, as indicated by an anonymous ghost-writer's statement.

I operate on the assumption that the student I'm working for will have little or no personal interaction with academic staff. This means there is only a small likelihood that the lecturer who sets and marks the questions will be familiar with the student's style of writing.³⁵¹

³⁴⁹ Pelletier, Kottke and Sirotnik 2019 *Leadership* 408.

³⁵⁰ Schulte 2004 *HE* 189.

³⁵¹ Singh and Remenji 2016 *SAJS* 4.

If this assessment is correct, there is proof to suggest that universities are not performing their expected function. Thus, universities have been fractured in the sense that there is a disconnect between students and staff. Accordingly, this also leads to an increased prevalence in student misconduct. Furthermore, it is linked to the business analogy, as decisions that affect universities are made in the interest of shareholders, not in the interest of students and staff. Further confirming this assumption is a city press article, dated 10 February 2021, in which Fengu states that, with the migration from venue-based to online assessments, the University of South Africa (Unisa) has seen a marked increase in cheating and plagiarism cases.³⁵²

4.5 Concluding remarks

This chapter explores the changes that have taken place in institutions of higher learning, and how these changes have negatively impacted academics. Changes in the academic profession are clearly being driven by the business analogy and market-like behaviours. Increased workloads have contributed to the low morale of academics. An ever-increasing emphasis on performance, accountability, and revenue-generating programmes has led to a blurring of roles, where academics no longer function as academics with ample time for reflection, but are forced into an increasingly administrative role.

This pressure has contributed to a research culture that promotes output at the expense of research quality, which can lead some to resort to plagiarism.³⁵³ These changes have had a negative impact on the academic profession; in order to fulfil other duties delegated to the academics, they often find it necessary to neglect their core business of teaching, research, and community work. Academics have a role to play in developing students' moral literacy; there is evidence that a link exists between students' cheating behaviours and the dishonesty of academics.³⁵⁴ Academics should be role models for students, concerning ethical behaviour.

³⁵² Fengu 2021 <https://www.news24.com/citypress/news/with-online-exams-unisa-sees-an-increase-in-cheating-and-plagiarism-20210210>.

³⁵³ Kelley and Chang 2007 *JHE* 402.

³⁵⁴ Osiemo 2012 *JBE* 132.

Furthermore, findings suggest that, due to a lack of time, academics are unwilling to report and act in response to students' academic dishonesty.³⁵⁵ Academics are now tempted to compromise standards so that they can keep the "hamster wheel" going.³⁵⁶ In conclusion, it is unlikely that these changes will be reversed. Rather, academics and universities must redefine their roles in an ever-changing higher education landscape. The business analogy to science should ultimately be regarded as the prime reason for misconduct within academia. All these secondary contributing factors that have crystallised over time have been the result of the business analogy or have derived from this analogy to some extent.

Chapter 5 Misconduct and plagiarism as a result of the business analogy in science

5.1 Introduction

As was explained, the business analogy is being applied to science.³⁵⁷ This involves several things; science is underfunded by the state and funding from various sources is incentivised through competitions, the line management hierarchy is being installed in science, an audit culture is cultivated (which crystallises as performance management to steer science), and science is being aligned with economic growth in a country.³⁵⁸ These pressures, imposed by the implementation of a business analogy, are leading to behavioural changes among academics and students alike. One of the most frequent behavioural shifts manifests as plagiarism, but other forms of research misconduct also emerge.

This finding is worrisome because academics are expected to be role models to students. Published articles that contain plagiarised material "has implications for the reputations of the journals and the institutions" with which the authors are associated.³⁵⁹ Moosa states that one of the key indicators of the rise in research

³⁵⁵ Schnake, Dumler and Fredenberger 2005 *AEI* 31–39.

³⁵⁶ Ntshoe *et al* 2008 *SAJHE* 398.

³⁵⁷ Collini What are Universities For? 83.

³⁵⁸ Beiter 2019 *ILR* 289.

³⁵⁹ Thomas and de Bruin 2015 *SAJS* 7.

misconduct is the number of retracted papers; an academic journal retracting a paper implies that the validity of the paper is questionable. Any evidence of misconduct or intentional non-compliance should lead to immediate retraction.³⁶⁰

Wanjek confirms this as a longstanding issue when he states:

There has been a 10-fold increase in the percentage of scientific papers retracted because of fraud since 1975.³⁶¹

He acknowledges that the reason for these paper retractions is misconduct involving "lying, cheating and/or stealing".³⁶² It could be argued that these aforementioned pressures imposed on academics and students are manifesting as different forms of misconduct. Accordingly, the question arises whether the business analogy being imposed on science is leading to research misconduct. Moosa concurs with this assumption, stating:

The pressure imposed on academics to publish (or else) may, can and does lead to misconduct, or at least to questionable ethics. Research misconduct may involve, amongst other malpractices, falsification, fabrication, plagiarism and duplicate publications that amount to self-plagiarism.³⁶³

Kelley and Chang agree by stating that a research culture that prioritises production over study quality might lead individuals who aim to produce a high volume of publications in the shortest time possible to resort to plagiarism.³⁶⁴ Osiemo states that academics have a "role to play in the expansion of students' moral and ethical literacy", and a link between the dishonesty of academics and student cheating behaviour has been shown to exist.³⁶⁵

Academics are held to internationally recognised ethical principles of academic and scientific inquiry. These duties are stipulated, for instance, in the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel of

³⁶⁰ Moosa 2018 *Publish or Perish* 60.

³⁶¹ Wanjek 2015 <https://www.livescience.com/53228-top-retracted-science-papers-2015.html>.

³⁶² Wanjek 2015 <https://www.livescience.com/53228-top-retracted-science-papers-2015.html>.

³⁶³ Moosa 2018 *Publish or Perish* 176.

³⁶⁴ Kelley and Chang 2007 *JHE* 402.

³⁶⁵ Osiemo 2012 *JBE* 134.

1997³⁶⁶ and the UNESCO Recommendation on Science and Scientific Researchers of 2017³⁶⁷

Hence, the aim of this chapter is to discuss the academic misconduct resulting from the business analogy imposed on science. The renewed interest in research integrity, which is a result of the increase in misconduct and plagiarism among academics and students, is also addressed. An outline of current attempts to manage research misconduct and plagiarism, both locally and abroad, is then provided. Strategies should be aimed at preventing misconduct, rather than repairing the damage it inflicts.

Due to space constraints, only one form of research dishonesty will be discussed, namely plagiarism, the rationale being that it is the most common form of written research misconduct among students and staff.³⁶⁸ Following that will be a review of current attempts at dealing with plagiarism within higher education institutions and elsewhere. These conventional methods include plagiarism awareness, software detection, plagiarism policy, legislative intervention, and the peer review process. These methods can be seen as an attempt to stem the scourge of plagiarism. The numerous reasons for the inadequacy of the conventional approach will also be highlighted.

The rationale for including both student and academic/staff misconduct in this study is that plagiarism does not exist in a vacuum; it exists within the context of the university where such plagiarism is committed. In this regard, academics should serve as role models for students; however, reports of increased plagiarism among academics themselves are surfacing, both internationally and locally.³⁶⁹

³⁶⁶ Par 29, 33 of the UNESCO Recommendation concerning the Status of Higher Education Teaching Personnel (1997).

³⁶⁷ Par 12 of the UNESCO Recommendation on Science and Scientific Researchers (2017).

³⁶⁸ Ballyram and Nienaber 2019 *SADJ* 24-31.

³⁶⁹ Thomas and de Bruin 2015 *SJS* 17.

5.2 Renewed interest in research integrity

There has been a renewed interest in research integrity due to a global upsurge in research misconduct and plagiarism; this tarnishes the reputation of researchers, academics, students, and staff involved in the academic value chain. Macfarlane explores what integrity means when he states:

I am principally adopting the idea of integrity as the integration of a person's true self and linking their values and identity as a person with their practice as a researcher.³⁷⁰

The effects of research misconduct can be devastating; retraction of an academic journal article automatically calls the validity of the paper into question. This also affects research that cites the paper before retraction.³⁷¹ Aside from that, the main adverse effect of paper retraction is the potential long-term damage to the reputation of the author and the journal, including reviewers, editors, and publishers. Another such instance is the false reporting of results; scientific research must be governed by the principle of telling the truth, the whole truth, and nothing but the truth.³⁷²

Unfortunately, this is not the case, as researchers frequently report partial results that support their arguments, or present results in a deceptive way to prove what they wish to prove.³⁷³ As the Sixth Circuit stated in *United States v. Frost* 125 F.3d 346, 367 (6th Cir. 1997), (a case in which the University of Tennessee withdrew its grant of a Ph.D. degree after discovering that the degree candidate had committed plagiarism):

Awarding degrees to inept students, or to students who have not earned them, will decrease the value of degrees in general. More specifically, it will hurt the reputation of the school and thereby impair its ability to attract other students willing to pay tuition, as well as its ability to raise money.³⁷⁴

³⁷⁰ Macfarlane Researching with integrity 9.

³⁷¹ Moosa 2018 *Publish or Perish* 59.

³⁷² Moosa 2018 *Publish or Perish* 59.

³⁷³ Moosa 2018 *Publish or Perish* 66.

³⁷⁴ *United States v. Frost* 125 F.3d 346, 367 (6th Cir. 1997).

Because of this worldwide renewed focus on research integrity, an international instrument concretised in the form of the Singapore Statement on Research Integrity (which stipulates the basic principles and responsibilities that should be common to all good research) has been adopted. The Singapore Statement is not a regulatory document and does not represent the official policies of the countries represented at the conference. Rather, the intent of the Singapore Statement is to provide ethical guidance that research organisations, governments, and scientists can use to develop policies, regulations, and codes of conduct.³⁷⁵ In contrast to the First World Conference on Research Integrity that took place in Lisbon, Portugal in 2007, and which focused on misconduct issues, the goal of the Second World Conference was to make a concerted effort to promote global research integrity. The Singapore Statement is the fruit of this endeavour.

Scientists have an inherent duty to conduct research with integrity, as is highlighted in various international legal instruments.³⁷⁶ This duty should deter academics from engaging in misconduct or questionable ethical conduct. The principle of academic integrity covers freedom of research and is linked to the intrinsic duty to conduct research ethically. Academics are also accountable to their students; thus, they must fulfil a role within the development of ethical student behaviour. A clear link has been established between dishonesty of academics and student cheating behaviour.³⁷⁷

5.3 The duty to conduct research honestly

Academic/scientific freedom entails many inherent responsibilities, both from an international and domestic perspective. Accordingly, society imposes "a duty, especially on university scientists, to explore honestly".³⁷⁸ The UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel,

³⁷⁵ World Conference on Research Integrity *Singapore Statement* (2010).

³⁷⁶ Par 29, 33 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997), par 12 of the UNESCO Recommendation on Science and Scientific Researchers (2017).

³⁷⁷ Osiemo 2012 *JBE* 132.

³⁷⁸ Beiter 2019 *ILR* 287.

paragraph 29, refers to the "duty of academics to conduct research honestly". It states that academics are "subject to professional principles of intellectual rigour, scientific inquiry, and research ethics", which are recognised both nationally and internationally.³⁷⁹

The UNESCO Recommendation on Science and Scientific Researchers of 2017 also bestows a duty on researchers to conduct research in an honest manner. Paragraph 12 of the Recommendation emphasises that science requires:

scientific researchers of integrity and intellectual maturity, combining high, intellectual qualities and respect for ethical principles.³⁸⁰

Paragraph 33 of the 1997 Recommendation bestows certain "duties and responsibilities on higher-education teaching personnel"; it states:

Higher-education teaching personnel should recognize that the exercise of rights carries with it special duties and responsibilities, including the obligation to respect the academic freedom of other members of the academic community and to ensure the fair discussion of contrary views. Academic freedom carries with it the duty to use that freedom in a manner consistent with the scholarly obligation to base research on an honest search for truth. Teaching, research and scholarship should be conducted in full accordance with ethical and professional standards and should, where appropriate, respond to contemporary problems facing society as well as preserve the historical and cultural heritage of the world.³⁸¹

Beiter highlights that scientific or academic freedom is for the benefit "of third parties, directed at delivering truth, so as to elevate humanity". The contention is that if the university looked solely within, either by acting more like a business or by failing to reach out to those beyond its walls, its work would not benefit society at large through disinterested new knowledge. Overall, "science is meant to benefit all humanity", not only the fortunate; it "must be objective, original, and sceptical".³⁸²

³⁷⁹ Par 29 of the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997).

³⁸⁰ Par 12 of the UNESCO Recommendation on Science and Scientific Researchers (2017).

³⁸¹ Par 33 of the UNESCO Recommendation concerning the Status of Higher Education Teaching Personnel (1997).

³⁸² Beiter 2019 *ILR* 287.

Greater "emphasis should be placed on scientific and academic self-duty than is the case currently". There is an "excess" of regulations that ensure compliance with these duties.³⁸³ Instead, there should be a stronger emphasis on the right to academic freedom and the inherent duty to conduct research ethically. Regulations often merely address the symptoms rather than the causes of dishonesty. Scientists should follow ethical standards and values (such as honesty, openness, fairness, accountability, and respect for human and animal subjects) in the conduct and communication of their research, and should generally strive for value-neutrality with respect to research outcomes.³⁸⁴

5.4 Plagiarism

Plagiarism has caused anxiety for academics since the inception of academia. The origin of the word can be found in the works of the Roman poet Martial, who stated "another author recited my books".³⁸⁵ The first recorded use of the English phrase in its contemporary sense seemed to have occurred at some point during the 15th century.³⁸⁶ Yet, the availability of text-matching software that can reveal an author's use of "copy-and-paste" has increased awareness of and interest in plagiarism. Although plagiarism is simple to discover with the help of text-matching software, it is not so elementary to conclude when these matches constitute outright plagiarism.³⁸⁷

Any original conception may be plagiarised. Although most discussions focus on text (and this type of copying is usually the only kind that can be detected using software) it is important to distinguish that ideas, images, creative works (e.g., musical compositions or choreographies), and data can also be plagiarised.³⁸⁸

³⁸³ Beiter 2019 *ILR* 287.

³⁸⁴ Elliott and Resnik 2014 *EHP* 291.

³⁸⁵ Bailey 2014 <https://www.plagiarismtoday.com/2011/10/04/the-world%E2%80%99s-first-plagiarism-case/>.

³⁸⁶ Wager 2014 *LP* 33.

³⁸⁷ Wager 2014 *LP* 33.

³⁸⁸ Wager 2014 *LP* 35.

Wagner identifies the following factors that can be helpful in determining the extent/severity of plagiarism. First, the extent of the plagiarism necessitates asking, i.e. whether an entire chapter was copied or only a small section. Scholars often summarise the work of other researchers; it may be difficult to distinguish between creating legitimate (and accurate) representations of other studies and copying original material.³⁸⁹ Second, originality will contribute to determining the severity.³⁹⁰ Third, position or context, as certain sections of research are more likely to include non-original material than others.³⁹¹ Fourth, referencing/attribution; this is significant as academic publications are expected to reference other works and are allowed to quote from them. Inexperienced or poorly trained authors may mistakenly believe that as long as a citation is provided, parts of another author's work may be copied in their own work.³⁹² Fifth, the intention to deceive is often considered a factor in distinguishing misconduct from careless work or honest error. Sixth, the author's seniority or experience may contribute to determining his intention. Last, language determinations, as text-matching software will only detect text copying in the same language.³⁹³

It is well established that plagiarism is the most common form of research misconduct among students and academics.³⁹⁴ Penn State University website lists several reasons why plagiarism is unacceptable, which include:³⁹⁵

1. Plagiarism committed intentionally is an act of deceit and may even constitute fraud.
2. By engaging in plagiarism, one deprives themselves of the opportunity to acquire and hone the abilities necessary for academic research.
3. The act of plagiarism prevents individuals from receiving constructive criticism on their academic abilities.

³⁸⁹ Wager 2014 *LP* 35.

³⁹⁰ Wager 2014 *LP* 36.

³⁹¹ Wager 2014 *LP* 36.

³⁹² Wager 2014 *LP* 37.

³⁹³ Wager 2014 *LP* 39.

³⁹⁴ Ballyram and Nienaber 2019 *SADJ* 24-31.

³⁹⁵ Penn State 2015 <http://tlt.psu.edu/plagiarism/student-tutorial/why-plagiarism-is-wrong/>.

4. Engaging in plagiarism may subject the individual to future investigations or scrutiny.

Brandt finds that students plagiarise in four distinct ways. The methods include, stealing material from another source and passing it off as their own (e.g., buying a paper from an essay bank or term paper mill, copying a whole paper from a source without proper acknowledgement, or submitting another student's work); submitting a paper written by someone else (e.g., a peer or relative) and passing it off as their own; copying sections of material from one or more sources and deleting the full reference; and, paraphrasing material from one or more source(s) without providing appropriate documentation.³⁹⁶

Many novice writers struggle to understand "how to incorporate others' work into their own" legitimately, "whether in quoting, paraphrasing, summarizing, echoing, or engaging in other forms of conscious and unconscious incorporation". Additionally, there are "language barriers to contend with". Hence, the legitimate incorporation of others' work is "no straightforward matter".³⁹⁷ According to Moosa, plagiarism can be attributed to several motivating factors, the most significant of which is pressure to publish under the POP culture. Additionally, there is the desire for recognition and/or career advancement, as well as anxiety about correct English use and the inability to express complex ideas in one's own words; this is also called unintentional plagiarism. Another factor may be careless writing or a heavy reliance on only a few sources. There could also be a lack of understanding of what constitutes plagiarism; moreover, the inability of academics to agree upon a definition of plagiarism often results in confusion among students.³⁹⁸

Therefore, there is no doubt that plagiarism is undermining the integrity of university degrees and researchers' publications to an unprecedented extent. Against this rise in research misconduct, orthodox methods have been implemented to combat

³⁹⁶ Brandt 2002 *CL* 39.

³⁹⁷ Moosa 2018 *Publish or Perish* 260.

³⁹⁸ Moosa 2018 *Publish or Perish* 62.

plagiarism. Only the most prevalent ones will be highlighted, i.e. plagiarism awareness, software detection, plagiarism policies, legislative intervention, and the peer review process. It can be argued that these methods have not been very effective, due to most of these methods only addressing the symptoms and not the cause.

5.4.1 Plagiarism awareness

Tayyaba makes the following recommendations and suggestions when dealing with plagiarism. He states that:

general awareness raising is important. The higher education authorities should make serious efforts to assure that students and teachers of all levels of educational institutions and the relevant stakeholders are aware of the concept of plagiarism and originality of work.³⁹⁹

He highlights the importance of anti-plagiarism policies, noting that higher education authorities should implement reforms to include anti-plagiarism policies as part of their agenda in different forums. He is of the opinion that teachers and students alike are still not unaware of anti-plagiarism software like Turnitin. Also, believing that regular policy reviews are of the utmost importance, he stresses the need to update current policies and rules regarding plagiarism. Quality assurance mechanisms for degrees in colleges and universities should stipulate specific criteria and standards for plagiarism in students' and teachers' work. Lastly, he believes there should be easy access to plagiarism software, as this is an important tool in detecting plagiarism.⁴⁰⁰

The importance of raising awareness seems to be the reasoning of authors such as Fanelli, Costas, and Larivière as well. They state the following:

Efforts to reduce and prevent misconduct, therefore, might be most effective if focused on promoting research integrity policies, improving mentoring and training, and encouraging transparent communication amongst researchers.⁴⁰¹

³⁹⁹ Tayyaba 2013 *DE* 1-17.

⁴⁰⁰ Tayyaba 2013 *DE* 1-17.

⁴⁰¹ Fanelli Costas and Larivière 2015 *PLoS one* e027556.

In the same vein, a set of rules was developed by the New Zealand government for the efficient detection and prevention of academic fraud. The strategy aims to increase students' knowledge of the possible issues with academic fraud, and serves as a constant reminder to them of how inappropriate the behaviour is.⁴⁰² They believe the first step in preventing dishonesty is raising student awareness. Organisations should ensure that students have the opportunity to think about, be reminded of, and understand the need for honesty and integrity before they are assessed. Thus, the raising of awareness is clearly a popular tool in combatting misconduct among all stakeholders.

5.4.2 Plagiarism detection software

Another common tool in combating plagiarism is the use of the web-based software program called Turnitin, which is a web-based software program that is used to detect plagiarism, and is meant to aid students and instructors in their joint effort to promote originality in student papers.⁴⁰³ The makers claim that it should serve as an influential deterrent to student plagiarism. It works as follows: students submit an electronic form of their work through the software, which then checks the submission for textual matches with the material in its database, and lastly creates an originality report.⁴⁰⁴ Students can view their own submissions and originality reports but not the reports of others.⁴⁰⁵

However, many consider this type of checking to be nothing more than a symptomatic solution that ignores the underlying problem, when what is required is a large-scale intervention; the situation is comparable to a "band aid" or "sticky plaster" being "placed on a wound when perhaps a more medical and surgical intervention is required".⁴⁰⁶ This sentiment is shared by many academics. This chapter will also include a discussion of the limitations of this software program and

⁴⁰² New Zealand Qualifications Authority 2002 <http://www.nzqa.govt.nz/assets/Providers-and-partners/NZQA-Effective-practice-guide.pdf>.

⁴⁰³ The market leader, Turnitin.com, "claims to have 10 000 clients working in 135 countries, and this product alone is estimated as being used to check 40 million academic papers each year".

⁴⁰⁴ <https://turnitin.com>.

⁴⁰⁵ <https://turnitin.com>.

⁴⁰⁶ Warn 2006 *HERD* 195–208.

why some feel that it should not be employed as a way to combat plagiarism effectively.

5.4.3 Legislative intervention

Legislative intervention must be understood in the light of Article 2(1) of the International Covenant on Economic, Social and Cultural Rights, 1966. This provision defines the general nature of state obligations under the Covenant. Article 2(1) states that:

Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realisation of the rights recognised in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.⁴⁰⁷

Article 2(1) thus requires that state parties, in realising the right to science (which includes academic/scientific freedom) must take active measures "to the maximum of their available resources" and "by all appropriate means" to realise the rights in the Covenant. Legislation is specifically mentioned as a means. This implies that the state should enact legislation to stop misconduct and plagiarism. Donders suggests that state obligations entail "not only legislative measures but also administrative, financial, educational, social, and other measures, including judicial remedies".⁴⁰⁸

Writers on economic, social, and cultural rights argue that it is not clear what legal measures would be sufficient, if indeed they are required. The question is then raised: what other means might be "appropriate" if legal measures are not required, and what role is envisaged for legislation per se? Finally, another question is: who should determine whether the means that have been adopted are both comprehensive and "appropriate"?⁴⁰⁹

⁴⁰⁷ Art. 2(1) of the International Covenant on Economic, Social and Cultural Rights (1966).

⁴⁰⁸ Donders 2015 *EJHR* 494.

⁴⁰⁹ Alston and Quinn 1987 *HRQ* 166.

Alston and Quinn argue that "legislation is not mandatory under the terms of the Covenant and that it is for each state party to decide whether it is needed".⁴¹⁰ However, in the modern state, and in "accordance with the rule of law", legislation will usually be necessary to realise "economic, social, and cultural rights", including the "right to science", as the regulation of science must likewise have a basis in law.⁴¹¹ Regulating science at only the administrative and executive levels lacks democratic legitimacy and is in "violation of the rule of law".⁴¹² An absence of such legislation will constitute a "threat to academic freedom and institutional autonomy".⁴¹³

Yet, while it has a basis in legislation, indicating broad guiding principles, it should ultimately be left to institutionalised science, i.e. universities and other associations of scientists acting in conjunction. The state may only be accorded a more rigorous interventionist role by legislation if self-organisation by institutionalised science fails.

5.4.4 Research integrity and plagiarism policies

Potentially, plagiarism policies can be effectively implemented by universities to deal with research dishonesty and plagiarism. Hoole is of the opinion that substandard research papers and the use of substandard journals can be addressed by implementing proper policies and practices.⁴¹⁴ The University of Johannesburg's plagiarism policy states categorically that the purpose of their policy is to "provide a clear statement concerning the meaning of plagiarism (i.e., what is and what is not acceptable) to serve as a point of departure across all faculties and campuses".⁴¹⁵ It aims to establish a clear set of processes, guidelines, and procedures for the prevention of plagiarism as well as the management of acts of plagiarism.⁴¹⁶

⁴¹⁰ Alston and Quinn 1987 *HRQ* 166.

⁴¹¹ See para 2.2.2 as above.

⁴¹² Beiter 2019 *ILR* 259.

⁴¹³ Beiter, Karran and Appiagyei-Atua 2016 *EJCLG* 260.

⁴¹⁴ Hoole 2019 *SAJIP* 3.

⁴¹⁵ University of Johannesburg Plagiarism policy reviewed (2013).

⁴¹⁶ University of Johannesburg Plagiarism policy reviewed (2013).

In line with this sentiment, the University of Pretoria's academic policy states that "the purpose of their policy is to ensure the University's academic integrity"; students must be discouraged from obtaining an unfair academic advantage.⁴¹⁷

Plagiarism policies further seek to provide a structure that will (a) guarantee that students are aware of the need to prevent plagiarism, and (b) offer fair and uniform administrative procedures across faculties in situations where plagiarism is identified.⁴¹⁸ It provides mechanisms aimed at preventing plagiarism, such as, an Information Literacy course, which is a compulsory second-semester module for all first-year students at the University; research methodology courses for senior students; warnings to avoid plagiarism in study guides; pop-up messages when a student signs onto the university system; assignment briefing sheets containing warnings against plagiarism; a declaration of originality that is to accompany each assignment; awareness campaigns; library services; weekly courses on the topic; and, lastly, a Library Services webpage with a tutorial and a self-test on avoiding plagiarism.⁴¹⁹

North-West University only recently developed their own Integrated Research Integrity Management System (IRIMS) guidelines.⁴²⁰ It states that research integrity refers to the active adherence to a specific set of research integrity principles and responsibilities that emerge in Responsible Conduct of Research (RCR). It highlights four principles: "honesty in all aspects of research, accountability in the conduct of research, professional courtesy and fairness in working with others, good stewardship of research on behalf of others".⁴²¹

Written plagiarism policies can be effective to a certain extent in combating plagiarism, if implemented correctly.

⁴¹⁷ University of Pretoria Plagiarism Prevention Policy (2009) 1.

⁴¹⁸ University of Pretoria Plagiarism Prevention Policy (2009) 1.

⁴¹⁹ University of Pretoria Plagiarism Prevention Policy (2009) 1.

⁴²⁰ Guidelines for the Integrated Research Integrity Management System of the North-West University (2011) 1-34.

⁴²¹ The principles and responsibilities are stated in the *Singapore Statement* for Research Integrity (2010).

5.4.5 Peer review

Peer review is designed to assess the validity, quality, and often the originality of articles for publication. Some consider the peer review process to be the benchmark of the scientific publication process. Ballyram and Nienaber agree that peer review is critical in ensuring the dissemination of sound scientific knowledge. It allows for a manuscript to receive a “fair hearing” among peers in the scientific community. They state that it is unethical to allow a flawed paper devoid of any scientific merit to pass unchallenged into the literature.⁴²²

Peer reviewers are usually experts on a particular scientific topic and the minimum qualifying requirements are first, a history of conducting and publishing original research; second, formal training in the relevant science; and third, experience in critically evaluating manuscripts.⁴²³ In a similar vein, the UNESCO Recommendation of 2017 confirms that peer review is critical to validating research findings.⁴²⁴

Unfortunately, not all academics agree that peer review is as incorruptible as is commonly thought. This chapter will also highlight the inadequacies of peer review in full and elaborate on why this orthodox method of combatting unoriginality, invalidity, and poor quality in research articles is blemished.

5.5 Inadequacies of Orthodox solutions

In the following section, we will highlight the inadequacies of contemporary methods of addressing academic dishonesty and plagiarism. Orthodox methods of dealing with research dishonesty and plagiarism have not had the desired effect. Some initial gains have been made, but a steady increase in research dishonesty and plagiarism have continued. This is a result of efforts to treat the symptoms rather than the underlying root cause. The following section will discuss the methods that have been implemented in recent times and their inadequacies.

⁴²² Ballyram and Nienaber 2019 *SADJ* 24-31.

⁴²³ Ballyram and Nienaber 2019 *SADJ* 24-31.

⁴²⁴ Par 1(a)(1) of the *UNESCO Recommendation* (2017).

5.5.1 Plagiarism awareness

Being in agreement concerning what exactly constitutes plagiarism is a prerequisite for raising awareness. Several authors have argued that plagiarism is a Western concept based on intellectual property considerations and individualistic cultural norms, and that students from collectivist cultures may have difficulty accepting it.⁴²⁵ Scholars who follow the post-modern tradition face another challenge, which is that the distinction between plagiarism and acceptable forms of copying is not always clear. Some argue that achieving complete originality is a rare occurrence for artists, writers, and scholars. Most draw upon cultural traditions and incorporate them into their work through copying to some extent. For example, in the field of law, some of the most compelling scholarship involves combining insights from various disciplines, such as philosophy, history, and economics, in innovative ways and applying them to new contexts. Green claims that "virtually every creative artist and scholar suffers from what Harold Bloom has characterized (albeit in a humorous context) the anxiety of influence". He states many influences are "unconscious; an idea, phrase, argument, melody, or insight read or heard long ago can lodge in the unconscious".⁴²⁶

He argues that "if one were to attempt to attribute each and every source of one's ideas, one's work would likely suffer". Undue "concern with sources can frustrate the creative process and lead to pedantry".⁴²⁷ He jokingly says that anyone writing about plagiarism is "paranoid about the originality of others' work".⁴²⁸ But there is little point to using new language to explain something that is commonly accepted. Thus, most would probably agree that plagiarism is wrong; yet, it is not always as easy to agree on what constitutes plagiarism and what extent of copying is allowable. This does not help in laying down workable definitions for combating plagiarism; moreover, incidences of students' plagiarism increase when there is little

⁴²⁵ Pennycook 1996 *TESOL Quarterly* 201-230.

⁴²⁶ Green 2002 *HLJ* 180.

⁴²⁷ Green 2002 *HLJ* 241.

⁴²⁸ Bloom H "The Anxiety of Influence: A Theory of Poetry" 56. Funnily states: "Virtually every scholar believes himself to have been plagiarised" and, "conversely, worries that his neighbour will find their work unattested in his".

consensus between academic staff on what constitutes plagiarism and how to deal with it.

A definite link has been established between a disagreement among staff regarding what constitutes plagiarism and acts of plagiarism; the disagreement also extends to students.⁴²⁹

5.5.2 Limitations of detection software

Although Turnitin has been effective in detecting plagiarism, it appears to have multiple weaknesses. These include the software's tendency to flag content as plagiarised even when it is not. The software also lacks the discretion to review reports carefully to ensure their accuracy; it merely attempts to find comparisons within its databases.⁴³⁰

Savage asserts that there are incidences of coincidental research, where students may innocently use similar words or resources used previously in other research, especially in commonly researched areas; it is therefore critical that staff carefully scrutinise students' work to make a better judgment as to whether the material has been plagiarised or not.⁴³¹

Another limitation of Turnitin is that it is not precise enough to check everything on the internet, such as images and some computer programs. Mulcahy and Goodacre highlight that the Turnitin database does not contain all the material that is on the web, and that the software cannot match paraphrased text.⁴³²

Apart from these software limitations, it also influences student morale. Yale College Dean Peter Salovey did not agree to the use of software programs such as Turnitin, believing that they create an atmosphere of mistrust. Speaking to the Daily News, he said:

⁴²⁹ Osiemo 2012 *JBE* 132.

⁴³⁰ Noynaert 2005 *CS* 7.

⁴³¹ Savage 2004 *PAUQF* Vol 27.

⁴³² Mulcahy and Goodacre 2004 *ASCILITE* 690.

If one creates a culture expecting the worst of students and underscores this attitude with a climate of vigilance, then students will act in ways to confirm these expectations by inventing clever ways of acting dishonourably and avoiding detection. This is not a race to the bottom that I want to encourage.⁴³³

It seems most writers and academics agree. However commendable the goal may be, experts contend that educational understanding of writing growth and variety should not be entrusted to software detectors alone. Writing is a process of both development and feeling that should not be left to the cold, impersonal plagiarism software detectors that cannot understand this process.⁴³⁴

5.5.3 Poorly implemented policies

Magaisa reports on an investigation into the implementation of a plagiarism policy among lecturers in the Faculty of Social Sciences and Humanities at a university in South Africa. Her findings are unique and informative, indicating that however well written and structured a plagiarism prevention policy may be, if there is no comprehensive and integrated plan of implementation, anti-plagiarism policies are of little to no value. She states that although many lecturers admitted to being familiar with the policy, most did not implement the actions and processes suggested in the policy.⁴³⁵ Hence, when implemented effectively, plagiarism policies can, to some extent, contribute to the prevention of plagiarism, but without effective implementation they will have little value.

The success of any plagiarism policy will require that lecturers not only read the plagiarism policy or warn their students not to plagiarise, but that they fully implement the policy. This means that lecturers are supposed to devote lectures, present tutorials, or hold specialised sessions to training students in the prescribed procedures when acknowledging and citing sources. Most lecturers do not take the responsibility to inform their students of the plagiarism policy. This suggests that lecturers either expect someone else (most probably academics in the student

⁴³³ Mihailova 2006 <https://yaledailynews.com/blog/2006/11/09/plagiarism-detection-program-questioned/>.

⁴³⁴ Thompson and Pennycook 2008 *CEA* 20.

⁴³⁵ Magaisa 2013 *IJTL* 81.

support unit) to present the plagiarism policy to their students, or for their students to come to class already being made aware of the policy and able to conduct honest research.⁴³⁶

Apart from effective implementation, any plagiarism policy document needs to be correctly and clearly worded. The results indicate that the wording of statements on plagiarism is critical.⁴³⁷

Brown and Mark conclude that providing information about plagiarism is an effective way to change the perceptions of how severely plagiarism breaches academic guidelines. However, the nature of the material is very important. A cursory definition and friendly warning were found to be ineffective compared to a more detailed description of how to avoid plagiarism. The policy must also require that academic staff not turn a blind eye when plagiarism occurs, but ensure appropriate and fair penalisation.⁴³⁸

5.5.4 Legislative inadequacies

States have an obligation to regulate science. Alston and Quinn believe that it is for each state party to decide if legislative intervention is needed.⁴³⁹ Article 2(1) of the International Covenant on Economic and Social and Cultural Rights requires that state parties take active measures "to the maximum of their available resources" and "by all appropriate means to realise the rights in the Covenant". Legislation is specifically indicated as an instrument to "realise economic, social, and cultural rights", including academic/scientific freedom.⁴⁴⁰

However, as previously stated, does this then mean that science must be regulated extensively through legislative intervention? Legislation may be inadequate in circumstances where regulation would be more appropriate. Regulation could legitimately take the form of "written and unwritten statutes, by-laws, procedures,

⁴³⁶ Magaisa 2013 *IJTL* 75.

⁴³⁷ Brown and Mark 2001 *RHE* 113.

⁴³⁸ Brown and Mark 2001 *RHE* 115.

⁴³⁹ Alston and Quinn 1984 *HRQ* 166.

⁴⁴⁰ Article 2(1) of the International Covenant on Economic, Social and Cultural Rights (1966).

rules, and conventions originating from within the scientific community itself".⁴⁴¹ It has been argued that a strong protection of academic/scientific freedom "remains the best guarantor of scientific progress", far better than the excessive regulation of science through disproportionate legislation.⁴⁴²

For instance, although no direct legislation can be attributed to the South African government with regard to the over-regulation of academic misconduct through legislation, a parallel can most definitely be drawn between its series of amendments to the Higher Education Act of 1997; it substantially extends the authority of the state and accordingly diminishes the autonomy of higher education institutions. They have attempted to manage research outcomes through the relevant legislative framework. An example of this is the competitive funding formulae aimed at putting greater pressure on academic staff to "publish extensively and exclusively in high profile journals". As shown before, this is a "serious violation of academic freedom", and the DHET have "become complicit in indirectly contributing to research misconduct" through the implementation of the business analogy in science.⁴⁴³

5.5.5 Peer Review

Screening for plagiarism has become routine. Peer review ought to provide due diligence to articles and manuscripts, but unfortunately this requires a substantial amount of time, something which is in short supply when pushing science through time limits, as the business analogy requires of academics. For the first 100 years of the existence of the academic journal, decisions on publication were the sole responsibility of the editor and those of his colleagues to whom he might defer.⁴⁴⁴ Beiter believes that this process has proven to be fairly reliable in the past. Moosa identifies many difficulties associated with the peer review process. He states:

⁴⁴¹ Beiter 2019 *ILR* 260.

⁴⁴² Beiter 2019 *ILR* 289.

⁴⁴³ Beiter 2019 *ILR* 267.

⁴⁴⁴ Spier 2002 *TB* 357.

for a well-written paper, the submission outcome is governed by a stochastic process: Some academics would tell you that they had a paper rejected five times, only to be accepted for publication in a better journal at the end.⁴⁴⁵

Wasserman concludes that "peer review creates an illusion ... [of] ... quality control".

He states:

Plenty of bad papers get published and plenty of good papers get rejected. Many think that the stamp of approval by having a paper accepted by the refereeing process is crucial for maintaining the integrity of the field. This attitude treats a field as if it is a priesthood with a set of infallible, wise elders deciding what is good and what is bad. It is also like a guild, which protects itself by making it harder for outsiders to compete with insiders.⁴⁴⁶

Biggs relates that peer review has an important function, but unfortunately penalises innovation and non-conformity.⁴⁴⁷ Wasserman concludes that:

When I criticize the peer review process, I find that people are quick to agree with me. But when I suggest getting rid of it, I usually find that people rush to defend it.⁴⁴⁸

Peer review is nearly universally regarded as an essential component of the scientific review process that provides quality control so that published works meet appropriate standards. It appears that peer review has its place among contemporary quality control measures, and does promote research integrity to a certain extent. Unfortunately, peer review requires a tremendous amount of time and resources and is open to bias and manipulation.

5.6 Concluding comments

This chapter aimed to discuss the academic misbehaviour resulting from the business analogy imposed on science, and the renewed interest in research integrity as a result of the increase in misconduct and plagiarism among academics and students. Current attempts to manage research misconduct and plagiarism, both

⁴⁴⁵ Moosa 2018 *Publish or Perish* 260.

⁴⁴⁶ Wasserman 2012 *ISBA Bulletin* 7.

⁴⁴⁷ Biggs 1991 *ALISE* 190.

⁴⁴⁸ Wasserman 2012 *ISBA Bulletin* 7.

locally and abroad, was then described. Strategies should be aimed at preventing misconduct, rather than at repairing the damage it inflicts.

The devastating effects of research misconduct was highlighted, as well as the worrisome trend of many scientists/academics not upholding their duty to conduct science honestly. This duty should deter academics from engaging in misconduct or questionable ethical conduct. The principle of academic integrity covers freedom of research and is linked to the intrinsic duty to conduct research ethically. Academics are also accountable to their students and, thus, fulfil a role in the development of ethical student behaviour. Accordingly, a clear link has been established between dishonesty of academics and student cheating behaviour.⁴⁴⁹ Although attempts have been made to combat research dishonesty and plagiarism (in the form of orthodox methods, like greater awareness programs, plagiarism detection software, policies, legislative interventions, and peer review) there is still a substantial concern as to how effective these interventions are. These conventional strategies are not aimed at treating the core of the problem, rather they attempt to treat the symptoms.

It is the contention of this study that the pressures imposed by the implementation of a business analogy on academia is leading to behavioural changes among academics and students. One of these behavioural shifts manifests as research misconduct, most frequently plagiarism.

Thus, the underlying golden thread is the business analogy that is being imposed on science, which is the main cause contributing to the increase in incidences of misconduct, both locally and internationally.

⁴⁴⁹ Osiemo 2012 *JBE* 132.

Chapter 6 Conclusion

6.1. Concluding comments

We set out to determine whether, if countries adopt the internationally protected right of everyone to benefit from scientific progress and its applications (in short: the right to science) as reflected in international legal norms, that will provide sufficient protection in all jurisdictions and specifically in a South African context against the business analogy in academia, alongside other potential contributing factors which lead to academic misconduct in the form of plagiarism, and, if so, what measures should be adopted to curb such misconduct effectively?

It is a well-attested fact that plagiarism has been on the rise in recent decades; different forms of misconduct contribute negatively to institutional integrity and student culture. It also influences student morale and creates an atmosphere of mistrust among students and academics.

A recent study conducted within South African management journals casts light on the extent of the problem in a domestic context; it shows the cost incurred by government in funding unoriginal work in South African management journals. This was calculated at approximately ZAR7 million over a specific period in 2011. Academics "have a duty to conduct research honestly and are expected to be role models to students".⁴⁵⁰ Taking this into consideration, such a "finding is worrisome" and has "implications for the reputations of the journals" that contain the plagiarised material and "the institutions to which the authors are affiliated".⁴⁵¹

The consequences of research misconduct can be devastating, and retracted articles in academic journals cast doubt on the validity of research in question. This also affects the research of the individuals who cited the paper before it was retracted. Aside from that, the main adverse effect of paper retraction is the potential long-term damage to the reputation of the author and the journal, including reviewers,

⁴⁵⁰ See para 4.3.2 above.

⁴⁵¹ See para 5.1 above.

editors, and publishers. It is imperative that scientific research must be governed by the principle of telling the truth, the whole truth, and nothing but the truth.⁴⁵²

It is an established fact that despite restraining measures to stop academic misconduct in the form of plagiarism, incidences thereof have only escalated among both students and academic staff.⁴⁵³ Due to this escalation it is only logical that there has been a renewed interest in research integrity worldwide.

6.1 Research integrity and the duty to work honestly

Because of the increase in incidences of misconduct among students and staff there has logically been a renewed global focus on research integrity. An international instrument was created, namely the Singapore Statement on Research Integrity, which stipulates the basic principles and responsibilities that should be common to all good research. The Singapore Statement does not represent the official policies of the nations represented at the conference, neither is it a regulatory document. It's intended to provide ethical guidance that research organisations, governments, and scientists can use to develop policies, regulations, and codes of conduct. In contrast to the First World Conference (which took place in 2007 in Lisbon, Portugal) that focused on misconduct issues, the goal of the Second World Conference was to make a concerted effort to promote global research integrity. The Singapore Statement is the fruit of this endeavour.⁴⁵⁴

The UNESCO Recommendation concerning the Status of Higher-Education and Teaching Personnel of 1997, paragraph 29, refers to the "duty of academics to conduct research honestly". It mentions that academics are subject to "recognised professional principles of intellectual rigour, scientific inquiry, and research ethics".⁴⁵⁵

⁴⁵² See para 5.2 above.

⁴⁵³ See para 1.1 above.

⁴⁵⁴ See para 5.2 above.

⁴⁵⁵ See para 5.3 above.

The UNESCO Recommendation on Science and Scientific Researchers of 2017 also imposes an inherent duty on researchers to conduct research in an honest manner.⁴⁵⁶ As stated before, current policies and mechanisms attempting to regulate honest conduct is resulting in over-regulation; it is recommended that more importance should be placed upon academic/scientific self-duty than is currently the case. Instead, a stronger emphasis should be placed on the right to academic freedom and the inherent duty to conduct research ethically.⁴⁵⁷ Apart from this renewed interest in academic integrity that is reflected in the Singapore Statement and the self-duty to do honest research, academic misconduct in its most prevalent form, plagiarism, has surged; therefore, several methods of combatting it have crystallised.

6.2 Plagiarism and orthodox methods of contestation.

Plagiarism can be defined as the act of using someone else's ideas or words without giving them proper credit. When an individual incorporates ideas found in another author's published work into their own essay or dissertation without providing appropriate acknowledgement, it is considered academic misconduct. The acknowledgement must follow the referencing rules of the specific discipline. While using ideas without proper acknowledgement is an offense, it is considered even more severe if an individual copies another author's actual words without giving proper credit.⁴⁵⁸ Unfortunately, determining what constitutes plagiarism is not always a straightforward process.⁴⁵⁹ The difficulties in determining what exactly constitutes plagiarism was briefly discussed in a previous section, as well as considering whether there is "truth to the claim that few artists, writers, or scholars always achieve complete originality".⁴⁶⁰

Nonetheless, plagiarism is undermining the functionality of science and the integrity of university degrees to an unprecedented extent. Against this rise of research

⁴⁵⁶ See para 5.3 above.

⁴⁵⁷ See para 5.3 above.

⁴⁵⁸ See para 5.4 above.

⁴⁵⁹ See para 5.5.1 above.

⁴⁶⁰ See para 5.5.1 above.

misconduct, orthodox methods have been implemented to combat plagiarism. Only the most prevalent methods were highlighted, i.e. plagiarism awareness, software detection, plagiarism policies, legislative intervention, and the peer review process.⁴⁶¹ It can be argued that these methods have not been very effective, due to most of these methods only addressing the symptoms and not the cause. Therefore, the main aim of this study is to determine the leading contributing factor to misconduct and plagiarism.

6.3 Possible causes for the increase in misconduct and plagiarism.

Fanelli and others hold the view that various factors are associated with a higher rate of misconduct. They include a lack of research integrity policies and cash rewards for individual publication performance as possibilities. They also identify early career researchers and those working in environments where shared criticism is hindered as the most vulnerable groups. They argue that misconduct can best be prevented by promoting research integrity policies, improving mentoring and training, and encouraging clear communication amongst researchers.⁴⁶²

Yet, according to a 2019 study conducted by Adèle Thomas, who is a Professor of Management at the University of Johannesburg, the "publish or perish" phenomenon must be exposed and examined, and higher education authorities must reconsider the way they subsidise research. The "publish or perish" phenomenon is defined as the pressure that is put on academics to publish rapidly and continually, and in specific scholarly journals, as a condition for employment, promotion, and even maintaining their job.⁴⁶³

Moosa concurs with the idea that the pressure put on academics have resulted in malpractice, falsification, fabrication, plagiarism, and duplication of publications; this pressure leads to academic misconduct, or at least questionable ethics. He holds the balanced view that while the pressure to publish is indeed not the only factor

⁴⁶¹ See para 5.4 above.

⁴⁶² See para 1.1 above.

⁴⁶³ See para 1.1 above.

contributing to misconduct, it is the most important. The "publish or perish" culture is the consequence of neoliberal ideologies in the form of corporatism, globalism, and managerialism being instilled into the university culture both locally and internationally. Throughout the text, the term "business analogy" is used to encapsulate these three distinct ideologies. Thus, it is concluded that the "business analogy" in science is the main contributing factor to misconduct in the form of plagiarism.⁴⁶⁴

6.4 The business analogy in science

States have formulated different mechanisms in line with this analogy to steer science directed at economic growth in a country. Science should be disinterested, i.e. it should not be linked to any specific interests, preserving its freedom from influence or favour. These business mechanisms appear in different forms, including insufficient funding, competitive funding formulae, incentivised funding from various sources through competition, a line management hierarchy, and the cultivation of an audit culture (performance management).⁴⁶⁵

It is important to acknowledge that misconduct among students and academics can also be attributed to other factors. These secondary factors can contribute to misconduct to a greater or lesser extent. Secondary factors include socio-economic factors, such as career advancement and lack of job security; lack of education and training, which includes apprehension about using proper English (even for native speakers) or an inability to express complex ideas in one's own words. As was stated, plagiarism is not always intentional, but can be accidental, resulting from careless writing and excessive reliance on only a few sources. It may also be the result of a failure on the part of the university to provide training and mentoring on what constitutes plagiarism and encouraging transparent communication among researchers.⁴⁶⁶ The increased instances of misconduct due to an absence of research integrity policies, consumerism, and the university as a fractured institution was also

⁴⁶⁴ See para 1.1 above.

⁴⁶⁵ See para 4.1, 4.2 above.

⁴⁶⁶ See para 4.1 above.

explored. Accordingly, proper attention was given to all possible contributing factors to academic misconduct and plagiarism.⁴⁶⁷

However, these secondary factors ultimately flow from the business analogy, in that they are a direct, unintended consequence of the business analogy being applied to science. The rationale is that when universities are forced to embrace relationships between themselves and business, unwelcome effects should be anticipated; these manifest in various symptoms, but originate from the exceeding pressures exerted on university personnel.

The implementation of the business analogy has led to numerous breaches of academic/scientific freedom, through a "system of perverse incentivisation and hypercompetition, thus corrupting science". The UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel of 1997 includes the "right to publish in any journal of one's choice".⁴⁶⁸

In direct conflict with this recommendation, the South African government has proclaimed a "list of accredited journals which it considers appropriate", in an overzealous effort to guarantee that science in universities will contribute to national developmental goals. For every "article published in an accredited journal, the government pays a subsidy to reward the relevant institution". Consequently, universities with insufficient funding require their academic faculty to rely on this income to support their research endeavors up to a certain extent. This results in staff who publish in non-listed journals being unable to obtain enough funds for attending conferences or engaging in other academic pursuits.⁴⁶⁹ This constitutes a "serious violation of academic freedom", not only by universities but also the government, which must be held "accountable for the perverse consequences of the system it has produced".⁴⁷⁰

⁴⁶⁷ See para 4.1 above.

⁴⁶⁸ See para 4.3 above.

⁴⁶⁹ See para 3.8 above.

⁴⁷⁰ See para 3.8 above.

It has thus been demonstrated that the business analogy in academia, alongside other potential contributing factors, leads to academic misconduct in the form of plagiarism.

6.5 International norms that protect the right to science

Article 15(1)(b) of the ICESCR of 1966 protects the "right of everyone to enjoy the benefits of scientific progress and its applications" also referred to as the "right to science". In South Africa, Section 16(1)(d) of the Bill of Rights in the Constitution, 1996, refers to academic/scientific freedom. This can be interpreted, in the broader sense, as the right to science.⁴⁷¹

As mentioned before, several important international instruments have been adopted "in light of the increasing relevance and continued neglect of the right to enjoy the benefits of scientific progress", and to provide normative content to that right, the right to scientific progress and its applications (REBSPA), as notably contained in Article 15(1)(b) of the ICESCR.⁴⁷²

The first of these documents would be the UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel of 1997. This international instrument sets out the "rights and responsibilities" of teachers in higher education institutions; it elaborates on "international standards for their initial preparation and further education, recruitment, employment, teaching, and learning". The recommendation includes multiple suggestions for "teachers, advocating participation in educational decisions through consultation and negotiation with educational authorities". These recommendations have been considered "an important set of guidelines to promote teachers' status in the interest of quality education".⁴⁷³

Second, the General Comment No 13 of 1999, adopted by the Committee on Economic, Social and Cultural Rights, provides interpretation and clarification of

⁴⁷¹ See para 2.1 above.

⁴⁷² See para 2.1 above.

⁴⁷³ See para 2.1 above.

Article 13 of the ICESCR, this provision protects the right to education, including at the tertiary level relevant to science.⁴⁷⁴

Third, the Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications was adopted by a group of independent experts under the auspices of UNESCO in 2009. It elaborates on the normative content of Article 15(1)(b) and Article 15(3) of the ICESCR.⁴⁷⁵

Fourth, the Recommendation on Science and Scientific Researchers, adopted by UNESCO in 2017, provides recommendations, as well as content and clarification to Article 15(1)(b) of the ICESCR. It is an important standard-setting instrument which not only codifies the goals and value systems by which science is to operate, but also emphasises that these need to be specifically supported and protected if science is to flourish.⁴⁷⁶

And last, is the most recent, the General Comment No. 25 on the right to enjoy the benefits of scientific progress and its applications.⁴⁷⁷

The question then arises: in what way can these international norms afford an appropriate domestic standard to protect science from the business analogy, if incorporated into domestic legislation? The answer lies in the fact that these international instruments require "that structures and decisions in the field of science be in the best interest of science and scholarship". They demand "respect for the intrinsic requirements of science" and the crucial role that "scientists themselves should play in organising science". All this basically implies is that academic/scientific freedom must be protected effectively. Thus, these internationally accepted norms could be interpreted as stipulating an "appropriateness" standard for the regulation of science; this may help to realise the "right to science", and its constituent elements, in the South African or any other

⁴⁷⁴ See para 2.1 above.

⁴⁷⁵ See para 2.1 above.

⁴⁷⁶ See para 2.1 above.

⁴⁷⁷ See para 2.1 above.

country's constitutional, legal, and broader science framework.⁴⁷⁸ The term "adequacy for science", in this context entails, that the "courts must be competent to safeguard the constitutionality of the legislation" capable of ensuring "that it achieves a balance between positive and negative state obligations" under the REBSPA.⁴⁷⁹

It is important to acknowledge that merely paying lip service to the right to science will not be effective; for it to exist in any significant sense it must be "respected, protected, ensured, and promoted by the state" through its various organs.

6.6 The adoption of an adequate framework for science

The method of introducing norms that safeguard academic freedom and freedom of scientific research is one that seeks to use relevant international norms to find the right balance between the state's duty to protect science, university autonomy, academic freedom and freedom of scientific research in the light of relevant international norms.

The guiding principle being used, the Venice Statement, gives states' obligations as a "duty to respect, protect, and fulfil, as derived from the REBSPA".⁴⁸⁰ Furthermore, any policy or legislative intervention should be understood in light of Article 2(1) of the International Covenant on Economic, Social and Cultural Rights, 1966. This provision defines the "general nature of state obligations under the Covenant".

Article 2(1) requires that state parties must implement active measures "to the maximum of their available resources" and "by all appropriate means" to realise the rights in the Covenant.⁴⁸¹ Alston and Quinn argue that it is for "each state party to decide" whether legislation is needed to realise an economic, social, and cultural right. However, in the modern state, and "in accordance with the rule of law", legislation will usually be necessary to regulate any typical field of state life, which

⁴⁷⁸ See para 1.5 above.

⁴⁷⁹ See para 2.3 above.

⁴⁸⁰ See para 2.3.3 above.

⁴⁸¹ See para 5.4.3 above.

includes science and higher education, thus having a basis in law.⁴⁸² The regulation of science at only administrative and executive levels lacks democratic legitimacy and is in violation of the "rule of law". An absence of such legislation will constitute a "threat to academic freedom and institutional autonomy". As explored throughout this dissertation, the right balance between the state's duty to protect science, university autonomy, academic freedom, and freedom of scientific research must be achieved. It has been submitted that a "robust protection of academic/scientific freedom remains the best guarantor of scientific advance", far better than the excessive regulation of science.

While this may be disappointing to anyone expecting a solution that directly targets plagiarism, the best way to curb misconduct, including plagiarism, is by recasting the science and higher education system in a way that properly realises the right to science, according prominence to the right to academic/scientific freedom. Treating the symptom will not remove the cause.

Hence, in order to protect academic/scientific freedom adequately and eliminate plagiarism, the following *5 general principles addressing academic/scientific freedom* are recommended for realisation in a constitutional, legislative, and wider science/higher education framework, as well as *4 specific principles addressing misconduct/plagiarism*. The *5 general principles addressing academic/scientific freedom* are as follows:

1. The adoption of framework legislation is crucial. Regulation of science at only administrative and executive levels lacks democratic legitimacy and is in violation of the "rule of law". An absence of such legislation will threaten academic freedom, institutional autonomy and thus contribute to an increase in academic misconduct and plagiarism. The "ultimate competence for regulation and decision-making in the field of science" and higher education should lie with the "scientific/university fraternity itself", as represented in its independent bodies.

⁴⁸² See para 2.2.2 above.

2. International norms on the right to science, academic/scientific freedom, and institutional autonomy should be firmly respected in domestic legislation, regulations, "written and unwritten statutes, by-laws, procedures, rules, and conventions" in the sphere of science.
3. The framework must protect academic/scientific freedom. This right must be "very strong" and may only be limited if, and to the extent that, it is constitutionally justified. Legislation related to science and higher education should be procedural in nature and only have a low regulatory density. Overregulation in this sphere stifles innovation and creativity.
4. Free science is essentially disinterested science. This best facilitates the truth-function of science. Specifically, science in universities should not seek to further any political or economic interests. Legislation is an important tool to safeguard the human dignity of all those exposed to science and to outline the appropriate claims of every citizen to share in scientific progress. Such legislation should be designed to "protect the rights and interests of individuals and communities" affected by scientific research and development, while also promoting scientific progress in a responsible and sustainable way.
5. The role of the courts in enforcing individuals' entitlements related to academic/scientific freedom, protection against science, and sharing in scientific progress is crucial. The courts must be competent and impartial, with the ability to interpret and apply the law in a fair and consistent manner

The 4 *specific principles addressing misconduct/plagiarism* are as follows:

6. Academic misconduct and plagiarism amount to a violation of the "right of every citizen to benefit from scientific progress and its applications". The state, therefore, has a duty both to prevent such misconduct and not itself cause it directly or indirectly through its science steering mechanisms, notably those of over-incentivisation.
7. State legislation with regard to misconduct and plagiarism should only be procedural in nature. Regulation which attempts to curb misconduct and plagiarism should provide for a decentralisation of powers and responsibilities

with states delegating functions to organised academia itself. This is an imperative of the "autonomous nature" of science.

8. Misconduct and plagiarism regulation "must be subject to the courts' review competence in respect of scientific and academic freedom". The courts must be the final guardian/custodian in safeguarding that arrangements in the sphere of misconduct and plagiarism regulation will be "adequate for science".
9. An increased emphasis should be placed on "academic self-duty" rather than institutionalised mechanisms of misconduct and plagiarism control. There must be a stronger emphasis on the right to academic freedom and the inherent duty to conduct research honestly and ethically.

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