

RESEARCH ARTICLE

Environmental law and systems theory

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Abstract

In 1985, German sociologist Niklas Luhmann published a monograph on ecology, which appeared in English translation in 1989 as *Ecological Communication*. It contained many original insights for ecological thinking and, despite being well-reviewed upon publication, has had a relatively minor impact on Anglophone environmental discourse. This inattention is also present in environmental law, which has recently seen an increase in legal theories that challenge its mainstream. This contribution first investigates why *Ecological Communication* has received scant attention, pointing to changes in the climatic context in which it first appeared and the reactionary nature of its arguments. Recognising that the work nevertheless contains critical theoretical insights for environmental law scholarship, the second aim of the article is to spotlight what from *Ecological Communication* remains relevant at the hand of three common claims progressive researchers level against mainstream environmental law: The critique of law's marriage to Cartesian dualism, that law should be better informed by climate science, and law's anthropocentrism. Finally, environmental lawyers are called upon not to ignore *Ecological Communication* but to engage with it fruitfully.

KEYWORDS

Anthropocene, environmental law, nature, Niklas Luhmann, rights of nature, society, systems theory

1 | INTRODUCTION

Among many international environmental legal scholars, a palpable frustration with the impotence of their discipline has arisen (Howes et al., 2017; Montini, 2017; Scotford, 2022). Despite decades of sincere effort and a near-continuous cycle of Conferences of the Parties, the rate of social change seems to fall bewilderingly short of what climate scientists' project is required. This state of affairs has led many environmental law scholars to question the foundation of the discipline's approach. A not-insignificant number of voices are thus advocating

for various new (or, arguably, the reanimation of much older) guiding principles. These have assumed various labels, such as Earth systems law (Kotzé, 2019b), Cosmolaw (Cirkovic, 2022), *Lex Anthropocenae* (Kotzé & French, 2018) and the Rights of Nature tendency (Wesche, 2021).

Despite their differences, these new environmental law paradigms share much in common. Some of the *leitmotiven* that one observes include but are not limited to an environmental law more sensitive to the communication or irritation originating from the (natural) science system; a critique of anthropocentrism in the law

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(Burke, 2023, p. 203; Boulot & Sterlin, 2022); criticism of the society/nature distinction (Artman, 2023; Cirkovic, 2022, p. 149); an appeal to indigenous knowledge systems (Pope et al., 2021, p. 9; Gellers, 2021); greater normative ambition (Adelman, 2021, p. 49; Kotzé, 2019a); and extending legal rights to nonhuman phenomena (Bleby, 2020; Schmidt, 2022), effectively creating new forms of legal subjectivity.

With a few noteworthy exceptions (Leach, 2023; Petersmann, 2021), the work of Niklas Luhmann has not had a profound impact on most of this line of scholarship. This silence is understandable, given that Luhmann has generally not been very influential in ecological thinking more broadly (Bergthaller, 2018, p. 1). This contribution aims to address two questions. The first is to ask why Luhmann's contribution has not had a warmer reception among environmental lawyers. In the second part, the benefit of Luhmann's work to new environmental law paradigms will be suggested through three examples. The purpose is not to defend establishment environmental law but to make its critics aware of theoretical critiques of their criticisms. The three cases invoked relate to the possibility to transcend the society/nature distinction; the functional differentiation of society into subsystems like law and science; and the paradox of anthropocentrism when speaking of the rights of nature. Environmental law has become aware and sensitive to the existence of planetary boundaries and the limits of natural and physical systems. However, it will be argued that the benefit of a Luhmannian analysis is to delineate the boundaries and limits of social systems, including law.

The table will be set in the following section, providing a brief background on the nascent paradigms in environmental law scholarship. It will be argued that these are genuinely legal-scientific paradigms in the sense of Thomas Kuhn (Kuhn, 2012) and that their appearance is due to a moment of disciplinary crisis in environmental law.

Following thereupon, Luhmann's ecological writings are interrogated. The question of why *Ecological Communication* has not proved more popular will be addressed. First, it is suggested that the book was written in a very particular context and aimed at a specific audience, which should be considered when reading it today. Second, the mode of argumentation in *Ecological Communication* will be submitted to textual analysis to identify certain reactionary rhetorical tropes that might have stymied the work's reception among ecological scholars.

The final substantive section will attempt to show that Luhmann's ecological work, despite its shortcomings, has much to offer to new environmental law paradigms. To illustrate the point, three of the paradigms' most commonly shared features—the critique of the

society/nature distinction, the call for closer collaboration between science and law and the critique of legal anthropocentrism—are isolated for further discussion. It will be argued that, at least for Luhmann, these three features of the new paradigms are 'easier said than done', for they present society with an *aporia* between society and nature that must be - but cannot be - overcome.

The hope is that this contribution's structure reflects a dialogue between current environmental law and Luhmann's ecological writings, both being approached critically. The latter's shortcomings are identified, but valuable insights are also preserved. On the other hand, new developments in environmental law are welcomed. However, they will be shown to fall short of some of the challenges posed by systems theory. Between these two 'voices', this study hopes to further the theory of environmental law, ecological humanities, the history of ideas and 'Luhmannology'.

2 | NEW PARADIGMS IN ENVIRONMENTAL LAW

In perhaps all spheres of life, panicked communication over the looming environmental crisis abounds. The legal system is no exception. Since the 1970s, environmental law has come into its own as a subdiscipline in its national and international manifestations. The rise of classic environmental law is, in itself, a development that should be applauded. Nevertheless, many legal scholars, joining many outside of its hermeneutic community, are dissatisfied with the ground made by the discipline.

An important reason for this dissatisfaction can be ascribed to environmental law's inability to fulfil its legal function. After Luhmann, we know that the law's function is to stabilise future expectations (Luhmann, 2004). This function practically means, among other things, that a wronged party can expect, after the failure of another legal person to act as expected, the state to place him or her in their expected position or, at the very least, compensate them in another way. Perhaps part of the anxiety that the climate crisis induces is that it represents the impossibility of a disappointing party (or the state in its stead) to satisfy the nonfulfilment of expectations. Courts fulfil their function through orders, punishments and, when all else fails, money. When society has crossed enough climate tipping points, we collectively understand that imprisoning polluters or ordering corporations to pay damages will not restore the damage done. In other words, the climate represents not simply a possible failure of the legal system but is (perhaps) a problem operating at the very limit of what the legal system can address.

The anxiety awakened by the limits of classic environmental law has led to a search for alternatives. In these

cases, the hope of refining classical environmental legal tools seems abandoned. One can, of course, not deny that much of the mainstream scholarship follows the traditional vein, and resources are still devoted to such research. However, this situation reminds one of the framework Thomas Kuhn created to describe scientific revolutions (Kuhn, 2012). In that model, it might be said that the existing paradigm of classic environmental law is experiencing a crisis phase in which anomalies abound, if not in its explanatory power, then in the effectiveness of its norms on the environment. This has led some scholars to advocate for a fundamentally new paradigm in environmental law (Adelman, 2021; Kotzé, 2020). It must also be noted that this paradigm shift, as would befit Kuhn's theory on scientific change, is observable in the realm of legal scholarship (in the science, not legal, system) and is decidedly less present in legal practice, at least for the time being.

In the last few years, these competing paradigms have presented themselves under many names: Earth System Law, Cosmolaw, *Lex Anthropocenae* or, more generally, the Rights of Nature tendency. Although there are essential differences between these, several shared features can broadly characterise them. Many of these features are to be welcomed, such as a detectable tendency to want to think beyond the state (Buitendag, 2022b). Other features pose similarly inspiring and theoretically and practically equally complex challenges. The first commonality is the criticism that environmental law is too married to a Cartesian society/nature dualism. Second, it is pled that environmental law be more open to direct influence from climate science in shaping laws and policy. Finally, it is commonly insisted that law is too anthropocentric and that its scope should widen to include nonhuman subjects. These claims draw inspiration from many sources in environmental humanities, such as Bruno Latour and Donna Haraway, but, with few exceptions, have not engaged with the work of Luhmann. Those who have, such as Leach and Petersmann, have done so with the theory in general and not specifically on its ecological aspects (Leach, 2023; Petersmann, 2021). In the next section, possible reasons for *Ecological Communication's* muted reception will be given, after which the three common claims above will be subjected to a Luhmannian critique.

3 | 'THIS IS AN IMPORTANT BOOK, THOUGH NOT A BOOK THAT EVERYBODY SHOULD READ': THE REACTION TO AND REACTIONISM OF ECOLOGICAL COMMUNICATION

Undoubtedly, Luhmann provides vital insights for the ecological movement, but, unfortunately, these are

largely ignored beyond small circles. Bergthaller writes: 'Niklas Luhmann made no significant contribution to environmentalist thought. He was one of the most radically ecological thinkers of the 20th century' (Bergthaller, 2018, p. 1). Nevertheless, the question of the climate crisis remains: What is to be done? As much as we know that the steerability of society is limited and that a coordinated response is impossible, it also seems apparent that the status quo is leading us to disastrous consequences.

This section aims to think, along with Bergthaller, why Luhmann's thinking might have been uninspiring to mainstream ecological thinking. It will begin with a brief overview of *Ecological Communication's* reception. The relative unpopularity of the work is then attributed to two causes. The first is the profound change in the environment of the text, and it is argued that a significant part of the ecological writings spoke to a *milieu* that no longer exists. The second reason is that while some of Luhmann's ecological insights are valuable, they also risk falling into certain reactionary tropes that, rather than being taken as sound advice, come off as discouraging for those interested in social change around environmental problems.

At the time of its publication in English, *Ecological Communication* received numerous reviews in academic journals with favourable conclusions, such as the book offering readers 'refreshingly new theoretical insights' (Krippendorff, 1991). However, despite the appreciative tone of most reviews, many point to the uninspiring message at the heart of the monograph. Stephan Fuchs noted that '[r]eaders who expect practical suggestions as to how to solve the ecological crisis will be disappointed. If anything, Luhmann's book leaves us with a heightened sense of alarm because his argument implies that such solutions are extremely unlikely' (Fuchs, 1990, p. 747). Another assessment concludes that those 'who exert the energy required to wade through the laboriously written prose will be amply rewarded by Luhmann's insightful conceptualisation of the relationship between society and its physical environment' but that 'those who are looking for either a description of, or a guide to, more effective environmental discourse will be disappointed' (Peterson, 1992, p. 258). One reviewer was left existentially shaken. He wrote that *Ecological Communication* 'leaves me with a "Weltschmerz," a pain in my association with my own environment. [...] Things I never questioned after my formal education ended in degrees in science and engineering have now become disturbing paradoxes'. The concluding sentence of this review perhaps best resonates with the book's ultimate fate: 'This is an important book, though not a book everybody should read' (Narodny, 1991, p. 365).

Why has *Ecological Communication* proved less influential, given the generally favourable critical reception? The title of a later, article-length study of the work sums it up: 'Neither Cited nor Foundational' (Mathur, 2005). Contemporary reviews had already pointed to the uninviting prose and the uninspiring message of the work. One reason argued here, naturally not reflected in reviews of the time, is that the book appears to have been written as a response to a drastically different climate reality than the one currently experienced. The current climate crisis is undeniable, and its effects are far-reaching. This is not the context of Luhmann's book. Instead, it represents an environmentalism concerned with the ozone hole and Chornobyl (which occurred 1 year before the book's appearance). It was aimed at the polemics of the German Green Party and anti-nuclear protestors. It is a work that attempted to intervene in a very 1980s—and one even dares to say—West German discourse.

Another reason for the relatively unenthusiastic reception of Luhmann's ideas, and one well-attested to in reviews, is its realist but uninspiring disposition. Luhmann has been unfairly characterised as a conservative thinker, something Hans-Georg Moeller, Andreas Philippopoulos-Mihalopoulos and others have done much to dispel (Moeller, 2012; Philippopoulos-Mihalopoulos, 2007; Buitendag, 2022b; Harste, 2021; Richter, 2023b). Nevertheless, his default stances of modesty, detachment and description rather than prescription demand greater analysis than reviews are intended to give. In what follows, the tone of *Ecological Communication* will be examined closely to show how Luhmann's book often falls into the typical conservative argumentative forms identified by Albert Hirschman (Hirschman, 1991). This tendency contradicts the typical activist disposition of ecological thinkers and environmental lawyers.

Hirschman identifies three common argumentative tropes conservatives use: perversity, futility and jeopardy. In short, the perversity thesis holds that any liberal reform of society will only achieve the opposite effect of what it has set out. For example, introducing a minimum wage to alleviate poverty would only lead to less employment and, thus, greater poverty. The futility thesis is even more straightforward: Attempts at change will achieve nothing. The final argument, namely, jeopardy, holds that a proposed social reform will endanger some other social good (Hirschman, 1991, p. loc 175). When scrutinising the text of *Ecological Communication*, it is possible to evaluate to what extent these forms of argument are present.

The perversity argument hinges on agreeing with the ultimate aim of any proposed social action (e.g., that

stopping climate change is essential and worthwhile), but that the proposed method can have the unintended consequence of exacerbating the problem (Hirschman, 1991, p. loc 226). This motif is present in *Ecological Communication*. On the topic of our complex society's self-observation, it says that

The horizons of what is possible have expanded so radically that every non-realisation must have causes in society. Intentions have unintended results while good intentions have bad side-effects. Rationality appears increasingly as perverted and in communication inevitably encounters mistrust and rejection.

(Luhmann, 1989, p. 124)

In another passage, the anxiety of the German Green Party over the climate is painted as its very obstacle:

Anxiety over what is bad as politics returns as a political factor within politics. This does not mean that the scope of resonance is extended. On the contrary, there are only a few possibilities of dealing with anxiety. It is not surprising then that the politics of the "Greens" as long as it operates this way does not seek a rational attitude towards ecological questions but approaches the objects of its fears directly. This amounts to the politics of obstruction: no nuclear energy, no concrete *pistes*, no cutting-down of trees, no razing of houses.

(Luhmann, 1989, p. 90)

Furthermore, 'the attempt to ease anxiety increases it' (Luhmann, 1989, p. 129). The perversity thesis rejects Enlightenment optimism over progression and replaces it with pessimism (Hirschman, 1991, p. loc 273). Hirschman singles out the discipline of economics, with the doctrine of the self-regulating market, as one of the prime culprits of this line of reasoning (Hirschman, 1991, p. loc 423). Given the similarity of that doctrine to the theory of autopoietic systems, it is perhaps unsurprising that arguments of perversity are tempting.

The second reactionary argument of futility claims that attempts at societal reform may not have any negative consequences as in the perversity thesis but will instead have no effect at all: Such changes are shallow and cosmetic. They cannot shift the underlying structures of society (Hirschman, 1991, p. loc 674). This attitude, too, is present in *Ecological Communication*. As early as in the preface, Luhmann offers the modest disclaimer

that the theoretical writings to follow cannot be immediately and obviously practicable. However, 'the significance of the theory will always remain that a more controlled method of creating ideas can increase the probability of more serviceable results – above all, it can reduce the probability of creating useless excitement' (Luhmann, 1989, p. xviii). On the topic of increased ecological consciousness, it is said that 'Even if an "ecological awareness" would arise in some conscious systems or others it would have properties that would be almost useless for society' precisely because of the determining role that systems, not individuals, play in society (Luhmann, 1989, p. 30). However, even individual social systems appear to be useless (which is arguably the central thesis of the book). For example, when writing about the political system's ability to affect climate change

The crude application of such [political] power is almost useless for the regulation of ecological problems because no one can be forced into any specific behaviour that would improve the relation of society as a whole to its environment. Besides, political power, because it ultimately rests on the threat of physical violence, i.e., on fear, possesses the real limitation *that it can neither prohibit nor prevent anxiety*.

(Luhmann, 1989, p. 89)¹

Later a pessimistic, if not prescient, prediction is made about the ineffectiveness of politics when he writes, 'the "Greens" will also lose color as soon as they assume office and find themselves confronted with all the red tape' (Luhmann, 1989, p. 126). To be fair, Luhmann immediately acknowledges the reactionary nature of that statement in the immediately following sentence, writing that 'This outlook may serve to appease "conservative" observers, but it ought not to conceal the fact that the real problem resides in the question of whether modern society is too dependent for self-description on the entirely inadequate basis of social movements' (Luhmann, 1989, p. 126). We see in these writings much of the adage that the more things change, the more they stay the same. Hirschmann identifies this attitude as one which paints the progressive as naïve and the conservative as worldly, wise and conscious of scientific laws (Hirschman, 1991, p. loc 693). In this sense, it becomes possible to say that Luhmann's theory creates the possibility of systems theory's split personality: on the one hand, the pioneering, sophisticated, posthumanist

account of society; on the other, a society ruled by laws, structures and systems which, while historically contingent, cannot be reformed by mere mortals, no matter how good-intentioned or necessary.

The final form of conservative argument is that of jeopardy, which does not seem present in the usually clinical Luhmann's writings. The rhetoric of jeopardy holds that a social change, while perhaps good, will come at the cost of another essential good (Hirschman, 1991, p. loc 1192).

To his credit, Hirschmann spends a brief amount of time on the dangers of stereotypically progressive rhetorical devices. They include an overly optimistic evaluation of the synergy between different sections of society if they could only be more harmonised—such as the relationship between climate science and climate law (Hirschman, 1991, p. loc 2123). *Ecological Communication* is a scathing indictment of such claims. Another typical progressive attitude is regarding the preponderance of danger lying in social inaction rather than action, and a theme Luhmann is prescient on 'The possibility also exists that the systems act on their environment in such a way that they cannot exist in this environment later on' (Luhmann, 1989, p. 14).

Hirschmann concludes his study on a serendipitously Luhmannian note. Rather than completely dismiss conservative arguments, he gives some acknowledgement that

Modern pluralistic regimes have typically come into being, it is increasingly recognised, not because of some preexisting wide consensus on 'basic values' but rather because various groups that had been at each other's throats for a prolonged period had to recognise their mutual inability to achieve dominance.

(Hirschman, 1991, p. loc 2354)

As Gorm Harste has effectively argued, the insistence on difference and dissensus lay at the root of Luhmann's theory, being the main point of contention with the consensus-based theories of Jurgen Habermas in their well-known clashes during the 1970s (Harste, 2021; Buitendag, 2022a).

Although a certain reactionary bent is present in *Ecological Communication*, its message is not entirely hopeless. It was written with the goal of theoretical refinement around ecological thinking as a, at least ultimately, positive social intervention. It commendably calls for a degree of modesty and care when engaging with undoubtedly serious threats. As early as 1959, Charles Lindblom argued that public policy should

¹Emphasis in original.

employ the ‘science of muddling through’ in the face of hypercomplex problems where competing values would be too numerous for individuals to evaluate (Lindblom, 1959). It calls for policy to not move in ‘leaps and bounds’ but to be incessantly remade to avoid making significant mistakes (Lindblom, 1959, p. 84). This sentiment is echoed by the systems theorist when he urges that ‘To the extent that technological intervention changes nature and problems result from this for society, *greater* rather than *less competence for intervention* has to be developed, but practised according to criteria which *include reaction on itself*’ (Luhmann, 1989, p. 14). Today this shared insight has been applied to the ‘super wicked’ problem of climate change, arguing that rather than being overwhelmed or driven to anxious overreaction by the complexity of the climate crisis, a more constructive approach would be to steadily and decisively ‘muddle through’ with reforms that continuously reflect upon the feedback of its environment (Gilligan & Vanderbergh, 2020). Thus, while Luhmann might not have been an influential ecological thinker, his proposed ideas and attitudes have not entirely disappeared.

Ecological Communication should not be read uncritically nor used as a cudgel against bona fide environmental concerns today. Keeping its reactionary rhetoric in mind, adopting Luhmann’s ideas might still be fruitful for today’s environmental lawyers. However, it would require greater theoretical exertion than nearly 40 years ago. The following section will attempt to illustrate the utility of the theory using three examples of how it can aid new environmental law paradigms.

4 | ECOLOGICAL COMMUNICATION’S LESSONS FOR ENVIRONMENTAL LEGAL THEORY

As mentioned, all is not lost, and some of the insights from *Ecological Communication* can prove productive in nascent environmental law theories. In Luhmannian terms, a common challenge seems to underlie all three of the following ambitions of the new environmental paradigms, namely, that they present *aporias* of boundary crossing. Nevertheless, like Tolstoy’s unhappy families, each has boundary problems in their own way. In what follows, they will be treated programmatically. The section is aimed mainly at environmental law scholars (thus operating mainly within the science and education systems rather than the legal system proper), highlighting alternative positions in social theory and problematising three critiques usually levelled at mainstream environmental law.

4.1 | The Cartesian society/nature distinction

A recurring target of critique in the writings of the new environmental paradigms is the so-called Cartesian society/nature distinction. Inspired by thinkers like Latour and Haraway, the argument is that humanity must recognise its entanglement with nature and rid itself of the distinction altogether (Latour, 2017, p. 16; Haraway, 2016). While some want to expose the artificiality of the distinction, Luhmann insists upon it. Placing all human and nonhuman actors on a level plane certainly has a certain democratic appeal. However, such a manoeuvre is in no way simple.

From a Luhmannian perspective, human or system observation of nature must necessarily begin from inside society. The difficulties that this distinction introduces is foremost that while ‘nature’ serves the function of the unmarked side (i.e., all that is outside of society), thus allowing for a theoretical ‘other side’ that is essential for constituting society, it is itself an empty vessel. This vessel must be observed and filled with content from within society. That nature can only be observed from within society is underlined by Luhmann’s analysis of the semantic transformation that the concept of nature had undergone in the transition to modernity (interestingly, in his work on semantic structures, Luhmann proposes that, like law, an essential function of semantics is to maintain the validity of expectations) (Luhmann, 1999).

In the Middle Ages, nature was understood as something that inhered to things and could be corrupted or perfected. In a mode of thinking inspired by Aristotle, everything strove (or should have striven) for greater perfection (Bergthaller, 2018; Schipperes, 1978) in what we could call *entelechy* or, decidedly after the Middle Ages, Hegelian *Geist*. In modernity, as Luhmann says, the concept of nature was split into two. On the one hand, the nature of science existed: the observable, measurable, predictable, and importantly, describable. On the other hand, by the time of the Romantics at the latest, one finds the nature of the environmentalist, the tourist on safari, the greenwashing marketing strategist and the environmental lawyer.

By being idealised, this second nature inevitably assumes a prescriptive, normative character (Luhmann, 2013). It could serve as a standard of certainty where political or moral debates seemed uncertain. It is emphatically not the nature of the scientist, nor is it the unmarked side of society. Like a Roentgen cabinet with more space inside than outside, the term nature opened a position inside society that could critique society as if it was not socially constructed. It also became a measure of validity for competing moral arguments (e.g., the entire

doctrine of natural law and, in conjunction, human rights, which will be dealt with below).

This argument—that nature provides a standard for human behaviour—can be traced back to antiquity (Bergthaller, 2020, p. 52; Schipperes, 1978, p. 217). However, compared to the static and ideal nature of Aristotle and the other ancients, modern science has taught us that the natural world is marked by dynamism, change and instability. Additionally, the term Anthropocene effectively illustrates that society and nature are intertwined and that humanity and society are inextricably tangled with the natural world (Bergthaller, 2020, p. 58; Bookchin, 2005). Bergthaller points out that arguing about whether the ancient or modern approach to the ontological character of the society/nature distinction is preferable is to miss the novelty of what the Anthropocene presents: that humanity is a geological force (Bergthaller, 2020, p. 61). In this light, we are confronted with the paradoxes that a multitude of internal differentiations bring: Through humanity, nature is both for and against itself; society, in its differentiation, both expands and critiques itself.

Recently, Hannah Richter has read Luhmann's insistence on the society/nature distinction in a positive light (Richter, 2023a). This re-evaluation aligns with a movement in the last decade or so to uncover the radicality of Luhmann's thoughts (Philippopoulos-Mihalopoulos, 2007; Moeller, 2012; Buitendag, 2022b; Richter, 2023b). It correctly insists on the fundamentally posthuman character of systems theory, emphasising the epistemological or knowledge network rather than individual agency as the basis of social action (Richter, 2023a, p. 2). It makes traditional semantic distinctions (society/nature, mind/body, individual/society) less relevant. It allows for a smooth continuity 'between thought, social structures and material-ecological relations' (Richter, 2023a, p. 7). This does not mean that the constitutive outside of a system can be eliminated. Importantly, it is contingent, meaning that the frame in which we approach the totality matters and can be changed. In other words, rather than doing away with the 'outside' (whether one prefers to call it nature or not), society should recognise that it needs its outside, but that what that is can be changed.

The above insights are of cardinal importance to environmental law. Society, in general, and the legal system, in particular, has no direct access to nature but can only project an image of nature within the system using its own constructs. If law speaks of a right to a healthy environment, such an 'environment' would require legal definition and would become only a legal concept divorced from anything natural (as would, for that matter, terms like 'health' and, of course, 'right'). The legal system is, perhaps, the crowning achievement of social

construction. It would be operating beyond its limit to ask it to step outside of itself into the natural.

In the above, we have seen one type of appeal to nature as a moral or authentic space from which to criticise society. While attractive to nascent movements within environmental law, it can never escape its inevitable position inside society. This gives rise to the temptation for a second type of appeal to nature, namely, nature as described by the science system. Rather than arguing in the form of ideal types or natural laws, this argument points to empirical knowledge of the world and urges society to remain within its reasonable working limits. This form will be the topic of the next section.

4.2 | Natural science and the law

The second claim of new environmental law paradigms is that science must better inform the law. Such a claim is appealing because it never has to vouch for its modernity (Luhmann, 1994, p. 9). Here, science is seen as a possible bridge between society and nature, as the method through which the entanglement between humans and the world can be understood. Again, it is Latour who provides a model for such thinking when he invoked the metaphor of society's 'bicameral parliament' consisting of politics in one chamber and science in the other (Latour, 2004, p. 175; Tynan, 2022, p. 9). Science is represented only in the latter and is thus depoliticised. The hope for a new environmental law is that, through science, nature can be represented in law and thus find a political voice.

Again, the devil is in the details. As much as society needs an external other, so do individual systems require an environment. The science system is no different. The nature of science remains a system-internal construction selectively observed in science's environment.² This means that environmental law relying on scientific knowledge must account for at least two boundaries that need to be crossed: The first is that between nature and society, specifically into the science system. We can no longer believe scientists have direct access to nature (Luhmann, 2002). The science system observes its objects and cannot help but communicate its observations as *communication*.³ The second boundary emerges from here: the legal system's observations of scientific communication, which must be articulated anew as legal norms.

²'Science is not discovery but construction'. (Luhmann, 2002, p. 70)

³This argument rests on the same logic of the difference between signifier and signified.

Let us pause momentarily on the second movement, touched upon in the section above, namely, how the legal system can receive and absorb scientific knowledge. Scientists (natural or otherwise) believe in the universality of their knowledge, which is valid to the extent that it enjoys universality within the science system. It is nonuniversal regarding other domains of society: Scientific facts cannot buy a car nor grant political power. Luhmann calls their effect ‘virtually nonbinding’ (Luhmann, 2002, p. 63) and says that ‘knowledge – and indeed particularly demanding, advanced knowledge – is consequently only one form of social potency among others’ (Luhmann, 1994, p. 11). Science cannot serve to select action.⁴ Naturally, this poses problems for a legal doctrine that presupposes it can base its normative project on scientific consensus. We cannot talk of scientific-legal decision-making, for scientific truths are only accessible to the legal system as potential legal facts, among many others.⁵

Luhmann pointed out that because science has no direct access to reality, it is ill-equipped to guide what to do in the world (Luhmann, 2002, p. 63; Luhmann, 1993, p. 530). The science system successfully creates knowledge because it can simplify the world drastically. However, it means that it cannot give broad prescriptions. This means that scientists, lawyers and society at large must adopt an attitude of modesty that acknowledges risk and uncertainty and discard the ‘Cartesian-Baconian confidence in more knowledge’ (Luhmann, 1993, p. 536).

This state of affairs creates problems for environmental law. The popular concept of planetary boundaries serves as a helpful example. Even if scientific consensus is attained on specific points, such as what measurements are most relevant, where we stand on those scales, the risks of transgression and more, what exactly the legal system should do seems like a wildly complex question (Luhmann, 1989, p. 69). Law’s normative, conditional ‘if ... then ...’ form (Buitendag, 2023) developed along the basis of stabilising society’s expectations of *society*. Introducing society’s environment into the legal system, an ‘if ... then ...’ based not on normativity but on scientific causality (Kelsen, 1967) appears to be at the breaking point of what the legal system can process. Luhmann teaches us not to overburden environmental law and to remain cognizant of what norms can regulate and cannot.

Thus far, it has been argued that society is predominantly governed not by human action but by systems and their particular rationalities. This element is what makes

systems theory a posthuman one. One branch of posthumanism, we have seen, calls for the politicisation of nature. The following section will discuss one such attempt, namely, the critique of legal anthropocentrism and the rights of nature.

4.3 | Legal anthropocentrism

It has become common today to read of accusations of anthropocentrism. Such criticism is not entirely misplaced; it seems apparent that much of the climate crisis can be explained through reference to human society’s unbounded and myopic selfishness, which is implicit in the very name Anthropocene. However, the two paradoxes above have illustrated that whatever the opposite of anthropocentrism is, accessing it is no simple matter. This is true of science and law, systems that cannot ‘step outside’ society. In the case of law, the problem seems even greater: where science can satisfy itself with descriptions, law trades in prescriptions (norms) and human expectations (Luhmann, 2004, p. 71).

The road to extending rights to nature, undoubtedly paved with good intentions, leads us back to where we started. What was first argued by Stone (Stone, 2010) and more recently and widely known outside the law by Latour (Latour, 2017) would see humans as proxies or agents for trees, rivers and animals. As mentioned above, our question becomes: How can human agents divine the wishes of nonhuman ‘subjects’?⁶ Keeping in mind that the legal system’s function is to stabilise expectations, and without forgetting Richter and Moeller’s convincing arguments for Luhmann’s posthumanism, attempting to ascertain the ‘expectations’ of nonhumans would, again paradoxically, involve no small degree of anthropomorphising.

One of the major offshoots of the anthropocentrism argument is for extending human rights to nonhumans. From Luhmann’s article on the three paradoxical phases of human rights, we know that the semantic grounding of human rights had to shift whenever crises arose (Luhmann & Buitendag, 2022). The first generation of human rights had to anchor themselves in talk of the

⁴In fact, science serves to multiply problems rather than solve them (Luhmann, 1989).

⁵See especially footnote 25 of the essay in (Luhmann, 1998, p. 88).

⁶The topic of the ‘legal subject’ is also no simple matter. In legal history, we have seen important shifts in who or what can be considered a legal subject. It seems apparent to us that an individual human should be a legal subject, but this would be to ignore centuries of intellectual labour and meaning-making to make this idea plausible. Should nonhumans be given legal subjectivity, a good question would be what it is that gains this subjectivity: and individual animal or a herd? Indigenous plants over alien vegetation? Endangered species or the entire ecosystem they find themselves in? Many variations on this problem can be imagined.

'natural rights of man' (again, who can ascertain these and attest to their naturalness?) and had to solve the problem of social unity in an individualised modern society. It was solved in part a century later through positivism (Luhmann & Buitendag, 2022). Rights were not natural but granted by the State through basic norms. However, post-WW2, in Luhmann's third phase of the rights discourse, rights find their legitimacy in the moral outrage they cause. Through a process of 'symbolic inflation', they function, once again, more like moral categories than legal ones.

It appears that society and the legal system are again finding themselves in a type of crisis, and the semantics of human rights are shifting again. Latour's call for politicising nature seems to be becoming a reality through various court judgements worldwide. Extending human rights beyond the human represents aspects of all three phases. As in phase one, the question of what is natural resurfaces. As in phase two, states are asked to recognise and positively enact human rights explicitly. Moreover, much of the debate rests on large-scale moral outrage. The paradox of being seemingly anti-anthropocentric by dragging nonhumans into legal subjectivity seems lost on many of its advocates. In the evolution of human rights through three phases, with the final's emphasis on moral arguments, one also finds oneself back at the first of this paper's three problems: An imaginary 'natural' space from which society can be shown to be morally corrupt and unnatural.

It might seem curious that systems theory, described as posthuman, would stand in the way of lessening the anthropocentrism of law. It may be granted to certain environmental lawyers and philosophers that the distinction between humans and nonhumans is, from a particular perspective, difficult to draw (Latour, 2017, p. 57). Unfortunately, however, this does not settle the debate. Luhmann becomes indispensable for his unique posthumanism by insisting on the nonhuman category, 'system'. Only the legal system can communicate legal communication, and it is not changed as simply as by granting standing. Trees do not step into the law; the system merely communicates about it in a new way based on existing forms such as subjecthood.

In the case of rights of nature, we see a trend already enjoying some recognition in courts. The Luhmannian question will perhaps raise itself later in its application. Accessing nature and determining its rights and how it will be filled and weighed against competing rights remains to be seen. Additionally, in a generation when the trust among critical legal scholars in human rights seems lower than ever, the endeavour to set nonhumans up for the same disappointments humans have suffered seems misguided. All this is not to argue against the

greater protection of the environment. Instead, it is an indictment of the limits of the legal imaginary and a plea for more innovative solutions.

In summary, we see that despite his reactionary rhetoric, Luhmann points to an alternative for theorising about environmental law. Current trends begin with the premise that 'everything is connected' and then quickly confront environmental legal practice with examples of disconnection. Luhmann's novelty lies in insisting that if everything is connected, it is so only because of and through boundaries (Luhmann, 2013, p. 196). As Aidan Tynan has recognised, the gap between society and nature is not a dualism that must simply be crossed, but rather that it is an *aporia*. It is a gap that must be crossed but is impossible to cross (Tynan, 2022, p. 4). Inclusion always comes at the cost of another's exclusion (Luhmann, 2013, p. 17). The challenge, in short, is thus: What can a progressive environmental legal theory look like that embraces difference, not unity?

5 | CONCLUSION

This contribution began by pointing to a general disappointment regarding environmental law and its achievements. This can be seen in the abundance of new environmental law approaches in academic legal literature. A survey of these new approaches reveals that, despite differences, many similar ideas are proposed as the foundation of a renewed environmental law. Among these similarities, three are highlighted: the universal criticism of the society/nature distinction of classic environmental law, the need for environmental law to be guided by the newest developments in climate science and finally, the law's anthropocentrism.

It was argued that Luhmann's *Ecological Communication* is a largely ignored work that might be worth revisiting to temper the claims from certain corners of environmental law. Before that could be done, the reasons for the book's relative obscurity had to be investigated. Two reasons were explicitly raised. The first is that the book was written with a specific understanding of its climatic reality and was aimed as an intervention within a specific national and political context, which does not apply directly to a diverse readership today. Second, with reference to specific passages, it is shown that the text displays certain reactionary rhetorical tropes, which could have impacted the broader dissemination of Luhmann's ideas among ecological thinkers. However, it concludes by arguing that it contains valuable lessons for those thinking about environmental law.

The work's utility was investigated at the hand of three common themes in current environmental law

scholarship. It was posited that any reference to nature inevitably remains trapped within society and is often used for little more than a rhetorical space from which moralising arguments are made. Additionally, the possibility of law being guided by science is problematised. The functional differentiation of society makes any direct transfer or even 'translation' of such information impossible. Turning descriptive facts into prescriptive norms is so complex that it seems improbable for the legal system to process. Finally, the accusation against the law's anthropocentrism is also challenged, specifically regarding the rights of nature movement. This tendency is not the opposite of anthropocentrism but rather the anthropomorphising of the nonhuman.

New developments in thought, both environmental and legal, are crucial, and the attempts by environmental lawyers to contribute to the possible solution to the climate crisis are to be lauded. Such attempts are made more robust by considering thoughtful critique, regardless of the source's obscurity (or popularity). In this spirit, environmental lawyers are invited to engage with *Ecological Communication*.

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