**Placing the Animal in the Dialogue Between Law and Ecology**

This paper explores the growing dialogue between law and ecology, and asks if there is a promising space for the development of animal law in this growing dialogue. Specifically it sets up two meetings and dialogues between ecology and law, one with law prevailing, and one with ecology prevailing, The article pursues the later meeting of ecology and law through introducing and then compiling four prominent groupings in the ecology prevailing dialogue between ecology and law (Ecosystemic law; Earth jurisprudence; Resilience Theory; approaches embracing philosophical complexity theory). The article argues that in this dialogue that ecologically informed approaches develop a fundamental critique of orthodox legality, and that ecologically informed approaches consequently assume the problematic of legality, and that in so doing ecology and legality are each transformed. What emerges from these transformations is an ecological jurisprudence, and ideas of Emergent Law, Adaptive Law, and Ecolaw. In the final two sections the article turns directly to the place of the animal in the ecology prevailing dialogue between ecology and law. The article argues that in this dialogue affective assemblage theory has developed as a pre-prepared place for the animal as an affective body in complex social-ecological affective assemblages. The conclusion briefly draws out some of the implications for animal law and animal lawyers in taking up the conclusions from the ecology prevailing dialogue between law and ecology. The article suggests it may well be an exciting dialogue for animal law to find a place for exploration.

Introduction

In line with the concerns of first annual ‘Animals and the Law’ Conference[[1]](#endnote-1) (at which a version of this paper was first presented), and in line with Simon Brooman’s position paper on socio-legal Animal Law (Brooman 2017), this article seeks to contribute towards the development of Animal Law as a key socio-legal subject within the Law curriculum. It does so by introducing an account of the dialogue that has been taking place between law and ecology, and then by seeking to locate animals and Animal Law within this dialogue. This dialogue is framed as one in a twofold meeting and dialogue between ecology and law: one a meeting and dialogue between law and ecology with legality prevailing; one a meeting and dialogue between ecology and law with ecology prevailing. It is this latter meeting and dialogue that this article primarily considers. The idea is that the last twenty years has seen the development of an advanced dialogue between ecology prevailing law and ecology that Animal Law could assume as work already done on the relation between law and nature/animals/ecology, and further assume as one potential direction for Animal Law to develop in. The legal consideration of the animal could then be placed in this advanced dialogue, and Animal Law could develop as part of the dialogue between law and ecology and in relation to the ambitions and concerns of an ecology of law.

It should be noticed from the outset this account of the ecology prevailing meeting and dialogue between ecology and law is one that has happened far from the Law Schools (or at least at the very edges of Law Schools). In Law Schools it is the legality prevailing meeting and dialogue between ecology and law has taken place in the development of Environmental Law. In this meeting and dialogue nature as air, water, protected species, global pollution, has fallen to be taken into account in law and protected in environmental laws. However, in Environmental Law the very assumptions and forms of modern legality have not come to be fundamentally questioned, and Environmental Law remains firmly within the paradigm of modern legality and is recognisably orthodox legality. The dialogue that develops is one which ecology speaks only in so far as its concerns can be translated into orthodox legal categories and rationality (Little 2016).

The ecology prevailing meeting between ecology and law put forward here charts an entirely different course for nature and law than that of Environmental Law (Brooks *et al* 2002). Thus the aim of placing the animal in this radical dialogue between ecology and law would indeed chart a direction of travel for socio-legal Animal Law way beyond affinities with Environmental Law, and rather to take up a central role in the high-stakes fundamental re-thinking of both ecology and law.

It should also be noted from the outset that this account of the ecology prevailing meeting between law and ecology is indeed a prevailing of ecological understanding of the world. Nonetheless, this meeting does produce a genuine and creative dialogue in which there is a coming and going between ecology and law, transforming each and spawning a new field of ecological jurisprudence of a social-ecological field. It is a dialogue in which both perspectives emerge transformed, each emerge speaking in a transformed voice and language, and in transformed voices and languages that crucially can speak together. Whilst a meeting between ecology and law in which the legal perspective prevails produces a monologue between ecology and law, the meeting between ecology and law in which the ecological perspective prevails produces a wildly creative and experimental dialogue in which both perspectives transform and form a new alliance.

The article first introduces the ecology prevailing meeting and dialogue of ecology and law through introducing and compiling four groupings of work that together have produced the ecology prevailing dialogue between law and ecology. These are ecosystemic law, Earth Jurisprudence, Resilience Theory, and philosophical complexity. The article then outlines the ecological critique of orthodox legality, and the consequent assumption by ecology of the problematic of legality and social organisation. The article argues that the meeting between law and ecology has prompted necessary transformations in ecology, as the study of ‘organism and environment’ system ecology has had to expand to encompass socio-ecological systems, and to commence a profound investigation into the relationship between legality, social organisation, life, and ecology. As this article sketches out this meeting of ecology and law it will become clear that the contemporary field of ecology and law has become transdisciplinary as an ecology of law that goes beyond traditional ecology and orthodox legality, becoming distinctly philosophical, creative and experimental. In the ecology prevailing meeting ecology has caused a radical re-thinking of law, and in the ecology prevailing dialogue a radical re-thinking of legality causes a fundamental re-thinking of ecology, which in turn makes available space for a further radical re-thinking of legality[[2]](#endnote-2). In the final two sections the article turns directly to the place of the animal in the ecology prevailing dialogue between ecology and law. The article argues that in this dialogue affective assemblage theory has developed as a pre-prepared place for the animal as an affective body in complex social-ecological affective assemblages. The conclusion briefly draws out some of the implications for Animal Law and animal lawyers in taking up the conclusions from the ecology prevailing dialogue between law and ecology. The article suggests it may well be an exciting dialogue for animal law to find a place for exploration.

The Dialogue Between Ecology and Law

In the ecology prevailing dialogue between ecology and law there have been four somewhat different groupings, some advancing further than others, though all are largely in consensus of the consequences of the meeting of ecology and law for the development of the dialogue between ecology and law.

A first grouping can be seen as forming around Richard Brooks, Ross Jones and Ross Virginia’s 2002 book *Law and Ecology: The Rise of the Ecosystem Regime* (Brookes *et al* 2002; Waltner Toews *et al* 2008). The book charts the proto-history of thee meeting of ecology and law, framing the meeting between ecology and law as a rocky courtship between a couple that has matured to a kind of marriage between ecology and law that settled around developments in environmental law. However, the final chapters of book move well beyond the terms and scope of the environmental law settlement, and moves into the statement of intent of this grouping: ‘It is the intent [of the book series] to provide a balance in the treatment of legal and ecological material not traditionally found in environmental law texts’. This grouping thus signalled from the start that the renewed meeting of law and ecology would be outside Law School Environmental Law. In the final chapters of *Law and Ecology* Brooks *et al* set out their account of a meeting and dialogue between law and ecology diverging from environmental law. Brooks *et* al frame the dialogue in terms of complex systems theory. In their account of the dialogue both ecology and law are theorised in terms of complex systems, with a mutual transformation of law and ecology as law becomes an eco-systemic law, taken within the ecological regime of the two entangled systems. Through this they introduce the fundamental idea that the meeting of law and ecology in their systemic understanding was thenceforth the necessity not to talk about a distinct natural ecology and a distinct set of law, but of *ecological and social assemblages* in which law and ecology would form together and adapt and evolve together in novel mixed social and ecological self-organising regimes.

A second grouping in the ecology prevailing dialogue between ecology and law has taken up the problematic of the meeting of law with ecology in far reaching ways. This grouping has been that of Earth Jurisprudence, centring around the visionary work of Father Thomas Berry, and taken up further in the work of Cormack Cullinan and Peter Burdon(Berry 1999; Cullinan 2011; Burdon 2011a; Burdon 2011b; Burdon 2015). The core of Berry’s understanding of the meeting of law and ecology was that legality had to be understood as embedded within an ecological understanding of the world. For Berry there was an ecological and spiritual Great Law that moved the flourishing of ever greater complexity in the world and the cosmos, and that it was this Great Law that should be taken up in human affairs (as part of what Cullinan would term Wild Law) that organised law in tune with the Great Law and worked for the flourishing of the entire Earth community. This grouping in the dialogue between ecology and law has gathered a strong, often passionate, following and the literature by its key protagonists has grown to be very considerable. Whilst once charged as re-booted natural law, Berry’s approach is far more nuanced than this, and Burdon’s formatting the Great Law as the scientific and systemic principles of ecology has substantially addressed this objection. In short, , Earth Jurisprudence is an extremely engaging account of the dialogue between law and ecology and vision for the future of ecological law (Berry 1999; Cullinan 2011; Burdon 2011a; Rodgers & Maloney 2017).

A third grouping has developed around a primarily ecological scholarly community drawing upon Buzz Holling’s ground breaking paper on non-equilibrium ecology (Holling 1973), to develop a major body of work known as resilience theory and pursued in the Resilience Alliance (Gunderson *et al* 2010; Walker & Salt 2006; Gunderson & Holling 2002).[[3]](#endnote-3) Resilience theory has developed a rich ecological understanding of law, centred on non-equilibrium systems, dynamic resilient organisation, and nested interconnected ecological networks. Pragmatically facing issues of environmental resource management, resilience theory developed from its inception as necessarily approaching ecological problems as always already social problems, and therefore work on the dialogue between ecology and law has been central to resilience theory. Not least in the complexity theory and resilience theory informed approach of the environmental lawyer J.B.Ruhl (2012) the shape and scope of the dialogue between law and ecology has been very extensively developed in resilience theory, and efforts are being made in this grouping to explore and develop a resilience concept of law of Adaptive Law (Craig 2010; Arnold & Gunderson 2014; Garmestani & Benson 2013; Garmestani & Allen 2014; Arnold & Gunderson 2014; Garmestani *et al* 2014; Humby 2014).

A fourth grouping is more diverse and disparate, but is held together as approaches that take up the dialogue between ecology and law in a philosophically informed complexity theory. On a philosophical line spanning Spinoza-Nietzsche-Bergson-Whitehead-Deleuze-Deleuze & Guattari (Deleuze & Guattari 2004; Guattari 2014; Guattari 1995; Bonta & Protevi 2004; Halsey 2006; Herzogenrath 2008, 2009), ontology has been increasingly the basis upon which develop the dialogue between law and ecology (Philippopoulos-Mihalopoulos 2012a, 2012b, 2015; Utomo & Mussawir 2013; Murray 2013; De Lucia 2014, 2016; Grear & Grant 2015; Thomas-Pellicer 2016; Thomas-Pellicer & De Lucia 2016; Pelizzon & O’Shannessey2016; Pieraccini 2016; Braverman 2016a, 2016b; Delaney 2016). In a similar vein, complexity theory thinking, just as it is becoming centrally important in ecology, itself has been taken up to inform the dialogue between ecology and law (Capra 1996; Bak 1996; Kauffman 1995; Prigogine & Stengers 2018; Prigogine 1997; Capra & Luisi 2016).[[4]](#endnote-4) Capra and Mattei’s complexity theory *Ecology of the Law* (2015) makes the case that a change in paradigm in the human understanding and relation to nature is under way, and that it is in the developing dialogue between ecology and law that this changing paradigm is most forcefully evident. In their development of an ecology of law, Capra & Mattei go so far as to develop a concept and practice of ecolaw, displacing the modern concept and practice of law (Capra & Mattei 2015; Ruhl 1996a, 1996b, 1997; Ruhl & Ruhl 1996; Turgot 2008; Craig & Ruhl 2010; Kim & Mackey 2014). The philosophically informed approach and the complexity theory approach can be grouped together due to a shared complexity ontology, and strikingly converging assessments of the current scope and stakes of the dialogue between ecology and law.

All four groupings start with an ecologically informed understanding of the world, tending towards the development of an ecological ontology. This ecological understanding of the world in all four groupings is applied to modern law, and is followed by the assessment as to whether this account of modern legality is compatible with their ecological understanding of the world. In the next section and later sections there is presented a synthesis of the key positions across all four groupings of the ecology prevailing dialogue between ecology and law.

*Ecological Understanding Meets Modern Legality: The Critique of Legality*

In the ecology prevailing meeting in which the ecological understanding of the world and model of thought looks at the legal understanding of the world and model of thought it sees the following picture (Brooks *et al* 2002; Cullinan 2011; Burdon 2011a, 2011b, 2015; Ruhl 1996a, 1996b, 1997; Turgot 2008; Craig & Ruhl 2010; Kim & Mackey 2014; Capra & Mattei 2015; Craig 2010; Arnold & Gunderson2014a, 2014b; Garmestanit & Allen 2014a; Garmestani *et al* 2014; Philippopoulos Mihalopoulos 2012a, 2012b, 2015; Utomo & Mussawir 2013; Murray 2013; De Lucia 2014, 2016); Grear & Grant 2015; Thomas-Pellicer *et al* 2016; Thomas-Pellicer & De Lucia 2016; Pelizzon & O’Shanessey 2016; Pieraccini 2016; Braverman 2016a, 2016b; Delaney 2016) . Modern legality shares the same understanding of the world and model of thought as modern science has constructed and disseminated.[[5]](#endnote-5) Indeed, from the ecological perspective, modern science and modern legality are the two great wings of western modernity, sharing their birth in the 16th and 17th centuries, operating the same paradigm, and intellectually cross-relating and mutually re-enforcing each other. From the ecological perspective it is Galileo with Descartes, Bacon with Hobbes, Newton with Locke (for example Capra & Mattei 2015). Modern legality and modern science share the same ontology, epistemology, and ethical relationship to nature. It is a world as understood as subtended by a human/nature divide and a subject/object divide, which sees the world as passive matter to be interrogated and shaped in dominion by a human subject uniquely possessed of rational reason. In modern legality to think was to articulate the two fundamental divides, and to articulate a universal application of fixed laws and a hierarchy of essences, judging the same and the different in exclusive disjunctions. The understanding of the world shared by modern science and modern legality was from the ecological perspective starkly reductionist and mechanistic, and exclusively analytical. Specifically in modern legality, this understanding of the world and model of thought was developed in the modern liberal legality of private sovereignty and private property, of political organisation rooted in the primacy of individual freedoms and autonomy, and centred on economic growth and efficiency. It was a legality that exclusively organised the world into formal right relation between legal subject-persons, enabling an agency and freedom to exploit the environment and entrenchment of a pervasive possessive individualism. Legal knowledge and reasoning was itself starkly reductionist, mechanical, fixed on the universal application of fixed laws to fixed hierarchised essences, and exclusively restricted to analytical thought.

This all clashed terribly with the ecological understanding or the world and model of thought. The ecological understanding of the world was that of a vastly interconnected dynamic network of materialised and embodied relationships, with shifting and unsteady forces and relations, unpredictability, and the endless creativity of self-organising and emergent processes, properties and capabilities. This understanding of the world was that of ceaseless experimentation, adaption and evolution, co-adaption and co-evolution, non-linear systemic collapses, and system wide transformations. This underlying ontological understanding of the world directed the ecological perspective’s model of thought. Thought could not be mechanistic and reductionist, because the world to a massive extent was not mechanistic and reducible to the sum of the parts. Rather, the world was vastly interconnected and dynamic and not amenable to reductionist and mechanistic thinking. Thought itself would have to be synthetic and integrationist in creative thinking that could cope with the absence of binary divides, of linearity, of prediction, and of certainty (Prigogine 1997).

Thus, this ecology understanding of the world and thought fundamentally problematizes and challenges the categories of legal modernity and the way in which modern law thinks (De Lucia 2016 p.161 and 166). These problematisations and challenges are simultaneously ontological and epistemological. The materialist and embodied ontological commitments of ecology were very different to the implicit ontological commitments of modern law, and the ecological relational ontology could not be translated into legal categories and an ontology premised on the subject/object divide and clearly delimited boundaries (p.167). The ecological model of thought was an epistemological problematisation and challenge to the modern legality image of thought, asserting the profound limitations of reductionist and mechanistic analysis, and the need for interconnected and dynamic model of thought (p.167).

Further, Ecology was ethically concerned with the well-being, sustainability and diversity of ecosystems, deep awareness of the human impacts upon environments, and keenly aware of the dire global ecological challenges of global warming associated with human induced global climate change. This sets ecology directly opposed to the premise at the heart of modern legality of human dominion over the natural world, and hence also sets an ecological perspective at odds with the fundamental juridical building blocks of modern liberal law of sovereignty and private property (for example Burdon 2015). Even worse still for the promise of any meeting of law and ecology, the ecological perspective on modern legality was that not only was it not fit for the purposes of addressing complex ecological issues, it was one of the principle causes of the ecological crises the world finds itself facing.[[6]](#endnote-6)

On the basis of this problematisation of modern legality, the assessment of its inadequacy for addressing the complexity of ecological problems, and indeed, on the basis of the assessment that modern legality is deeply implicated in global ecological crisis, in all the four groupings discussed above there is a shared assertion of the radical incompatibility between the ecological world view and concerns, and the modern legality world view and concerns (this conclusion is pervasive throughout the four groupings, but generally see Capra and Mattei 2015 l.345). In all four groupings there emerges the necessity across this work to radically and fundamentally re-think legality and legal practice. Indeed, the common conclusion is that modern legality and its model of thought would need to be dispensed with entirely. [[7]](#endnote-7) In terms an ecological understanding of law ‘we must re-think the most intimate structure of the law to reflect the basic principle of ecology and the new systems thinking of contemporary science’ (Craig 2010 p.30).

1. *Ecology Assumes the Problematic of Social Organisation and Legality*

The damning ecological critique of orthodox legality would indeed appear to shut down the dialogue between law and ecology. However, the finding of radical incompatibility from the ecological perspective on the modern legality perspective rather sparks an explosion in the dialogue between ecology and legality. The reason for this is that when ecological perspectives dismiss modern legality in total, this opens up the entire problematic of legality and social organisation, and drops this problematic into the field of ecology. There emerges a dialogue between law and ecology because ecology now has to integrate into its problem field the entire problematic of legality and social organisation. Ecology must now develop to explore all facets of this problematic, and invent new concepts, forms and practices of legality. Law enters into ecology as a new fundamental feature of ecological theory, inquiry, and practice. Further, ecology assumes this in the knowledge that the legality it must create and operate is one that is adequate for dealing with systemically complex problems. All four groupings discussed above that have taken up this challenge to develop a dialogue between legality as a problematic and ecology as a field, and, thus, of necessity, to greatly expand the scope of a transformed ecology.[[8]](#endnote-8)

When our groupings begin to address the problematic of modern legality, their attempt is to grasp the problematic of legality in its problem field (see Little 2016).[[9]](#endnote-9) A problem field is technically a high dimension manifold and a distribution of attractors, but we can here employ an ecological example to aid understanding. The fight or flight response has a particular problem space of various pressures, tensions, threats, and confrontations that call forth the fight or flight problematic. An actual particular fight or flight is an actualisation of the problematic of fight or flight in response to the fight or flight problem space. If it is decided, perhaps on the basis of past experience that neither fight not flight are adequate solutions to a problematic of conflict and danger, then the problematic must be re-conceptualised, the problem space explored anew, and new dimensions and attractors of the problem field discovered and brought into creative interconnection. To return to the problematic and problem field of legality, at a certain time and place modern legality emerged from the problem field of legality as the answer to the problematic of generating (new) ways of organising the world see Capra & Mattei 2015). However, with the ecological critique of modern legality this problematic and problem field must now be cleared, and jurisprudence begun anew.

The problematic and problem space of legality must be re-thought and re-conceptualised. This problematic and problem field must now be extended to a problematic and problem field located within an enlarged social-ecological organisational problem field. In order to think this social-ecological problematic and problem field of organisation the ecology prevailing approaches have turned to ecological understandings, knowledge of the processes and dynamics of ecosystems, to systems thinking of complexity theory, and to the implicit philosophical and ontological concerns of contemporary ecological explorations. The ecological assumption of the problematic of social organisation and legality requires the development of an ontology of the emergent social-ecological field.[[10]](#endnote-10)

1. *Transformations: Transformed Ecology, Transformed Legality*

*Ecology Transformed*

In many respects around the period leading up to the dialogue between ecology and law under discussion ecology was going through transformations. Always a science concerned with systems, ideas from complexity theory such as non-equilibrium conditions, self-organisation, emergence, and dissipative structures, increasingly shaped ecology (Levin 2000; Scheffer 2009). Ecology was exploring its implicit ontology, becoming more open to a philosophical understanding of the materialist ontogenesis of ecosystem processes (Bennett 2010; Dolphin & Van der Tuin 2012; Braidotti 2013). Ecology was increasingly willing to appreciate its understanding of the world as ontology, and to develop cross fertilisation with ecological trends in philosophy (Margulis & Sagan1986; Swimme & Berry 1992; Burdon 2011a; Lovelock 1979; Harding 2011). Philosophy itself was becoming ecological, not least in the work of Deleuze & Guattari (2004), and continuing in Herzenograph (2008, 2009) and Philopopoulos-Mihalopopoulos (2015). Ecology further has cross-fertilised with the humanities in the development of environmental humanities, widening the scope and language of the ecological understanding of humanity as ecologically embedded in an immanence of humanity and nature (Rose *et al* 2012). As part of ecology’s new openness to complexity theory and ontological philosophy, ecology was also expanding into issues of sentience and thought, and the exploration of the relations between nature and mind (Bateson 2000; Sheldrake 2000; Sheldrake & McKenna 2001).

Emblematic of this profound transformation in ecology has been the growing reference point of Felix Guattari’s *The Three Ecologies* (2014). Guattari’s book as early as 1989 proposed a massively expanded concept and practice of ecology extended to ecologies not only of nature, but also of social relations and human subjectivity, and the relation between the three.

It is along the lines of Guattari’s transformed model of ecology that the four groupings of the ecology prevailing dialogue between law and ecology have also been moving in the direction of a transformed ecology. Both assume the problematic of socio-ecological organisation, and transform the problematic and problem field of ecology as a discipline and a practice, and the assumption of the entire legal and social organisation problematic. The assumption of the problematic has transformed ecology still further than its own developments, and ecology becomes the ecology of the socio-ecological field.[[11]](#endnote-11) Ecology becomes an ecological ontology of life, and ecology becomes an ontologically, epistemologically, and ethically infused ecology of the full socio-ecolgical field.

*Legality Transformed*

In the dialogue between law and ecology the assumption of the problemtic of legality becomes the transformed ecology that extends to the entire self-organising and emerging socio-ecological field. In response to this, legality must renew itself as an open problematic and problem field of emergent ecological jurisprudence and ecolaw. The dialogue between law and ecology produces a transformed legality (and a transformed ecology) in an ecological jurisprudence. It is ecological jurisprudence that emerges to explore the problem field of legality and to interrogate the ontological foundations of legality (Capra & Mattei 2015; Brooks *et al* 2002; Cullinan 2011; Ruhl 1996a, 1996 b, 1997; Ruhl & Ruhl 1996; Arnold & Gunderson 2014a, 2014b; Garmestani & Benson 2013; Garmestani *et al* 2009; Philoppopoulos Mihalopoulos 2012a, 2012b, 2015; Utomo & Mussawir 2013, Murray 2013; De Lucia 2014, 2016; Grear & Grant 2015; Thomas-Pellicer *et al* 2016; Pelessen & O’Shennessey 2016; Braverman 2016a; Delaney 2016).

In this ecological jurisprudence life is as it is understood in complexity ecological thinking: a process of self-organisation and emergence in materially embodied complex assemblages. Law is now understood as founded on ecology, complexity, ontology, self-organisation and emergence, and as operating in the problem field of complex socio-ecological assemblages. In this new relation law is itself a process of self-organisation and emergence in materially embodied complex assemblages.

It is a conceptualisation of law and legality as socio-economic organisation aligned with life and its creativity. Justice is the flourishing of this law and legality aligned with life, in ecological sustainability and social justice in complex socio-ecological assemblages. It is in terms of a re-newed ontology and understanding of the real world (epistemology and ethics) that we can then start re-thinking legality.

In ecological jurisprudence law and legality are re-conceptualised with the tools that lay to hand: ecological thinking, complexity thinking, ontological thinking. It is the creation of an ecological jurisprudence, a complexity jurisprudence and an ontological jurisprudence. In the dialogue between ecology and law complexity theory has played an ever present role, with complexity theory in varying depths across all four groupings informing both ecological thinking and the new thinking about legality. Ecological jurisprudence finds its culmination in a ‘new understanding of the ontological plane that legality finds itself on’ (Philippopoulos Mihalopoulos 2012a p.14).

Ontologically, the groupings address the foundations of legality in terms of complexity ontology. This is not a term of art, but it conveys the broad spread of from dense philosophical process ontology of Deleuze & Guattari, across rigorous interrogation of legality with complexity theory, to intuitive complex adaptive systems theory. The term complexity here is the now well discovered and understood material immanent processes of self-organisation and emergence that create, shape and drive real transforming systems in registers that span physical, chemical, biological, social, global, and cosmic. A complex system, such as legality, thus has a field of self-organisation and emergence, where from unformed elements and matters it self-organises and emerges as a dynamic system of organisation and counter-entropic order. This real field of emergence is in self-organisation the generation of a dynamic solution to a particular problem posed in the field of self-organisation. The dialogue between ecology and law points clearly to a real field of social self-organisation and emergence, and to a real self-organisation and emergence of social assemblages that may be forming there.

Epistemologically, this complexity re-thinking of legality is the problem field of legality. The field of emergence can be thought of as the partner to a dynamic problem field of both the problematic and the emergent complex system, with its problem field mapping the problematic of the emergent complex systems. The ecological critique of modern legality decides that the modern answer to the problematic of social organisation is no longer adequate, and so ecology must then anew open up the problematic of legality and explore the unrestricted problem field of legality. The dialogue between ecology and legality developed in our four groupings is the ecological exploration of the problematic and problem space of legality.

As for ecology and legality themselves, brought together in ecological lurisprudence, the dialogue between ecology and law, pursued in these terms, opens up a ecological jurisprudence in which law becomes ecology, and ecology becomes law, and both become philosophical. In Deleuze & Guattari terms the ecological jurisprudence that emerges from transformed legality and transformed ecology draws a plane of immanence to legality, to the Earth, to thought, and their three ecologies interconnection and interactions in social transversal consistency.[[12]](#endnote-12) A plane of immanence is the philosophical concept of the immanent mesh of all ecological, noological, cultural, sociological fields and problematics of self-organisation and emergence. With ecological jurisprudence there is a concept and practice of legality on a single social-cultural-ecological plane of immanence beyond divisions of subject/object, human/nature. In this ecological jurisprudence of the plane of immanence ecology and legality merge and become a philosophy of the plane of immanence, and a practice of forging and harnessing of consistencies in intensive fields of self-organisation and emergence.

Thus, in the dialogue between ecology and law we can no longer isolate social systems from ecological systems, human from nature. There are only social and ecological problems, there is only self-organisation and emergence of social and ecological assemblages. The dialogue between ecology and law is, therefore, the drawing of a social and ecological field, and draws a transformed space from which social organisation and legality can self-organise and emerge. Thus, this approach is not a simple ecocentricism opposed to an anthropocentricism, but the drawing of a field for legality that encompasses the benefits to the full Earth community and an integrated understanding of human well-being as a part of the well-being of the full Earth community.[[13]](#endnote-13) From its formation in a socio-ecological problem field ecological jurisprudence is the development of relational organisation in which an individual body is not alone but is connected to and shares the potentials and capacities of life with all other living inhabitants of the planet in this ecological jurisprudence:

‘Human laws, like the laws of nature, need to be understood as manifestations of a relational order in which the individual is not alone but connected to and shares power with other living cohabitants of the planet, who are entitled to equal access to the global commons. These inhabitants are not only other human beings but also other animals, plants, and in general all the Earth’s ecosystems.’ *Capra & Mattei 2015 l.594*

This becomes the ethics and justice of ecological jurisprudence, practiced in social justice and ecological sustainability. Equipped with the new understanding of how the world works and operates, the dialogue between ecology and law can move onto understanding the organisation of social, political, juridical, and economic life in their ecological interconnectedness. Ecological jurisprudence becomes a new ethics and practice of legality. This is a transformation of jurisprudence that is underpinned by a new understanding of the ontological relation between life, law and justice.

In sum, ecological jurisprudence of the four groupings is the critique of modern legality through returning to the problematic of modern legality, opening up that problematic of legality - ontologically, epistemologically and ethically - to the complexity and materiality of self-organisation and emergence, and the social-ecological understanding of the Earth Community. In this, ecological jurisprudence turns to the creation of new concepts and practices of ecological legality.

EcoLaw

Corresponding with this ecological jurisprudence, this dialogue between ecology and law produces a concept and practice of emergent law, and an ecology of law.[[14]](#endnote-14)

In this problem field law emerges as a problematic transformed in a complexity reinvention of legality in emergent law. Emergent law is law as it emerges in the problem field of legality and social organisation, and it emerges to give consistency to a regime of social organisation. Emergent law legality is wholly different in concept and practice than conventional modern legality. It is law that is not handed down from hierarchical authority of centralised State, but law that self-organises and emerges in the dynamic problem field of socio-ecological self-organisation and emergence. Emergent law does not exist above the socio-ecological field, but rather interconnected and flat to the socio-ecological field. Emergent law is the legality of continuous change (Craig 2010), organising precisely as the emergent dynamic transversal consistency of the socio-ecological field, and organising that field precisely in change and transformation (Cheffin *et al* 2016). This organisation adapts through immanent self-organising experimentation, and such organisation evolves and co-evolves.

This emergent law is an ecology of law. An ecology of law refers to ‘a legal order that is consistent with and honours the basic principles of ecology’ (Capra & Mattei 2015 l.594). For Capra and Mattei this emergent law is the idea and practices of eco law:

‘…recent discoveries in science, especially in ecology and climate science, suggest strongly that the ecological principles evolved by ecosystems over billions of years to sustain the web of life must be understood as normative laws for human conduct if we are to overcome our global environmental crisis’. *Capra & Mattei 2015 l.438*

Whether a Great Jurisprudence is summoned forth as a template for legality (Berry 1999; Cullinan 2008), or the scientific ecology textbook (Burdon 2015; Garmestani & Allen 2014a), eco-law sets the framework for a resilient and sustainable socio-ecological legality. Ecolaw is ‘a system capable of considering human laws as part of new laws on behalf of nature and non-human interests’ (Capra & Mattei 2015 l.2458). The crucial appreciation from the ecology of the law is that eco law is ‘in tune’ with nature and society because it organises and emerges in the same way that life does, and it organises through life and not over or above it (Chandler 2014).

In Capra & Mattei’s account this eco law is the creation of the commons and the community, and becomes the law of those commons and of those communities.[[15]](#endnote-15) The commons and communities are those places and bodies that have becomes free of territorialisation and coding from forms of transcendent legality such as modern law, and free of commodification and capitalist market relations. In such spaces bodies can interconnect and interact from an open socio-ecological field, in which all is still potential and yet to be organised. In these spaces socio-ecological self-organisation and emergence are harnessed and enriched through everyday actions of maintaining a commons and nurturing the relations of a community, and develops a ‘systemic vision of the nature of law as living network of communities allowing for ‘emergence’ of new legal forms in order to sustain the survival of the planet is still to come’ (Capra & Mattei 2015 l.1594). This account of legality takes into account ‘the inherent capacities of theses common networks to generate law’ (Capra & Mattei 2015 l.2052).

Placing the Animal in the Dialogue between Ecology and Law

The aim of this article has been to contribute to the development of a framework for thinking about, researching, and transmitting a socio-legal Animal Law within the University. The starting point has been that there is a rich dialogue between law and ecology in the ecology prevailing meeting of law and ecology that has already advanced deeply into explorations of emerging relations between legality and nature, and their mutual transformation. The question of the article is, therefore, what can Animal Law learn from the ecologically prevailing dialogue between ecology and law? That is the question of how can the animal be placed in the dialogue between law and ecology?

The argument of this article is that there is a pre-prepared place for the animal in this dialogue between ecology and law. This place is as a body in an intensive social-ecological field of self-organisation and emergence. Specifically, however, a little more detail needs to be said about the affective social-ecological field of self-organising and emergence. When this has been done, the pre-prepared place for then animal in the dialogue between ecology and law can be more richly assessed as a potential direction of development for Animal Law.

The place pre-prepared for an animal is an intensive body of affect in a complex social-ecological assemblage.. Affects are intensities emitted in morphogenetic movements of matter and intensive states of forces. An intensive body is intensive states of forces, affects and unformed and unsubjectified elements. This intensive body is a reservoir of unactualised capacities and potentials. An intensive body is an intensive relational nexus and dynamic transversal integration of a multiplicity of intensive relations and their affects. An animal is one such body of affect, interconnecting and interacting with other bodies of affect. This affective animal is not the animal as organism or representative of a species, but an intensive Spinoza body of affects, speeds, slownesses, abilities to affect, and abilities to be affected (Spinoza 2002; Deleuze 1988).

The social-ecological field of self-organisation and emergence is a field of morphogenesis in which actual extensive things are created and organised. In the theory of morphogenetic fields of self-organisation and emergence these are known as intensive fields, and intensive fields are made up of intensive states of forces and movements of matter, intensive affects, and populated with intensive bodies intensively interconnecting and interacting with other intensive bodies in intensive social-ecological assemblages.

Conceptualising the animal in this way then raises new questions about relations between humans and animals as intensive bodies of affects, socio-ecological assemblages of humans and animals, the creation of mutually enhancing socio-ecological assemblages, and questions about animal agency in the generation of ecolaw and beyond.

Such intensive bodies operate no divisions between human bodies and animal bodies, since a human body is placed in the intensive social-ecological field as body of affect, interconnecting and interacting with other intensive bodies of affect. In this intensive social-ecological field it is affects – intensive and impersonal - that cross human/animal continuum, connecting affective human bodies and affective animal bodies, passing affects between and across the bodies in movements that are intensive and affective.

These affective interconnections of bodies are, of course, part of the generative processes of self-organisation and emergence that is the forming of intensive affective social-ecological assemblages. These interconnections of bodies and their dynamic social-ecological assemblaging are, of course, also the production of eco law adjacent to the self-organisation and emergence. No doubt, the vast majority of human-animal assemblages are profoundly anthropocentric and do profound violence to animal bodies. However, in eco law there can be created affective social-ecological assemblages that draw a plane of immanence for the animal as much as for the human, and potentially for their mutual enhancement and becomings (Delanda 2006).

The place for the animal prepared for by the dialogue of ecology and law also brings a potential dimension of animal agency in social-ecological assemblages and eco law social-ecological assemblages. In the dialogue between ecology and law, in line with the complexity ontological commitments to the materiality of self-organisation and emergence, the understanding of social-ecological assemblages is that agency is an attribute of creative materiality and embodiment (Thomas-Pellicer *et al* 2016). The place of the animal within eco law social-ecological assemblages is potentially agentic, and eco law is ‘law that is produced through [human and animal] social-ecological encounters’ (Thomas-Pellicer & De Lucia 2016 p.17), and ‘[Eco]law takes form through bodies and practices of human and non-human animals as much as through discourses and social facts’ (Pieraccini 2016).

Conclusion: Placing the Animal – Implications for Animal Law

This article has responded to the call to renew the socio-legal scholarship of Animal Law by turning to the dialogue between ecology and law that has been in progress over the last 20 years or so to evaluate whether there is valuable work here that can be integrated into Animal Law in a fairly immediate fashion. The article has argued that not only is the ecology prevailing dialogue between ecology and law extraordinarily creative and transformational, but that this dialogue between ecology and law has already prepared a place for the animal in the dialogue as an affective body of intensities in a complex social-ecological assemblage.

What remains for this conclusion to reflect on are the implications for Animal Law of taking up the place of the animal in the dialogue between ecology and law. The first, surely, like it or not, is that Animal Law finds itself bang in the middle of a profound dialogue between ecology and law, and arguably bang in the middle of a paradigm shift in ecological-social thinking and organisation. Animal Law may have developed around concerns for animal welfare in a modern liberal model of rights in the milieus of modern liberal environmental law, but given the vibrant dialogue between ecology and law the ‘question of the animal’ (Utomo & Mussawir 2013) cannot remain so contained. Indeed, the dialogue between ecology and law is an invitation for Animal Law and animal lawyers to take up the terms and approaches of the dialogue and to become more scientifically complex, more philosophical, and more experimental. This would be for Animal Law to embrace complex systems, to explore ontologies of humans, animals and the Earth, and to follow becomings animal in intensive affective human-animal socio-ecological assemblages.[[16]](#endnote-16) At its broadest, the implication of taking up the dialogue between ecology prevailing ecology and law, and the place of the animal within it, would be to allow for animal lawyers to more knowingly place themselves in the vanguard of an emerging new relationship between humans, animals, and Earth, and in the vanguard of an emerging new jurisprudential paradigm of adaptive ecolaw.

1. ‘Animals and the Law’ Conference, 5th September 2017, Liverpool John Moores University. [↑](#endnote-ref-1)
2. The ecology prevailing dialogue ‘articulates an ecology and re-embodies legal philosophy’ (De Lucia 2016 p.148). [↑](#endnote-ref-2)
3. On managing resilience see Berkes *et al* 2008; Garmestani *et al* 2009; Chandler 2014; Cheffin *et al*2016). [↑](#endnote-ref-3)
4. On managing complex systems see Helbing 2008; Helbing *et al* 2011; Colander & Kupers 2014. [↑](#endnote-ref-4)
5. In particular, see Capra & Mattei 2015, but this starting point is common across all the literature here under discussion. [↑](#endnote-ref-5)
6. ‘[T]he mechanistic vision of property and sovereignty is responsible for the dramatic state of affairs on our planet’ Capra & Mattei 2015;Arnold & Gunderson 2014 ‘at best maladaptive’. [↑](#endnote-ref-6)
7. In DeleuzeGuattarian terms, in the ecology prevailing meeting of law and ecology, modern legality has been absolutely deterritorialised (see Deleuze & Guattari 2004). [↑](#endnote-ref-7)
8. Brooks *et al* 2002 dryly note ‘law is subsumed into ecosystem regimes’ p.10. [↑](#endnote-ref-8)
9. Little 2016 is very good on legal problem spaces, and going beyond established legal problem spaces to explore new problems. Going beyond the legal problem field is of course what the dialogue between ecology prevailing ecology and law has done. On ontological problem spaces more generally see Deleuze 1995, and Delanda 2002. [↑](#endnote-ref-9)
10. Pelessen & O’Shennessey comment that the meeting of a prevailing ecology with law begins ‘inevitable gestures towards a re-interrogation of the ontological foundations of legal theory’ Pelizzon & O’Shannessy 2016 p.217. [↑](#endnote-ref-10)
11. This is consistent across all four groupings, for example Garmestani & Allen 2014. [↑](#endnote-ref-11)
12. On transformed ecology and transformed legality as the plane of immanence, see A .Philippopoulos-Mihalopoulos 2012a, 2012b, 2015; Murray 2013; De Lucia 2014, 2016. [↑](#endnote-ref-12)
13. This move is shared across the four groupings, as an example Garmestani & Allen 2013. [↑](#endnote-ref-13)
14. The ecological transformation of legality goes under so many names across the literature: Eco Law (Capra & Mattei 2015), Earth Jurisprudence (Berry 1999), Wild Law (Cullinan 2011); ecological social assemblages (Brooks *et al* 2002), social and ecological resilience and Adaptive Law (Arnold & Gunderson 2014a, 2014b), Vibrant Legalities (Thomas-Pellicer 2016; Braverman 2016), and various modalities of Emergent Law. [↑](#endnote-ref-14)
15. Capra & Mattei’s account of commons and community is perhaps the best realised practical account of eco law, but the idea of an eco law as the creation of socio-ecological assemblages is throughout the literature. See also Finchett Maddock 2017. [↑](#endnote-ref-15)
16. On becomings animal, see chapter “1730: Becoming Intense, Becoming-Animal, Becoming Imperceptible” in Deleuze & Guattari 2004.

**References**

Arnold C & Gunderson L (2014a) ‘Adaptive law and resilience’ 43 *Environmental Law* Reporter 10426

Arnold C & Gunderson L (2014b) “Adaptive law” in Garmestani A & Allen C (eds) (2014) *Social-Ecological Resilience and Law* (New York: Columbia UP)

Bak P (1996) *How Nature Works: The Science of Self-organised Criticality* (Copernicus: London)

Bateson G (2000) *Steps to an Ecology of Mind* (Chicargo: University of Chicargo Press)

Bennett J (2010) *Vibrant Matter: A Political Ecology of Things* (Durham: Duke UP)

Berkes F *et al* (eds) (2008) *Navigating Social-Ecological Systems* (Cambridge: Cambridge UP)

Berry T (1999) *The Great Work: Our Way into the Future* (London: Random House)

Bonta M & Protevi J (2004) *Deleuze and Geophilosophy* (Edinburgh: Edinburgh University Press)

Braidotti R (2013) *The Posthuman* (Cambridge: Cambridge UP)

Braverman I (ed) (2016a) *Animals, Biopolitics, Law: Lively Legalities* (Abingdon: Routledge)

Braverman I (2016b) “Introduction: Lively Legalities” in Braverman I (ed) (2016a) *Animals, Biopolitics, Law: Lively Legalities* (Abingdon: Routledge)

Brooks R, Jones R & Virginia R (2002) *Law and Ecology: The Rise of the Ecosystem Regime* (Aldershot: Ashgate)

Brooman S (2017) ‘Creatures, the Academic Lawyer and a Socio-Legal Approach: Introducing Animal Law into the Legal Education Curriculum’ *Liverpool Law Review* 38 243

Burdon P (ed) (2011a) *Exploring Wild Law: The Philosophy of Earth Jurisprudence* (Melbourne: Wakefield Press)

Burdon P (2011b) “The Great Jurisprudence” in Burdon P (ed) (2011a) *Exploring Wild Law: The Philosophy of Earth Jurisprudence* (Melbourne: Wakefield Press)

Burdon P (2015) *Earth Jurisprudence: Private Property & the Environment* (Abingdon: Routledge)

Capra F (1996) *The Web of Life: A New Scientific Understanding of Living Systems* (London: Anchor)

Capra F & Luisi P (2016) *The Systems View of Life* (Cambridge: Cambridge UP)

Capra F & Mattei U (2015) *The Ecology of Law: Toward a Legal System in Tune with Nature and Community* (Oakland: Berrett-Kochler)

Chandler D (2014) *Resilience: The Governance of Complexity* (Abingdon: Routledge)

Cheffin B *et al* (2016) ‘Transformative ecological governance’ 41 *Annual Review of Environment and Resources* 399

Clough P (ed) (2007) *The Affective Turn: Theorising the* Social (Durham: Duke UP)

Colander D & Kupers R (2014) *Complexity and the Art of Public Policy* (Princeton: Princeton UP)

Craig R (2010) ‘Stationarity is dead: long live transformation: five principles for climate change adaptation law’ 31 *Harvard Environmental L Rev* 9

Craig R & Ruhl JB (2010) ‘Governing for sustainable coasts: complexity: Climate change, and coastal ecosystem protection’ 2 *Sustainability* 1361

Cullinan C (2011) *Wild Law: A Manifesto for Earth Justice* 2nd. (Green Books)

Delanda M (2002) *Intensive Science, Virtual Philosophy* (London: Bloomsbury)

Delanda M (2006) *A New Philosophy of Society: Assemblage Theory and Social Complexity* (London: Continuum)

Delaney D (2016) “Afterword: Lively ever after: beyond the cult of immateriality” in Braverman I (ed) (2016a) *Animals, Biopolitics, Law: Lively Legalities* (Abingdon: Routledge)

Deleuze G (1988) *Spinoza: A Practical Philosophy* (San Francisco: City Lights)

Deleuze G (1995) *Difference & Repetition* (Columbia: Columbia UP)

Deleuze G & Guattari F (2004) *A Thousand Plateaus: Capitalism & Schizophrenia* (London: Continuum)

Deleuze G (2006) *Foucault* (London; Continuum)

De Lucia V (2014) ‘Competing narratives and complex genealogies: the ecosystems approach in International Environmental Law’ *J of Environmental Law* 27(1) 91

De Lucia V (2016) ‘Re-embodying law: transversal ecology and the commons’ in Thomas-Pellicer R *et* al (2016) *Contributions to Law, Philosophy and Ecology* (Abingdon: Routledge)

Dophijin I & Van der Tuin J (eds) (20121) *New Materialism: Interviews & Cartographies* (Milton Keynes: Open University Press)

Finchett Maddock L (2017) *Protest, Property and the Commons* (Abingdon: Routledge)

Garmestani A *et al* (2009) ‘Panarchy, adaptive management and governance: policy options for building resilience’ (87 *Nebraska L Rev* 1036

Garmestani A & Benson M (2013) ‘A Framework for resilience-based governance of social ecological systems’ 18(1) *Ecology &* Society 9

Garmestani A & Allen C (eds) (2014) *Social-Ecological Resilience and Law* (New York: Columbia UP)

Garmestani A *et al* (2014) “The integration of social-ecological resilience and law” in Garmestani A & Allen C (eds) “014) *Social-Ecological Resilience and Law* (New York; Columbia UP)

Grear A & Grant G (eds) (2015) *Thought, Law, Rights, and Action in the Age of Environmental Crisis* (Cheltenham: Edward Elgar)

Greene H (2011) “Cosmology and Earth Jurisprudence” in Burdon P (ed) (2011a) *Exploring Wild Law: The Philosophy of Earth Jurisprudence* (Melbourne: Wakefield Press)

Gregg M & Seigworth (eds) (2010) *The Affects Theory Reader* (Durham: Duke University Press)

Guattari F (1995) *Chaosmos: An Ethical-Aesthetic Paradigm* (Indiana: Indiana UP)

Guattari F (2014) *The Three Ecologies* (London: Bloomsbury Academic)

Gunderson L *et al* (2010) *Foundations of Ecological Resilience* (London: Island Press)

Gunderson I & Holling C (eds) (2002) *Panarchy: Understanding Transformation in Human and Natural Systems* (Washington: Island Press)

Halsey M (2006) *Deleuze and Environmental Damage* (London: Ashgate)

Harding S (2011) “Gaia and Earth Jurisprudence”. in Burdon P (ed) (2011a) *Exploring Wild Law: The Philosophy of Earth Jurisprudence* (Melbourne: Wakefield Press)

Helbing D (ed) (2008) *Managing Complexity: Insights, Concepts, Applications* (Berlin: Springer)

Helbing D *et* al (2011) ‘Understanding, creating, and managing complex techno-socio-economic systems’ 195 *Eur Phys J Special Topics* 165

Herzogenrath B (ed) (2008) *An [Un]Likely Alliance; Thinking Environments with Deleuze &* Guattari (Newcastle Upon Tyne: Cambridge Scholars)

Herzogenrath B (2009) *Deleuze|Guattari and Ecology* (London: Palgrave Macmillan)

Holling C (1973) ‘Resilience and stability of ecological systems’ 4 *Annual Review of Ecology and Systematics*

Humby T (2014) ‘Law & resilience: mapping the literature’ 4(1) *Seattle J on Env L* 1

Kauffman S (1995) *Home in the Universe: The Search for Laws of Self-Organisation and Complexity* (Oxford: Oxford UP)

Kim R & Mackey S (2014) ‘International environmental law as a complex adaptive system’ 14 *Int Environ Agreements* 5

Levin S (2000) *Fragile Dominion: Complexity and the Commons* (London: Basic Books)

Little G (2016) ‘Developing environmental law scholarship: Going beyond the legal space’ 36:1 *Legal Studies* 48.

Lovelock J (1979) *Gaia: A New Look at Life on Earth.*  (Oxford: Oxford UP)

MargulisL L & Sagan D (1986) *Microcosmos* (London: Summit)

Murray J (2013) *Deleuze & Guattari: Emergent Law* (Abingdon: Routledge)

Pelizzon A & O’Shannessy G (2016) “Autonomous legal persons and interconnected ecosystems” in Thomas-Pellicer R *et* al (2016) *Contributions to Law, Philosophy and Ecology* (Abingdon: Routledge)

Pieraccini M (2016) “Beyond legal facts and discourses: towards a social-ecological production of the legal” in Thomas-Pellicer R *et* al (2016) *Contributions to Law, Philosophy and Ecology* (Abingdon: Routledge)

Philippopoulos-Mihalopoulos A (ed) (2012a) *Law and Ecology* (Abingdon: Routledge)

Philippopoulos-Mihalopoulos A (2012b)  Looking for the space between law and ecology” in Philippopoulos Mihalopoulos A (ed) (2012a) *Law and Ecology* (Abingdon: Routledge)

Philipopoulos-Mihalopoulos A (2015) *Spatial Justice: Body, Lawscape, Atmosphere* (Abingdon: Routledge)

Prigogine I (1997) *The End of Certainty* (London: Free Press)

Prigogine I & Stengers I (2018) *Order Out of Chaos: Man’s New Dialogue with Nature* (London: Verso reprint)

Rose D *et* al (2012) ‘Thinking through the environment, unsettling the Humanities’ *Environmental* Humanities 1 1

Ruhl JB (1996a) ‘Complexity theory as a paradigm for the dynamic law-and-society system: A wake-up call for the legal reductionism and the modern administrative state’ *Duke Law Journal* 45 (5) 849

Ruhl JB (1996b) ‘The fitness of law: using complexity theory to describe the evolution of law and society and its practical meaning for democracy’ *Vand LR* 49 1402

Ruhl JB & Ruhl H (1996) ‘The arrow of law in modern administrative states: using complexity theory to reveal the diminishing returns and increasing risks the burgeoning of law poses to society’ *UC Davis LR* 30 405

Ruhl JB (1997) ‘Thinking of environmental law as a complex adaptive system: how to clear up the environment by making a mess of environmental law’ *Hous L Rev* 34 933

Ruhl JB (2012) ‘Panarchy and law’ *Ecology and Society* 17:3 31

Rogers N & Maloney M (eds) (2017) *Law as if the Earth Really Mattered: The Wild Law Judgement Project* (Abingdon: Routledge)

Scheffer M (2009) *Critical Transitions in Nature and Society* (Princeton: Princeton UP)

Sheldrake R (2000) *Dogs That Know When Their Owner is Coming* Home (London: Arrow)

Sheldrake R & McKenna T (2001) *Chaos, Creativity and Cosmic Consciousness* (London: Park Street)

Swimme B & Berry T (1992) *The Universe Story* (London: Harper)

Spinoza B (2002) *Ethics* (Oxford: Oxford UP)

Thomas-Pellicer R *et* al (2016) *Contributions to Law, Philosophy and Ecology* (Abingdon: Routledge)

Thomas-Pellicer R & De Lucia V (2016) “Introduction: exploring re-embodiments” in Thomas-Pellicer R *et* al (2016) *Contributions to Law, Philosophy and Ecology* (Abingdon: Routledge)

Turgut N(2008) ‘The Influence of Ecology on Environmental Law: Challenges to the concept of traditional law’ 10 *Env. L. Rev* 2 112

Utomo Y & Mussawir E (eds) (2013) *Law and the Question of the Animal: A Critical Jurisprudence* (Abingdon: Routledge)

Walker B & Salt D (2006) *Resilience Thinking: Sustaining Ecosystems and People in a Changing World* (Washington: Island Press)

Waltner-Toews D *et al* (2008) *The Ecosystems Approach: Complexity, Uncertainty and Managing for Sustainability* (New York: Columbia UP) [↑](#endnote-ref-16)