Moral Rights for Ecosystems

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MA Philosophy
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03-09-2020

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Abstract

Value in nature has often been studied from two perspectives, either externally or internally. Schools of intrinsic value like deep ecology have been found extreme in the past, their implications undesirable to humans. External perspectives like anthropocentric value judgements, for example ecosystem-service arguments, or considerations of intergenerational justice have become increasingly common and well researched. However, this thesis starts from the observation that anthropocentric value based morality does little to protect ecosystems for their own sake. Instead, it merely focuses on those parts that either appeal, service, or otherwise are useful to humans. It is especially this perception of ecosystems that lies at the root of current and past exploitation of the ecosystem. The result is nearly irreversible damage to the ecosystem. This thesis argues for pro tanto moral rights for the ecosystem, on the basis of interest-based moral considerability. I will show that previous arguments for or against the moral considerability of nature lack sufficient knowledge of ecological processes. If ecological processes are properly understood, the ecosystem can be said to have an interest. This interest, or wellbeing, is the striving towards homeostasis. This means that the ecosystem has moral considerability and is a moral patient. It is therefore eligible for moral rights. These rights-relations occur between moral agents and moral patient when there is *contact*. This will be explained through developing the *Contact-Theory*.

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Introduction

Talk about climate change and the detrimental effects of humans on the earth is by now present in nearly all aspects of society. Despite the attention this topic receives, there is a general lack of effective action or behavioral change. Little progress has been made to mitigate the impact of humans on ecosystem degradation.[1] As humans rely on the continued integrity of the earth's ecosystem, there are prudential reasons for humans to address this issue sooner rather than later. At least as pressing are moral reasons to address the anthropogenic damage to the ecosystem, which is the point of departure for this thesis. An appeal to morality can and should be made to show that there are also strong moral reasons to address the negative impact of humans on the earth.

I will make an argument for *pro tanto* moral rights for ecosystems. I will claim that there are non-anthropocentric reasons for why we should concern ourselves with the wellbeing of the ecosystem, on the basis of moral rights. This is a hopeful endeavor, that believes that humans can be motivated by moral reasons. Furthermore, I will not rely on intrinsic value to appeal to morality. Many of such appeals have been made, and they have been ineffective to motivate human behavior, or are metaphysically unconvincing. Rather, I will argue that the ecosystem has moral considerability because it has *interest*. This interest based moral considerability subsequently means the ecosystem is a moral patient.

Interest should be understood in the Aristotelian sense of wellbeing or flourishing. Aristotelian teleology, together with a thorough knowledge of ecological processes, elucidates how the ecosystem as an unconscious entity strives towards a telos. Since the ecosystem has interest, it can and should be considered a moral patient. Its interest should thus be taken into account when decisions that affect it are being made by moral agents. Because of the way I understand moral agency, only humans can be considered as moral agents. This in turn means that only humans can have duties and responsibilities corresponding to rights.

Moral rights are not fancy labels that can be attached to just anything. Moral rights are means-end constructions, which mean to protect an interest or value. Rights are correlative to obligations. Not merely procedural obligations, but in the case of moral rights, to moral obligations as well. I will show how these rights-relations function between moral agents and moral patients, and that this is applicable to humans and ecosystems. However, these rights-relations only occur there where there is *contact* between the moral agent and the moral patient. By explaining what I will call the 'Contact Theory', I will claim that rights-relations are established between humans and the ecosystem. This is when and how I can claim that there are moral rights for the ecosystem.

Summarily, Chapter 1 will address several misconceptions concerning the ecosystem or nature. These need to be addressed before continuing with any acceptable account for moral considerability of the ecosystem. Chapter 2 first clarifies some conflation in terms, which is especially pertinent when discussing less conventional subjects of moral discussions. Additionally, I will debate the merits and unsolved issues of some theories that have previously attempted to establish the moral considerability of nature. Chapter 3 will then provide a biologically and conceptually coherent account of the moral considerability of the ecosystem. Chapter 4 will explain what rights are, and how the ecosystem as a moral patient can be party to rights-relations. Finally Chapter 5 will provide examples of when rights-relation occur through explaining the Contact Theory.

[1] Progress that has been made is generally little, but gives the impressions that sufficient action has been taken, leading to complacency. See: Gardiner, Stephen M. *A Perfect Moral Storm : The Ethical Tragedy of Climate Change*. Environmental Ethics and Science Policy Series, (New York: Oxford University Press, 2011). Specifically, Chapter 1 part V, and Chapter 9 on 'Moral Corruption'.

Chapter 1. Defining and conceptualizing 'ecosystem'

At the root of any account in favor or against the protection of nature lies an idea of what nature *is*. Many conceptualizations of what nature is and how it should be perceived or treated, seem to forget investigating the particulars of biology. This inevitably means that the grounds on which protections for nature are founded, or arguments concerning what can and cannot be done with nature are faulty. Any normative account coming from such misconceptions cannot but be refuted on this ground alone.

In this thesis, I will use 'ecosystems' interchangeably with 'the ecosystem' and 'nature'. Other terms have been used to denote ecosystems or nature, such as 'the biosphere', 'the environment', 'the ecological community', 'the land', 'biological aggregates', etcetera. Some of these terms have already been discarded by academia due to their problematic connotations or simply because they are imprecise. I will use 'ecosystem' and 'nature' precisely because they are such wide terms. It will become clear why this is good practice in due course.

This chapter will show how the ecosystem should be understood, and what qualities it possesses and lacks that influence the eligibility of the ecosystem for moral considerability. I will do so by first waylaying some common misconceptions concerning the qualities of ecosystems. Then, I will show how the ecosystem should be understood through highlighting some key particularities of the ecosystem.

Critiques leveled against arguments for ecosystem-rights or rights for nature have been largely based on the idea that the concept is too incoherent. By this is mostly meant that it is hard to delineate the ecosystem as a separate thing, being, or entity in itself, due to its complexity, temporal scale, or geographical scope.[2] These fall apart in the following arguments:

Firstly, that we simply do not know enough of the ecosystem to fully understand it, and therefore cannot conceptually conceive of it. This would arguably preclude it from being a moral rightsholder. Secondly, that ecosystems are merely collections of individuals, and therefore there is no interest other than the collective of aggregate, or conversely that individuals matter nothing to the whole of the ecosystem, with all manner of horrid consequences.[3] Due to these hypothetical consequences the endeavor has been preemptively stopped. Thirdly, temporal development of ecosystems is generally misconstrued. Nature is either seen as static, deterministic, or too inconstant to be a coherent entity. Lastly, I want to emphasize the way in which ecosystems maintain homeostasis through nondeterministic evolutionary processes, and that resilience is key to the wellbeing of the ecosystem. It is through resilience that the ecosystem can maintain homeostasis, which is its integrated, dynamic equilibrium. This is the basis for understanding the interest and wellbeing components of the ecosystem.

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[2] Palmer, Clare, McShane, Katie, and Sandler, Ronald. "Environmental Ethics." *Annual Review of Environment and Resources* 39, no. 1 (2014): 419-4, 428.

[3] Those who have argued for the importance of ecosystems as a whole have been called ecofascists. See for examples and discussion: Callicott, J. Baird. In Defense of the Land Ethic : Essays in Environmental Philosophy. SUNY Series in Philosophy and Biology. Albany, N.Y.: (State University of New York Press, 1989), 41-42; Bookchin, Murray. The Ecology of Freedom : The Emergence and Dissolution of Hierarchy. (Palo Alto, Calif.: Cheshire Books, 1982), 21, 23; Varner, Gary E. In Nature's Interests? Interests, Animal Rights, and Environmental Ethics. Environmental Ethics and Science Policy Series. (Oxford New York: Oxford University Press, 2002), 122.

1.1 Epistemology and boundary problems

The first objection I will counter is that of epistemic difficulty and subsequent conceptual and factual boundary problems. These conceptual and factual boundary problems arguably cannot be solved due to the subject's complexity and insufficient knowledge about it.[4] The conceptual and factual boundary problem are often interrelated.

The conceptual boundary problem

At first glance, the ecosystem is peculiar. Much of the ecosystem is not alive, like soil, air, or rocks. Some parts of the ecosystem are rotting, dying, or dead. It seems to contain individuals, as well as whole species or fauna. It seems so infinitely complex and varied, that it is impossible to grasp it fully. The conceptual boundary problem entails that due to the complexity of the subject matter any conception of an ecosystem is perception-dependent and incomplete.[5] Arguably, it is impossible to have a coherent and complete subject matter to argue *for*, without any conceptualization of it being fundamentally flawed.

It is correct to state that ecosystems are complex and attempts at delineation are is generally observer dependent. However, it is untrue that this complexity precludes both a sufficient, working degree of knowledge or a coherent conceptualization of an ecosystem. Nor is delineation between 'ecosystems' generally advisable or desirable, due to the particularities of the ecosystem itself.

Observer dependence does not have to be problematic. Observer dependent demarcation is ever-present in the field of environmental science.[6] The study of ecosystems, 'ecology', focuses on interactions between organisms and the environment, on a variety of scales; this can mean biomes demarcated for the purpose of study but also the whole earth.[7] Subfields within environmental science and ecology choose certain characteristics for demarcation to end up with a specific topic to study. These all conceive of the ecosystem in different senses. In most cases, this is unproblematic, as it can provide in-depth knowledge of specific aspects of ecosystems such as of its organisms or geomorphology.[8] It allows us to get a better grasp on many of the aspects that comprise ecosystems, that contribute to its 'complexity'. In other words, it can be a useful endeavor to further our knowledge of the ecosystem. Conceptual boundaries only become 'problematic' when the observer refuses to acknowledge an ecosystem's *necessary interdependence* of all its constituent parts and

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[4] Callicott, In Defense of the Land Ethic, 42, 131; Merchant, Carolyn. *The Death of Nature : Women, Ecology, and the Scientific Revolution* (San Francisco, Harper and Row, 1980), 103; Palmer, McShane, "Environmental Ethics", 369, 370.

[5] Gignoux, Jacques, et al. "The Ecosystem in Practice: Interest and Problems of an Old Definition for Constructing Ecological Models." Ecosystems, vol. 14, no. 7, 2011, pp. 1039; Post, et al. "The Problem of Boundaries in Defining Ecosystems: A Potential Landmine for Uniting Geomorphology and Ecology." *Geomorphology*, vol. 89, no. 1, 2007, 114.

[6] Parker, Wendy. "Environmental Science." The Oxford Handbook of Environmental Ethics, 2017-01-26. 1st ed. Oxford Handbooks. Oxford University Press, 2017, 27; Hourdequin, Marion. "The Ethics of Ecosystem Management." The Oxford Handbook of Environmental Ethics, 1st ed. Oxford Handbooks. Oxford University Press, 2017, 455. Examples of focuses within ecology science are landscape ecology, ecosystem ecology, community ecology, population ecology. This is by no means an exhaustive list. For more information, see Reece, Campbell Biology.

[7] Reece, J.B et al. Campbell Biology, 9th Global Edition. Pearson Global Edition, 2011, 1190.

[8] For example, ecosystem ecology focuses on the energy flow and chemical cycling between organisms and the environment, while community ecology focuses how species interact in matters of predation and competition. There can be focus on chemical interactions, species in certain area, and at many levels of abstraction Reece, Campbell Biology, 1191; Callicott, In Defense of the Land Ethic, 91; Merchant, The Death of Nature, 103.

processes,[9] or when it fails to see that all smaller, delineated biotopes or ecosystems are part of the larger ecosystem of the earth. This interdependence is necessary for the most basic conceptualization of the ecosystem: *the biological community or organisms in the physical landscape with which they interact*.[10] If one knows only this basic fact about the ecosystem, the conceptual boundary problem need not exist, and observer dependence does not have to be a hindrance.

The factual boundary problem

Humans try to determine boundaries between ecosystems, or *biomes* for practical purposes, like study, conservation, or other purposes. Determining factual boundaries is difficult and generally inadvisable, as organisms and their environment are interdependent and interrelated. The factual boundary problem is present when trying to delineate practically, 'in the world' between smaller scale ecosystems or biomes. Problems arise because natural systems, as well as all components within them, interact and are dependent on eachother.[11] As such, the only neatly delineated ecosystem that we can speak of is the earth's biosphere.[12]

For example, when looking to preserve a species of fish in a specific river, one can choose to look at nutrient cycling, or chemical interaction within that river. There are some 'natural' boundaries like mountain ranges, lakes, and islands that separate the biomes on the planet to an extent;[13] however a migrating species of does not keep such boundaries and may influence the biome that seemed so neatly isolated at first. In this sense there is indeed a boundary 'problem'. However, it is a problem of our own making, as it is a problem only because it hinders humans in their desire to separate parts of the ecosystem. It is not a problematic quality of and for the ecosystem itself.

Thus, factual boundaries between biomes are indeed problematic for some purposes. Nevertheless, this is not a problem for understanding the ecosystem, nor for my thesis. In fact, not drawing such boundaries enables a better understanding of the interrelatedness of the ecosystem and its constituent parts. It is vital that I can provide a conceptually coherent subject for rightsholdership. Biological fact is key in providing such coherence, but demarcation is not. It is not necessary for me to delineate practical, 'in the field' boundaries. Nonetheless, my defense for moral considerability for the ecosystem will still hold when speaking of demarcated biomes. The reason for this is that both its interest, despite scale, remains the same, as will its wellbeing-marker. My objection to demarcation within the ecosystem is that it cannot but lead to misunderstanding the interaction of organisms and their environment. Moreover, *contact*, as I will later explain, becomes less visual, subsequently obscuring rights-relations. Hence it is more accurate to use the wider terms of 'the ecosystem', and 'nature'.

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[9] Gignoux, "The Ecosystem in Practice", 1041; Rolston, Holmes. "Value in Nature and the Nature of Value." *Royal Institute of Philosophy Supplement* 36 (1994): 13-30, 22, 23; Reece, Campbell Biology, 1196.

[10] Reece, Campbell Biology, 1191; Bookchin, Murray. *Post-scarcity Anarchism*. (Berkeley Ramparts Press, 1971), 58.

[11] Gignoux, Jacques, et al. "The Ecosystem in Practice: Interest and Problems of an Old Definition for Constructing Ecological Models." *Ecosystems*, vol. 14, no. 7, (2011), 1039–1054, 1041; Rolston, Holmes. "Value in Nature and the Nature of Value." *Royal Institute of Philosophy Supplement* 36 (1994): 13-30, 22, 23; Reece, Campbell Biology, 1196.

[12] Callicott, J. Baird. "How Ecological Collectives Are Morally Considerable." The Oxford Handbook of Environmental Ethics, 1st ed. Oxford Handbooks. (Oxford University Press, 2017), 113; Reece, Campbell Biology, 1191, 1196, Sloan, Phillip R., Gerald P. McKenny, and Kathleen Eggleson. *Darwin in the Twenty-first Century : Nature, Humanity, and God*. Studies in Science and the Humanities from the Reilly Center for Science, Technology, and Values, (University of Notre Dame Press, 2015), 136.

[13] Post, et al. "The Problem of Boundaries in Defining Ecosystems", 114.

1.2 Individuals and hierarchy

The role of individual organisms and how they interact with their environment is often misconstrued. At the root of this lies a misunderstanding of how the ecosystem relies on and relates to its constituents. We cannot separate organisms for their non-organic, non-living environment.[14] To do so is to fundamentally misconstrues the functioning of the ecosystem.[15] Related to this misconception is the false idea of hierarchy, or that some beings are more important than others. This not only misunderstands the interdependence between organisms, but also that between organisms and their environment. Hierarchical thinking also often leads to ascribing different moral status to those ascribed higher importance in the ecosystem. This is a categorical mistake.

Necessary interdependence & hierarchy

A fundamental aspect of the ecosystem is the fact that ecosystems have a necessary interdependence between all biotic and abiotic factors that they contain.[16] At the risk of sounding heuristic and intent-driven, this means that all components of the ecosystem have a 'purpose'. What I mean by this is that some components of the ecosystem that seem useless, dead, too small to matter, actually *do* matter to the integrated functioning of the ecosystem. Not in such a way that their numbers fluctuating slightly, or some weather changes occurring, upsets the ecosystem generally, but in the way it maintains the symbiosis and interaction of the ecosystem itself. As such, there is no 'individual importance' as we understand it, but there *is* a place for each particular component. Only, it is subject to dynamism.[17] The misunderstanding of the role of individuals enables some to also believe wrongfully in hierarchy.

It should be clear from the interdependence of organisms and the environment, that we cannot speak of a hierarchy of importance amongst species or organisms, despite how prevalent this idea seems in nature documentaries and popular culture. What I suspect lies at the root of this hierarchical thinking in nature is *predation,* and misplaced value judgments based on misunderstanding ecology. We say things like "the top of the food chain", or "the king of the jungle". This is false. The food chain for example is *circular,* yet we have all just imagined a top down triangle when reading the previous sentence. Yes, ecosystems can certainly be conceptualized as food-chains, chains of predation and 'stomach to stomach' energy consumption.[18] However, nothing in this denotes any sort of superiority; merely that in some instances, some organisms are food, and sometimes they are consumers. Due to the necessary interdependence between biotic and abiotic factors to ensure the continued health of both the organisms themselves, as well as that of the ecosystem, speaking of value hierarchy is incorrect. Individuals are important, but the functioning of the ecosystem is separate of, though dependent on them.[19] While individuals suffer if the ecosystem

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[14] Gignoux, Jacques, et al. "The Ecosystem in Practice: Interest and Problems of an Old Definition for Constructing Ecological Models." *Ecosystems*, vol. 14, no. 7, (2011), 1039–1054, 1041; Rolston, Holmes. "Value in Nature and the Nature of Value." *Royal Institute of Philosophy Supplement* 36 (1994): 13-30, 22, 23; Reece, Campbell Biology, 1196 Rolston, "Value in Nature and the Nature of Value", 22; Sumner, Leonard Wayne. *The Moral Foundation of Rights*. (Oxford: Clarendon Press, 1987), 209; Rainbolt, George W. *The Concept of Rights*. Law and Philosophy Library ; Vol. 73, (Dordrecht: Springer, 2006), 198; Callicott, In Defense of the Land Ethic, 67; Callicott, In Defense of the Land Ethic, 87, 118; Varner, *In Nature's Interests?*, 122; Bookchin, The Ecology of Freedom, 21.

[15] Callicott, In Defense of the Land Ethic, 87, 118; Varner, *In Nature's Interests?*, 122; Bookchin, The Ecology of Freedom, 21.

[16] Bookchin, Post-scarcity Anarchism, 24; Bookchin, The Ecology of Freedom, 59; Hourdequin, "The Ethics of Ecosystem Management", 455.

[17] I will return to this dynamism when speaking more in depth on homeostasis, stability, and evolution in 1.4

[18] Crowley, Thomas. "From "natural" to "ecosocial Flourishing": Evaluating Evaluative Frameworks.(Essay)." *Ethics & the Environment* 15, no. 1 (2010), 69, 80. Again, this is perception dependent, for example in different fields of ecological study, see 1.2.

[19] Johnson, A Morally Deep World, 207.

suffers, the reverse is true to a much lesser extent. This becomes clearer when understanding the ecosystem's response to *disturbance*.

Diversity, resilience, and the role of individuals

To understand the importance of individuals and how the ecosystem relies on its constituent parts, it is important to understand resilience and the Nonequilibrium Theory. Misunderstanding these two factors leads to false ideas of hierarchy.

Biodiversity aids in the resilience of the ecosystem when disturbing events occur. A disturbing event is an occurrence like a storm, volcano eruption, forest fire, or other phenomenon that seriously impacts biotic and abiotic factors in an area.[20] Disturbance can be small scale, like a heat wave, or larger, like an ice age. Disturbances generally cause greater biodiversity and ecological succession, and are not necessarily 'bad' for the ecosystem, as long as they can follow up on the disturbance through supercompensation.[21] This increases the resilience of the ecosystem. *Resilience* needs to be understood literally: it is the hardiness of the ecosystem against damaging factors. Resilience is achieved through possessing a great diversity of biotic an abiotic factors. If an ecosystem is very biodiverse, it has great resilience, which is in its interest as it guarantees its continued existence through disturbances.[22] Homogeneity is detrimental for the ecosystem, as it makes it vulnerable. An ecosystem where some species have been suddenly lost –for example through hunting, or excessive maintenance, will be more vulnerable to a subsequent weather change, or other disturbing event. Therefore, the loss of some individual organisms is not of great importance to the resilience of the ecosystem;[23] however, a continuous loss resulting in lesser biodiversity and complexity directly weakens the ecosystem.[24] When the disturbance is too great or too fast, the ecosystem cannot recover through supercompensation or evolution, and the damage is generally irreversible.[25]

Ecosystems rely on all of their constituents, biotic and abiotic, in order to become resilient and guarantee their continued existence. Nonetheless, they cannot be seen as a mere aggregate of their parts. Individuals certainly matter for the ecosystem and for the other abiotic and biotic parts within the ecosystem. The interdependence of the ecosystem's aspects means that individuals all contribute to the continued functioning of the ecosystem. However, the interest or wellbeing of an individual is not the same as that of the ecosystem; it is separate. Neither is there a hierarchy amongst individual entities in ecosystems. Ecosystems simply do not function as top-down, organized collectives. An ecosystem is dependent on its auxiliary processes and organisms for its resilience and integrated functioning, but there is no place for individualism in its functioning. They are important, but not individually key to it. Neither are they disposable. An ecosystem needs to be resilient to be able to continue to exist. As such, it functions in such a particular way, that it should be seen as an *entity in itself*,[26] not just as a collection of each individual entity it inhabits. Nor is it 'greater than the

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[20] For a full explanation on disturbing factors, see: Reece, Campbell Biology, 1253.

[21] By supercompensation are meant the processes of ecological succession to increase aspects of an ecosystem's resilience, through increased biodiversity and population. Reece, Campbell Biology, 1254.

[22] Reece, Campbell Biology, 1213, 1253, 1285, 1300; Bookchin, Post-scarcity Anarchism, 24; Bookchin, Murray. *Toward an Ecological Society*. Black Rose Books (Montréal Black Rose Books, 1980), 59: Hourdequin, "The Ethics of Ecosystem Management", 455.

[23] Adversely, smaller disturbances tend to increase the resilience of the ecosystem due to supercompensation, leading to increased biodiversity and stronger species/organisms.

[24]For examples, see Johnson, Lawrence E. *A Morally Deep World : An Essay on Moral Significance and Environmental Ethics*. (Cambridge University Press, 1993), 207.

[25] Reece, Campbell Biology, 1213, 1253, 1285, 1300; Taylor, Paul W. *Respect for Nature : A Theory of Environmental Ethics*. Studies in Moral, Political, and Legal Philosophy. Princeton, N.J.: Princeton University Press, 1986, 4-5, 8.

[26] Borrowing from Foot's qualification of things qua themselves, the ecosystem *qua* ecosystem: Foot, Philippa. *Natural Goodness*. (Oxford: Clarendon Press, 2001).

sum of its parts', as some holists claim.[27] It is a coherent entity in the way that it has its own mode of development and continuously strives towards integrated functioning. This has been conceptualized into the Nonequilibrium Theory; when the ecosystem can be said to maintain an organic dynamic unity.[28] Misunderstanding the symbiotic relationship of interdependence between the ecosystem and its constituent parts surely leads to false ideas regarding what its basis of moral considerability is.

1.3 Determinism and dynamic development

A third prevalent falsehood in thinking about nature has to do with its goal directedness and temporal development. There are three ideas that each have false notions about how ecosystems develop; static thinking about nature, evolutionary determinism, or conversely, the idea that the ecosystem fluctuates too much in its particulars to be a coherent entity in and of itself.[29] The factual reality of the ecosystem is that dynamism is a stabilizing factor. Understanding how the ecosystem develops and finds its dynamic equilibrium will not only dispel these ideas with ecological fact, but shows us the way the ecosystem continually strives to achieve or maintain its integrated equilibrium: through homeostasis.

Static thinking about nature seems particularly popular amongst nature conservationists. Their general ideal is to "return to the original, natural state of nature".[30] Usually thought of is a state of nature that is completely remote from the influence of humans, has never been influenced by humans and is in a sense, 'wild'. This ideal is a non-existent, inaccurate fantasy. This kind of thinking implies both a nature/nonnature (often human) dichotomy,[31] as well static thinking about nature. Humans are not 'unnatural', they are part of the ecosystem and interact with it in a myriad ways.[32] We are in many ways no different from other species that rely on the ecosystem and interact with other organisms through necessary interdependence. This does not mean that anything that humans do is 'good' because it is 'natural'. Aside from committing the naturalistic fallacy, the nature/artifice discussion is separate, though related topic, for which there is not place in this thesis.

Secondly, It is easy to see how static thinking is incompatible with evolution theory. It is essential to understand evolutionary dynamic development in order to see ecosystems as coherent but dynamic entities, that have a consistent symbiotic equilibrium, despite being every-changing entities. Evolution theory states that organisms change in accordance to their needs to better survive in the environment they are in. According to Darwinist natural selection, species will develop traits that ensure their survival.[33] Through adaption, organisms develop a way to be more efficient and 'fit'

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[27] Callicott, J. Baird. "How Ecological Collectives Are Morally Considerable.", 113; Batavia, and Nelson. "For Goodness Sake! What Is Intrinsic Value and Why Should We Care?" *Biological Conservation* 209 (2017), 369.
[28] Ibid, 204 Reece, Campbell Biology, 1253; Taylor, *Respect for Nature*, 8: Johnson, *A Morally Deep World*, 207-208, 217.
[29] Bookchin, Murray. *Post-scarcity Anarchism, 23-24;* Sloan, McKenny, *Darwin in the Twenty-first Century*, 126; Merchant, The Death of Nature, 103; Batavia, and Nelson. "For Goodness Sake! What Is Intrinsic Value and Why Should We Care?", 369-370. Palmer, McShane, "Environmental Ethics", 428.
[30] Callicott, In Defense of the Land Ethic, 81; Crowley, "From "natural" to "ecosocial Flourishing", 81.
[31] Arguments on the intellectual (and other) split between humans and nature and ideas on ecosophy or ecosocial environmental philosophy can be found in: Bookchin, *Post-scarcity Anarchism*; Bookchin, Murray. *Toward an Ecological Society;* Naess, Arne. "The Shallow and the Deep, Long-range Ecology Movement. A Summary." *Inquiry (Oslo)* 16, no. 1-4 (2008): 95-100; Salleh, Ariel. *Ecofeminism as Politics : Nature, Marx and the Postmodern*, (London Zed Books, 1997); Crowley, "From "natural" to "ecosocial Flourishing"".
[32] Humans are not exempt from biological constraints, even if we often act like we do not know this. Derek Bell, 23, 313.
[33] Reece, Campbell Biology, 1225.

better in their environment.[34] This happens through *interactive symbiotic negotiation*.[35]

In the broadest sense, natural selection will ensure species develop useful, fitting traits. For example, the thickness or type or layers of fur and down can be shed or grown in accordance to the changing of seasons, or even climate. Another example is how some organisms have adapted their digestive systems to be able to consume readily available organisms. These are examples of adaptive fit, which happens through *interactive symbiotic negotiation*. Interactive symbiotic negotiation is an *unconscious* feedback loop between internal and external factors.[36] This happens on two scales; ontogeny –where the individual organism adapts, and phylogeny –where life forms like species as a whole adapt.[37] The latter is what most people think of when thinking of evolution, and it is also something that can influence an ecosystem to such an extent that it finds a 'new' equilibrium.[38] This process can thus change ecosystems through time. This development is not completely random or without purpose: evolution and adaptive fit provide resilience against disturbance, and allow the ecosystem to achieve homeostasis by changing. We speak of *homeostasis* when the ecosystem can be said to maintain an organic, dynamic unity, or an 'integrated functional equilibrium'.[39] This is, as I previously stated, explained by the Nonequilibrium Theory. Thus, their dynamism aids their stability. Homeostasis is a state which the ecosystem continually strives towards.[40]

While static thinking about nature is therefore obviously false, it does not yet refute evolutionary determinism. If we can understand the feedback loop and what feeds into it, it would seem that evolutionary determinism is correct. This misinterprets the process of evolution in a different way. Evolution is not strictly teleological in the sense that innate potential has one pre-set goal within organisms and evolutionary processes, and that there is an end-goal or final state.[41] It is not strictly one directional. The feedback loop process can only activate innate potentialities. Whether these are expressed, and in what manner, is dependent on many internal and external interactions. Organisms do not carry their 'final states' within them from the beginning. Species do not have a final state or an end of their development within them. The way an organism develops or adapts is dependent partly on its physical material, but equally, on its external environmental factors through complex feedback circuits in its stages of development.[42] Determinism, mostly through applying strict teleology, is an incorrect way of understanding adaptive fit. Even when we know all disturbing factors that instigate adaptation, there is no exact formula on how nature will react, because the feedback loop is complex and infinitely variable.[43] It is the process of a constant struggle. To quote Ginsborg: "Nature is not deterministic, an organism could have formed itself in a thousand

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[34] Ibid.

[35] Sloan, McKenny, Darwin in the Twenty-first Century, 155; Johnson, Lawrence E. *A Morally Deep World : An Essay on Moral Significance and Environmental Ethics*. (Cambridge University Press, 1991), 208.

[36] Sloan, McKenny, Darwin in the Twenty-first Century, 155.

[37] Ibid, 148.

[38] The process of phylogeny means it is impossible to construe a species as a mere collection of individual organisms. The way phylogeny occurs means that development is never as a collection of individuals, but as a species in itself. For full explanation of phylogeny see: Sloan, McKenny, Darwin in the Twenty-first Century, 155.

[39] Ibid, 204 Reece, Campbell Biology, 1253; Taylor, *Respect for Nature*, 8: Johnson, *A Morally Deep World*, 207-208, 217.

[40] Johnson, *A Morally Deep World* , 217.

[41] By strict teleology I borrow from Feinberg's understanding of consciously driven intent: onedirectional development to a predetermined telos. This is obviously not present in ecosystems; For the distinction, see: Johnson, *A Morally Deep World*, 208; Callicott, *In Defense of the Land Ethic*, 142-145.

[42] Sloan, McKenny, Darwin in the Twenty-first Century, 127; Gotthelf, Allan, and James G. Lennox. *Philosophical Issues in Aristotle's Biology*. (New York: Cambridge University Press, 1987), 211-212; Johnson, A Morally Deep World, 226.

[43] Sloan, McKenny, Darwin in the Twenty-first Century, 159; Johnson, A Morally Deep World, 226.

other ways".[44] The evolutionary process and feedback loop, adaptations of genetic fit only indicate that species collectively are a process and product of genetic lineage through time.[45]

An ecosystem, which comprises and is dependent on all of these (subsidiary) processes, is therefore neither static, nor deterministic itself. However, this does not mean that it is too inconstant to be a coherent entity, either conceptually or factually. A stable ecosystem is a dynamic and diverse ecosystem. It is through these processes that it can achieve and maintain homeostasis, which is what the ecosystem continually strives to maintain.[46]

1.4 Boundary elimination and dynamism

This chapter has achieved two goals. Firstly, I have shown that two prominent preconceived difficulties in defining and conceptualizing ecosystems are not problematic. The conceptual boundary problem does not need to be an epistemic hindrance, and the factual boundary problem need not exist at all in order to understand and properly engage with the ecosystem. Secondly, I have cut down several misconceptions and misunderstandings about what ecosystems are and are not. These misconceptions have resulted in false accounts of the moral considerability of the ecosystem, or have preempted the endeavor prematurely. By doing so I have not only explained how ecosystems should be understood with biological fact, but also addressed key tenets of the ecosystem, namely homeostasis and resilience. It is now possible to conceive of the ecosystem as a coherent entity with its own integrated functioning. It is neither the aggregate of its constituents, nor 'more than the sum of its parts': it is its own entity, with its own integrated functioning and potential for a symbiotic equilibrium.

[44] Ginsborg, Hannah. *The Normativity of Nature : Essays on Kant's Critique of Judgement*. First ed., (Oxford: Oxford University Press, 2015), 263.
[45] Sloan, McKenny, *Darwin in the Twenty-first Century*, 145-146, 148-154, when discussing 'adaptive fit'. See also 'phylogeny' as discussed in footnote 41.
[46] Ibid, 204; Reece, Campbell Biology, 1253; Taylor, *Respect for Nature*, 8: Johnson, *A Morally Deep World*, 207-208, 217.

Chapter 2. Environmental ethics and moral considerability of nature

Any argument for moral rights first needs to determine moral considerability. This holds true regardless of the subject of the right. The subject of a moral right needs to have moral considerability in order to even be considered as a rightsholder. Many have developed theories that argue for the moral considerability of nature. Some of those take steps towards protection for nature, but there is no viable moral rights-theory for ecosystem rights.

Generally, moral status and rights are attributed or recognized by humans due to a value, or sometimes a characteristic of the thing itself that is deemed valuable. This value does not necessarily have to be a one-way pass to moral rights. Not everything that has value needs or should have rights or moral rights, and it might not even have moral status at all. However, there cannot be moral rights without moral considerability; otherwise the rights are 'empty'. More on this later.

2.1 Explanation of terms

There is some conflation of terms in the debate about moral considerability. Therefore, I must briefly explain some theoretical scaffolding.[47] I will explain the distinction between moral agents and moral patients; these terms denote who the parties in a moral framework are and how and when they can enter into moral relations. It is the ethical approach that determines which roles are ascribed to what or who, and subsequently what that could mean substantively. I have decided on the following distinctions, which reflect most common usage.[48]

***Moral status**, or standing* is generally used as an umbrella term to denote any type of moral consideration (in the broadest sense) due or not due an entity or being.[49] However, having any type of moral status is a prerequisite for moral consideration and for discussing its moral 'weight'. For example, if you argue that one celled-organisms have no moral status, it precludes a discussion on how to best take them into account in any type of decision.

If something has moral status, it is possible to state it has ***moral considerability***. Moral considerability means that the holder of it is due consideration in moral discussions, when actions affect it. Sometimes, the term 'morally relevant' is also used to denote the same thing.[50] What has moral considerability is dependent on the scope of the moral theory.[51] Sometimes there are qualifications that beings/things have to meet, attributes they need to have, like capacity for reasoning, having a welfare or an interest.[52] A popular example for non-rational beings is the capacity for pain, as this is then taken to denote a *moral interest marker*. Interest is then the qualification for moral considerability.[53] But there are also theories of intrinsic value that ground moral

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[47] Hale, Benjamin. "Rights, Rules, and Respect for Nature." The Oxford Handbook of Environmental Ethics, 1st ed. Oxford Handbooks, (Oxford University Press, 2017), 36.

[48] There are various terms to denote moral status, and some are used interchangeably, which can become confusing. It should therefore be noted that I might use a different terms than another author to denote the same concept.

[49] Hale, Benjamin. "Rights, Rules, and Respect for Nature", 40.

[50] Palmer, Clare. "Living Individuals." The Oxford Handbook of Environmental Ethics, 2017-01-26. 1st ed. Oxford Handbooks. Oxford University Press, 2017, 104.

[51] Hale, "Rights, Rules, and Respect for Nature", 41, 47.

[52] Cuomo, Chris J. *Feminism and Ecological Communities an Ethic of Flourishing*. Routledge, 1998, 58; Attfield, Robin. *Environmental Ethics : An Overview for the Twenty-first Century*. Second Edition, Fully Revised and Expanded. ed. Cambridge, UK: Polity Press, 2014, 58; Palmer, McShane, "Environmental Ethics'', 426.

[53] Palmer, Clare. *Animal Ethics in Context*. (New York: Columbia University Press, 2010), 45; Goodpaster, Kenneth E. "On Being Morally Considerable." *The Journal of Philosophy* 75, no. 6 (1978): 308-25.

considerability, as well as for example status of being endangered or unique.[54]

When having determined that something has moral considerability, practical application often asks how one thing's moral status relates to another; this is called ***moral relevance*** or ***significance*** –also sometimes called moral salience. This denotes the comparative value of whatever has been deemed to have moral considerability.[55] In other words, while moral considerability might have allowed two things both to matter morally, the moral relevance determines that one thing to matter more than the other.[56] In this thesis I am not concerned with moral relevance. This precludes any critique that has been leveled against ecocentric accounts before on the basis of moral relevance.[57]

Armed with these terms we can start addressing those who enter into rights-relations: *moral agents* and *moral patients*. It is moral patients that can have moral rights, while moral agents can have moral duties. Only by knowing what defines either, can we understand what qualifies something for moral patientship, and subsequently rightsholdership.

Moral agents

Moral agents are those that can deliberate on their actions and choose to act in a certain way, rather than another way; they can be motivated by moral reasons, and can be blamed for their actions.[58] The moral agent has the capacity to act morally or immorally, can have duties and responsibilities, and can be held accountable for their acts.[59] The only beings capable of such deliberation are conscious, rational beings, and therefore only human are moral agents.[60] That does not mean that the only locus of moral interest are humans. [61] Other things can matter morally that are not moral agents, but that are moral patients only. Equally, there are moral agents that are also moral patients.

Moral patients

Moral patients are subjects or beings of *legitimate moral concern*. It is also said that they have *interests* that should be taken into account when a decision is being made which could affect it/them. [62] Moral patients have moral considerability. In other words, moral agents need to consider them when making moral decisions, because they are moral patients. Depending on the moral framework, it is possible for moral agents to have duties towards moral patients. There are moral patients to not have moral agency. Examples of this can be children, or animals. Sometimes moral patientship are only ascribed depending on qualities that an entity possesses, just like there can be

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[54] Hale, "Rights, Rules, and Respect for Nature", 47.
[55] Palmer, McShane, "Environmental Ethics", 426-427.
[56] Goodpaster, "On Being Morally Considerable." 1978; Hale, "Rights, Rules, and Respect for Nature", 44.
[57] Like that of 'ecofascism'. Regan, Tom. *The Case for Animal Rights*. London (Routledge & Kegan Paul, 1983), 362, 396.
[58] Shockley, Kenneth. "Individual and Contributory Responsibility for Environmental Harm." The Oxford Handbook of Environmental Ethics, 2017-01-26. 1st ed. Oxford Handbooks. Oxford University Press, 2017; Shockley, "Individual and Contributory Responsibility for Environmental Harm", 266; Johnson, A Morally Deep World, 68. This excludes sociopaths who are rational, but not motivated by moral reasons.
[59] Taylor, *Respect for Nature*, 14; Beauchamp, Tom L, Driver, Julia, and Rowlands, Mark, "Animals That Act for Moral Reasons." The Oxford Handbook of Animal Ethics, Vol.1. Vol. 1. Oxford Handbooks. Oxford University Press, 2011, 519.
[60] O'Neill, "Environmental Values, Anthropocentrism and Speciesism", 127; Shockley, "Individual and Contributory Responsibility for Environmental Harm", 315. This is by no means uncontested, see also Beauchamp, Driver, and Rowlands "Animals that Act for Moral Reasons".
[61] McShane, Katie. "Truth and Goodness." The Oxford Handbook of Environmental Ethics, 2017-01-26. 1st ed. Oxford Handbooks. (Oxford University Press, 2017), 143.
[62] Beauchamp, Driver, Rowlands, "Animals That Act for Moral Reasons", 519; The terminology of moral subjects seems particular to Rowlands, see Beauchamp, Driver, and Rowlands "Animals that Act for Moral Reasons".

criteria for moral considerability.

Only those with moral considerability can be a moral patient. Furthermore, something needs to be a moral patient to potentially be a moral rightsholder. Any moral argument to protect something, be it a value or interest, needs to establish the subject of concern to have moral considerability and be a moral patient. In other words, it is only when I can establish that the ecosystem is a moral patient, that I can argue that it has moral rights.

2.2 Moral considerability of nature

Within environmental philosophy, many have argued the moral considerability of nature, on a variety of bases.[63] Where moral considerability is dependent on value, these value theories generally fall apart in either intrinsic or instrumental value for moral considerability, and that of anthropocentric and non-anthropocentric value.[64] Sometimes, these mean concurring things, other times not.

Instrumental value is the idea that something is of importance as a means to further a distinct end, while non-instrumental/intrinsic value denotes that a thing has value as an end in themselves, regardless of whether it also has or does not have instrumental value.[65] Examples of instrumental value is nutrients for human health in plants, or the aesthetic pleasure of a landscape. Much if not all instrumental value is anthropocentric, meaning that it believes only humans to be intrinsically valuable, [66] or comparably so much more valuable than other entities that of primary moral concern is always human value and wellbeing.[67] While I have previously stated that rules of morality can only be applicable to humans, humans are not the only source of value and moral considerability. I am also dissatisfied with the efficacy of instrumental value based arguments and think that moral arguments are underexplored. Moreover, it is illogical to argue for moral rights on the basis of instrumental value. This is why I will not argue for ecosystem rights on the basis of instrumental value, although I do not deny that there are instrumental and prudential reasons to be concerned with or protect nature.[68]

Conversely, intrinsic value means that even if we as human disapprove of a certain aspect or thing, it would still have value and generate a prima facie duty to not harm it in a way.[69] Generally, arguments defending moral rights for nature do this on the basis of intrinsic value.

Many non-instrumental or intrinsic arguments for the value and moral considerability of

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[63] Batavia, and Nelson. "For Goodness Sake! What Is Intrinsic Value and Why Should We Care?", 370; O'Neill, "Environmental Values, Anthropocentrism and Speciesism", 136.

[64] Warren, Ecological Feminism 71; Naess, "The Shallow and the Deep, Long-range Ecology Movement. A Summary." 95-100.

[65] Batavia, and Nelson. "For Goodness Sake! What Is Intrinsic Value and Why Should We Care?", 367.

[66] Hargrove, Eugene C. "Weak Anthropocentric Intrinsic Value. (The Intrinsic Value of Nature)." *The Monist* 75, no. 2 (1992): 183-207, 201; Batavia, and Nelson. "For Goodness Sake! What Is Intrinsic Value and Why Should We Care?", 369.

[67] Batavia, and Nelson. "For Goodness Sake! What Is Intrinsic Value and Why Should We Care?", 369, when discussing Hargrove and Norton.

[68] Anthropocentric views do not necessarily have to be detrimental to the ecosystem. Religion based 'stewardship of the earth' ideologies tend to want to protect nature from anthropogenic disturbance, as exemplified by Passmore, John. *Man's Responsibility for Nature : Ecological Problems and Western Traditions*. London: Duckworth, 1974. This directly opposes ideas that religious views are generally in favour of instrumental and exploitative behaviour towards the earth, see Callicott, In Defense of the Land Ethic, 71. This has sometimes also been pointed out by ecofeminists, see Shiva, Vandana. *Earth Democracy : Justice, Sustainability, and Peace*. London: Zed Books, 2006.

[69] O'Neill, John. "The Varieties of Intrinsic Value. (The Intrinsic Value of Nature)." *The Monist* 75, no. 2 (1992): 119.

nature have seen ecosystems as holistic, supra-organismic entities or collectives.[70] For example, deep ecology is a holistic intrinsic value theory, which assures that all living organisms have equal intrinsic value,[71] and are interconnected with other life communities and beings of value.[72] The latter is also present in forms of ecosocial holism, like that of Arne Naess.[73] The emphasis on the interconnectedness of all beings is not wrong biologically speaking. However, ecosocial accounts like Naess, but equally those of Paul Taylor's "attitude of respect for nature", as well as Aldo Leopold's 'Land Ethic', all pin their hopes on humans recognizing the intrinsic value and their own connection to nature. This would in turn motivate humans to act towards nature in a less disturbing way. [74] All of these accounts have in common that nature can be benefited or harmed, and has a sort of wellbeing that can affected. However, for them moral considerability is found in intrinsic value, on organisms being teleological centers of life. This apparently generates a prima facie moral duty not to harm them.[75] These arguments generally do not include wholes like ecosystems, as they are comprised of those individual inherently valuable entities.

Intrinsic value of a whole, instead of all its constituent parts, has been argued by Callicott. His account differs from the above, since he states that individual organisms are only of value in so far as they serve the whole. [76] I have explained in Chapter 1 that individual biotic and abiotic factors cannot but contribute to the 'whole' and as such there is no 'extent' to which they are valuable as an individual.

While I too would argue that humans have duties towards nature, that is not because there is intrinsic value. These accounts disregard how moral rights function as correlatives instead of attached qualities, and seem unconcerned by what creates moral rights-relations. More on this in Chapter 4.

In sum, I am not convinced by the metaphysics of intrinsic value theories, nor of their hypothesized substantive benefits. Moral considerability, especially if it wants to be a motivating factor in a debate on moral rights, cannot be based on an intangible, ephemeral value. There is an accessible, identifiable source for moral considerability in the ecosystem, simply by acknowledging basic tenets of biology. I turn therefore to interest-based moral considerability.

2.3 Interest based ethics and morality: the way forward

Interest has been understood in a variety of ways. One interpretation of interest is that an entity has an interest or desire in or to something, a goal it strives to achieve. Something that would exclude most things but humans is the idea that interest inherently necessitates conscious conation,

[70] Sumner, The Moral Foundation of Rights, 209; Kawall, Jason. "A History of Environmental Ethics." The Oxford Handbook of Environmental Ethics, 2017-01-26. 1st ed. Oxford Handbooks. (Oxford University Press, 2017), 15. Callicott, J. Baird. "How Ecological Collectives Are Morally Considerable.",113; Shockley, "Individual and Contributory Responsibility for Environmental Harm", 271; Batavia, and Nelson. "For Goodness Sake! What Is Intrinsic Value and Why Should We Care?", 369.

[71] Naess, Arne. "The Shallow and the Deep, Long-range Ecology Movement. A Summary."; Warren, Ecological Feminism, 71; Kawall, "A History of Environmental Ethics", 16.

[72] Taylor, Respect for Nature, 116, 117.

[73] Warren, Ecological Feminism, 71; Naess, "The Shallow and the Deep", 95; Kawall, "A History of Environmental Ethics", 16.

[74] Taylor, Respect for Nature, 222.

[75] Ibid.

[76] Callicott, *In Defense of the Land Ethic,* 42.

including an intent or ambition.[77] An example of this is Martha Nussbaum's Capability Approach (CA). Her CA requires someone to have intent, rational desires, or a life process of striving in order to be able to flourish.[78] Only then can something be said to have an interest, or wellbeing. [79] Only beings that meet these requirements have moral considerability to her. To her, wellbeing is dependent on being able to *experience* wellbeing.

Animal welfare advocates however, argue that the ability to experience pain and pleasure, or living, are also interests. This has been argued by Singer, Regan, and Mill.[80]

Nevertheless, these accounts still often exclude plant-life, as they cannot experience such things. Moreover, it does little to argue for the interest of species or wider nature, like the ecosystem. Interest based moral considerability for species or the ecosystem runs into some problems. If an ecosystem is seen as a collective, interest-based moral considerability is difficult because the value of the individual and collective are irreconcilable, or because it is hard to pinpoint a collective value or interest.[81] This vein of argument often also excludes the interdependence between the ecosystem's biotic and abiotic factors, including the importance of dead and rotting things. It is hard to argue for the value of dead things, if the interrelatedness of the 'individual' and the 'collective' is misunderstood. Moreover, if the ecosystem is seen as 'greater than its parts', one generally commits the mistake of value hierarchy. Lastly, the ecosystem is seen as an incoherent, unstable entity, which thus cannot have an interest. In other words, misunderstanding what an ecosystem is has doomed and pre-empted many an enquiry into an ecosystem's interest. I have countered those misconceptions in Chapter 1.

Ecofeminist accounts have intercepted and overcome many of the above problems. One noteworthy account has argued for interest-based considerability of nature. An appeal to this kind of interest based moral considerability has been made by Christine Cuomo, who developed the concept of Dynamic Charm. She argued that all animals and organisms have their own capacity for wellbeing, which is indicated by their particular characteristics.[82] That particular characteristic, which she calls the Dynamic Charm, is the quality of the entity that is resilient to change.[83] By understanding what an entities' Dynamic Charm is, we can understand what is good for it, or how it flourishes. When it can express this inherent characteristic, it is flourishing. [84] The Dynamic Charm also means that something can be harmed, exploited, treated immorally, at least to her. [85] It is the basis of a thing's moral considerability. Unlike many other environmental ethics, she acknowledges that an entity cannot flourish outside of its ecosocial context, as that context is necessary for its wellbeing.[86]

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[77] Johnson, *A Morally Deep World*, 208; Callicott, *In Defense of the Land Ethic*, 142-145; Wellman, Christopher Heath. "Feinbergs two concepts of rights." *Legal Theory* 11, no. 3 (2005): 213-26.

[78] For discussion, see Callicott, *In Defense of the Land Ethic*, 144.

[79] Nussbaum, Creating Capabilities, 20. Nussbaum, Martha C. *Frontiers of Justice : Disability, Nationality, Species Membership*. Cambridge, MA (Belknap of Harvard UP, 2007), 337; Taylor, *Animals and Ethics*, 67; Gruen, Lori. "Conscious Animals and the Value of Experience." The Oxford Handbook of Environmental Ethics, 2017-01-26. 1st ed. Oxford Handbooks. (Oxford University Press, 2017), 95.

[80] Kawall, "A History of Environmental Ethics", 15; Taylor, Angus. Animals and Ethics, and overview of the philosophical debate, third ed. Broadview guides to philosophy, (Broadview Press, 2009), 15; Singer, Joseph. "The legal rights debate in analytical jurisprudence from Bentham to Hohfeld." *Wisconsin Law Review*, 0, no. 6 (1982): 975.

[81] Sumner, Leonard Wayne. *The Moral Foundation of Rights, 209,* Rainbolt, The Concept of Rights, 209; Callicott, J. Baird. "How Ecological Collectives Are Morally Considerable.", 200; Kawall, Jason. "A History of Environmental Ethics." 17, 18.

[82] Cuomo, Feminism and Ecological Communities, 51.

[83] Cuomo, *Feminism and Ecological Communities*, 52, 53.

[84] Ibid, 49, reminiscent of Foot's well known concept of 'natural goodness'.

[85] Ibid, 47, 48.

[86] Cuomo, Feminism and Ecological Communities, 47, 54.

Moreover, it understands the symbiotic processes between organisms, and that wellbeing indicators can be found in living things.

Some problems remain. Instead of eliminating the element of 'striving towards something' as a requirement for interest, teleology cannot be excluded from interest based accounts of moral considerability. Cuomo made a mistake in trying to avoid requirements set by Nussbaum with regards to intent within teleology. Indeed, unconscious non-rational beings have no desires like "I would like to drink a cup tea", or "I'd like to solve world-hunger". They have no such ambitions. It is also true that many beings have favorable mental states, like pleasure over pain.[87] While they have the capacity to experience harm and benefit, there is no will or choice that can strive towards these states. Dynamic Charm is appealing because it does not require such experiential wellbeing and in many ways is biologically apt. It widens the scope for interest-based moral considerability to all organisms that can be said to have Dynamic Charm; an innate capability that is resilient. However, it is a mistake to argue that expressing innate capabilities is not a striving towards something. Cuomo undoubtedly wants to move away from intentional, experiential striving and ambition, which is what for Nussbaum excludes many entities. However, organisms cannot but strive towards expressing their innate capabilities. It is what drives evolutionary processes, *striving*. Therefore, I will rebut Nussbaum's argument that teleology and striving necessarily includes experiential, conscious intent.

[87] Johnson, A Morally Deep World, 6.

Chapter 3. Interest and wellbeing for the ecosystem

Not all interest based accounts of moral considerability consider *interest* in the same way, or will argue that the same things have interests. Martha Nussbaum specifically excluded ecosystems from having an interest that can be harmed. For her and those who agree with her, teleology necessarily includes intent, active desires.[88] For Nussbaum, humans and some non-human animals have moral considerability, since they strive towards an end (telos). This striving is the interest. They seek to express their innate capabilities. If they succeed or are thwarted in doing so, their flourishing is affected.[89] Instead of flourishing, she utilizes the word 'wellbeing'. While she states that this wellbeing is dependent on innate capabilities and the capacity to express them, wellbeing is dependent on being able to *experience* wellbeing. This experiential conception of interest and wellbeing excludes ecosystems and species, since they cannot experience a state of wellbeing such as pain or pleasure. She states explicitly that they are "not a center of an experience and do not have life project of striving".

I will counter this argument that ecosystems cannot experience harm and therefore have no wellbeing, and that they do not strive towards something. While I concede that ecosystems do not experience harm and benefits the same way that something with a nervous system would, that does not mean that they cannot be 'better or worse off'.

Secondly, it is clear from biology that ecosystems do strive towards something, but it is an unconscious, necessary striving. This does not disable the ecosystem from being morally considerable; instead, it affirms it.

While having an interest is generally understood to be only present within conscious or rational beings, this is not imperative. Going back to Aristotelian teleology, I will show that interest must be understood as *wellbeing*, and that this is present within the ecosystem. In fact, it reflects biological processes.

This chapter argues that 'wellbeing' needs to be understood in light of Aristotelian teleology. It is biologically correct and shows that the ecosystem has an interest, which means that it has moral considerability. Only then can the ecosystem be considered as a moral patient. The latter is a necessary precursor for having moral rights.

3.1 Aristotle's teleology and modern biology

The Aristotelian conception of teleology and flourishing is compatible with how ecosystems function. Understanding teleology and the ecological processes for resilience and homeostasis cannot but lead to understanding that ecosystems have a telos, and thereby an interest.

Entity-specific telos and flourishing

Aristotle's teleology and account of flourishing starts from understanding organism's innate, natural capacities. These capacities are specific to the entities or beings that possess them. Each organism strives for a telos, an end goal that is particular to the being.[90] So, an acorn's telos might be to grow into an oak tree, and the telos of a fish certainly will not be to learn how to walk. It is not in its innate

[88] For discussion, see Callicott, *In Defense of the Land Ethic*, 144.

[89] Nussbaum, Creating Capabilities, 20. Nussbaum, Martha C. *Frontiers of Justice,*, 337; Taylor, *Animals and Ethics*, 67; Gruen, "Conscious Animals and the Value of Experience", 95.

[90] Crowley, "From "natural" to "ecosocial Flourishing"", 74, 49; Sloan, McKenny, *Darwin in the Twenty-first Century*, 126-127, Taylor, "Animals and Ethics", 25; Irwin, Terence. *Aristotle's First Principles,* (Oxford University Press, Incorporated, 1990), 102. Gotthelf, Philosophical Issues in Aristotle's Biology, 211, 275.

capacities to do so. It is the manifestation of innate, intrinsic potential. Stated differently, the pursuit of the telos is something realizing its nature. Every living, growing thing has a telos, an end to itself. That is what decides what the good is of and for this entity.[91] In sum, Aristotle's teleology is a way of understanding nature or humans as striving towards a goal, also called telos, specific to their being.[92] By striving towards that goal, living out their innate potential they are *living well*; they are striving for what is *good* for them.[93] In other words, by striving towards their telos, they are *flourishing* or have wellbeing. [94] Aristotle captures this pursuit by the term *Eudaimonia,* sometimes also translated as *happiness*[95] More specifically, living in pursuit of the telos is the action of living virtuously. This entity-specific goal can be found in all living things.[96]

This entity specific telos is also present in the ecosystem. I have already argued that the ecosystem needs to be understood as an entity in itself, which functions in a particular way. As I have shown in Chapter 1 through explaining the Nonequilibrium Theory, the ecosystem strives to maintain or achieve homeostasis. Achieving homeostasis is a continuous end-goal for the ecosystem, and it could potentially achieve or maintain it. The ecosystem has within it the inherent potential for homeostasis. The striving towards it is their interest, their telos. However, it is not guaranteed it will do so, just like it is not determined that the acorn will grow into the oak tree. If the ecosystem is not resilient enough, it might be thwarted in its pursuit of homeostasis by disturbance. Flourishing happens, or it has wellbeing when it can strive towards homeostasis. The main factor in this process is resilience, which mainly happens through biodiversity.

Non-deterministic, unconscious striving and flourishing

Aristotle's teleology is not, as current conceptions of happiness or wellbeing tend to state, a psychological account. Nor does it a describe a state of experiential pleasure, although pleasure is not excluded from living a good life. [97] It is the expression of *virtue* that leads to Eudaimonia. This is the act of *living well*, which is done through giving expression to innate capabilities and talents that a person or organism has.[98] In other words, by striving towards the telos.[99] It does not need intent, like we understand that humans can have premeditated intent.[100] A thing its telos and its success in striving towards it are decided by both innate properties and its interactions with its surroundings.

With our vast knowledge of biological processes and evolution, it would be easy to mistake teleology in biology as leading towards a predetermined 'endpoint'. I have explained before that nature is not deterministic, and neither is Aristotle's understanding of teleology. Aristotle does not deny that while organisms have a telos, they need not go into that direction necessarily. The telos is in the nature of the organism, as an ''origin of change and variation".[101] Flourishing is the expression

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[91] Broadie, Sarah. *Aristotle and beyond : Essays on Metaphysics and Ethics,* (Cambridge University Press, 2007), 124.

[92] Gotthelf, Philosophical Issues in Aristotle's Biology, 211, 275.

[93] Ibid.

[94] Storey, David E. *Naturalizing Heidegger : His Confrontation with Nietzsche, His Contributions to Environmental Philosophy*. SUNY Series in Environmental Philosophy and Ethics, (SUNY press, 2015), 199.

[95] Lobel, Diana. "Aristotle: The Life of Engaged Activity." *Philosophies of Happiness: A Comparative Introduction to the Flourishing Life*. (New York Columbia UP, 2017), 13; Giovanola, Benedetta. "Personhood and Human Richness: Good and Well-Being in the Capability Approach and Beyond." *Review of Social Economy* 63, no. 2 (2005): 249-67, 253; Taylor, "Animals and Ethics", 25.

[96] Lobel ,"Aristotle: the Life of Engaged Activity", 14; Gotthelf, Philosophical Issues in Aristotle's Biology, 275.

[97] For humans, at least.

[98] Giovanola, Benedetta. "Personhood and Human Richness", 253.

[99] Gruen, "Conscious Animals and the Value of Experience", 115.

[100] Broadie, Aristotle and beyond, 85, 92; Varner, *In Nature's Interests?,* 27-28.

[101] Irwin, Terence. *Aristotle's First Principles,* 100.

of those innate capabilities, in that they are potentialities, which are subject to change due to external factors and their interaction with them.[102] This can have infinite variations. Despite Aristotle not having any knowledge of evolution theory, he correctly saw the striving towards the telos as non-deterministic.[103] Indeed, biological knowledge affirms nature is not onedirectional, and therefore Aristotle's teleology holds under the scrutiny of modern science.

Moreover, the striving towards the telos does not imply a conscious effort. If an entity's telos is decided by an entity's particular properties, it would be absurd for the achieving of the telos to demand conscious intent from a being or entity that does not have this property. Its telos will not include the manifestation of conscious intent, as it is not within an entity's innate properties. Therefore, it is not a problem that the ecosystem does not have conscious intent. It is continuously striving towards homeostasis, as it is the manifestation of its innate properties. [104] Secondly, we know that there is an *unconscious* feedback loop between internal and external factors. This happens through the processes of ontogeny and phylogeny. [105] Manifestation of innate potential can thus be determined in unconscious entities, as well as conscious entities.

3.2 Telos and wellbeing of the Ecosystem

I have demonstrated previously through the Nonequilibrium Theory that the ecosystem continuously strives to achieve or maintain homeostasis. It is in its innate potential to do so, but it is by no means a guaranteed outcome. Understanding interest in the light of Aristotelian teleology means that telos or wellbeing can be present in entities that do not possess intent, conscious desires, or rationality. The striving towards its telos is its interest or wellbeing. In other words, it has wellbeing when it can strive towards it.

For the ecosystem, this means that those factors that contribute to its achieving homeostasis contribute to its wellbeing. For the ecosystem, that means increased resilience. Inversely, that which damages its striving toward homeostasis, or large scale disturbances, harms its wellbeing. In sum, this means that the ecosystem has an interest. I can therefore claim that the ecosystem has moral considerability, and is a moral patient.

While a moral patient could have rights, rights are not attached qualities. They only occur in rights-relations.

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[102] Gotthelf, Philosophical Issues in Aristotle's Biology, 211; Ginsborg, The Normativity of Nature, 304; Darwin in the 21st; Broadie, *Aristotle and beyond*, 90. Organisms do not carry all their 'forms', what they will become, within them; this is the process of a complex feedback loop, as I have explained in Chapter 1; Sloan, McKenny, Darwin in the Twenty-first Century, 159; Ginsborg, The Normativity of Nature, 304.

[103] Sloan, McKenny, Darwin in the Twenty-first Century, 155; Broadie, *Aristotle and Beyond,* 90-91 Storey, Naturalizing Heidegger, 112,114. In biology the concept of teleonomy has been developed to distinguish intentional and non-intentional goal directedness often associated with teleology. Sloan, McKenny, *Darwin in the Twenty-first Century*, 155.

29; Taylor, *Respect for Nature*, 275.

[104] Ibid, 217.

[105] Sloan, McKenny, *Darwin in the Twenty-first Century*, 148.

Chapter 4. Moral rights and duties

I have argued that ecosystems have a telos in homeostasis. This is an interest, and therefore means that the ecosystem has moral considerability. That which helps it strive towards the telos is thereby its wellbeing indicator. I can therefore state that which adds to the ecosystem's resilience increases its wellbeing, and that which degrades its resilience harms its wellbeing. This interest is quantifiable, and degrees of wellbeing can be determined without much difficulty. There are no conceptual or factual difficulties in doing so. In other words, we can say that an ecosystem's interest is being harmed or affected, and the ecosystem must be understood as a moral patient. This is a prerequisite for it having moral rights.

This chapter will do three things. First, I will introduce some particulars of moral rights-talk in order to understand from which point rights-talk starts, and what problems it faces. Then, I will show that rights are a means to protect an end, goal, or interest. Third, I will demonstrate that rights only exist in a relational context, between a moral agent and moral patient. This will leave us with understanding that a moral patient can be a rightsholder, but does not necessarily have rights upon being a moral patient. This only happens within a rights-relation. This chapter will elucidate what rights-relations are and what they do. The next chapter will answer the question of when there are rights-relations between the moral agent and moral patient.

4.1 Particularities of rights-talk

'Rights-talk' exists in the metaphysical, moral, political, legal, social and rhetorical realms. Much rights-talk focuses on grounding rights in a metaphysical framework, which can be based on religion, human nature, biology, or other.[106] Rights-talk does not always focus on the same idea of 'rights'.[107] Therefore I will narrow the discussion to a few key distinctions to swiftly focus on rights as relational claims and duties.

Amongst the 'varieties' of rights, *human* rights are mostly accepted, guide action and motivate behavior.[108] They are widely considered justified, and are accepted into forms of positive law. Most rights-talk is about human rights. Human rights hope to safeguard what is considered to be necessary for humans to live a morally tolerable life, or a dignified life.[109] Human rights confer rights that a human possesses by virtue of being human.[110] In other words, humans are those who should be taken into account when decisions affect them: they are moral patients as much as they are rights holders.[111] This shows a critical connection in rights-talk, namely that rights can only be due moral patients.[112] Or, to protect an interest or value by means of the right.

Although more things than humans can be moral patients, any other noun placed before

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[106] Jenkins, Iredell. *Social Order and the Limits of Law A Theoretical Essay*. (Princeton Legacy Library, Princeton: Princeton University Press, 2014), 241.

[107] Sumner, The Moral Foundation of Rights, 9.

[108] One might think this is an obvious truism. However, the Universal Declaration of Human Rights as a legal document is not without its own problems, nor is it self-evident. Without falling into meta-legal argument, it is not comparable to national penal law in its protections and enforcement: it is dependent on a shared effort and conviction for its mere existence. This is not different from other (moral) rights talk. Peter Singer, in "One World" (2002) has accurately pointed out the painful uncertainty of human rights and international justice, most notably in the chapter "One Law", in particular pages 112-135.

[109] Shestack, Jerome J. "The Philosophic Foundations of Human Rights." *Human Rights Quarterly* 20, no. 2 (1998): 201-34, 215, 225.

[110] Shestack, "The Philosophic Foundations of Human Rights", 202.

[111] Ibid.

[112] Jenkins, *Social Order and the Limits of Law*, 241.

'rights' (animal, environmental, etc), as can be deduced from the body of literature, is fairly novel, and seems to need a completely different approach. The main problem seems to be their moral considerability and therefore how they are moral patients. There are qualifications or standards that rightsholders are thought to need to possess, that non-humans simply do not have. Examples are things like rationality, conscious desires, or a life project to strive for.[113]

Despite the lack of acceptance of non-human rights, there is no inherent impossibility to what can have rights, not just legally, but morally as well.[114] Through administrative processes, literally anything can be granted procedural rights.[115] Moral rights are not based on procedure, but on the sense that something is valuable, that its 'goodness' should be protected and considered when things affect them. In other words, if something is a moral patient, it can be considered for moral rights. There is confusion on how ecosystems can fit the requirements of a rightsholder, if there are required attributes for rightsholdership. However if something is a moral patient, it *can* have moral rights. I have succeeded in arguing for the former, and will address the latter forthwith.

As such, the first distinction in rights-talk I must make is that between procedural or legal rights, and moral, normative, or extra-legal rights.[116] For some the two are logically unrelated, though for others they necessarily correlate and even coincide at times.[117] Theories that ascribe to the former generally fall into schools of legal positivism, formalism, and analytical jurisprudence; for them, rights exist merely as legal or meta-legal constructions, and are usually already formalized into law and put into practice.[118] The latter view splits itself into theories of natural law, intrinsic value and prima facie duties, or religious origins for rights; here, rights are thought to arise from metaphysical grounds and principles of ethics.[119] I am concerned here with moral rights.

Moral rights, as a peremptory and motivating force, generally call on a moral principle that allows claims on the grounds of justice. By justice here is meant, broadly speaking, a state of moral goodness.[120] Rights are relative to the moral framework or moral principles that inspire ideas of goodness and justice.[121] If we say something 'has' a right, we generally mean that it has a moral

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[113] For example, a protected-choices account of rights asks for the rightsholder to be able to deliberate on his choices. This requires the rightsholder to be able to consider, in a certain way. Protected choices based rights asks for more qualities within the rights bearer; this excludes many from being the subject of a right, which to me is false, as many things and beings other than those who can make choices on grounds of liberties have moral considerability, and have interests that can and should be protected by rights. Rainbolt, The Concept of Rights, 99.

[114] Taylor, Respect for Nature, 221; Rainbolt, The Concept of Rights, 196; Sumner, The Moral Foundation of Rights, 35; Taylor, *Animals and Ethics*, 64; Taylor, *Respect for Nature*, 221.

[115] Taylor, *Respect for Nature*, 221.

[116] Thomson, Judith Jarvis. *The Realm of Rights*. (Cambridge, MA, Harvard University Press, 1990) 71; Jenkins, *Social Order and the Limits of Law*, 242.

[117] Jenkins, *Social Order and the Limits of Law*, 242.

[118] This means that there is no extralegal source of rights but procedure or analytics, and they can only be acknowledged through procedure. For a discussion which includes utilitarianism, consequentialism and the social contract see: Kohlberg, Lawrence. "The Claim to Moral Adequacy of a Highest Stage of Moral Judgment." *The Journal of Philosophy* 70, no. 18 (1973): 630-46. 636; and Jenkins, *Social Order and the Limits of Law,* 242.

[119] Jenkins, *Social Order and the Limits of Law*, 242. For a description of De Groot and natural law, see Kohlberg, "The claim to Moral Adequacy", 639; Thomson, *The Realm of Rights*, 30. Other such grounds can be utilitarianism, consequentialism, deontology, but equally political ideologies like Marxism, liberalism, humanism, etc. For a discussion, see: Rainbolt, *The Concept of Rights*, 49; Sumner, *The Moral Foundation of Rights*, 95, 102 203; Shestack, "The Philosophic Foundations of Human Rights", 204, 208-213, 215.

[120] Jenkins, *Social Order and the Limits of Law*, 241.

[121] Rainbolt, The Concept of Rights, 79, 120, 125; Thomson, *The Realm of Rights*, 30.

status or interest that needs to be protected or has a claim due to its value or 'goodness'.[122] This value can be interpreted in many ways, and some distinctions have been discussed previously with regards to instrumental and intrinsic value. In many arguments for moral considerability, it is intrinsic value which mostly qualifies things for rights.[123] After all, while things like clothes hangers and paper money have value, both instrumentally and monetary, it would be ridiculous to state they have moral rights on the basis of those values. Even things like Monet's waterlily paintings, which have aesthetic, and perhaps historical and societal value, do not have 'rights'.[124] Those entities that have intrinsic value –and thereby moral considerability should have rights, and because of their intrinsic value there is a prima facie reason to protect them, and constrain behavior towards them.[125] That does not mean that all moral rights should be based on intrinsic value, however, just like not all moral considerability is based on intrinsic value. Instead of intrinsic value, I make an argument for moral rights on the basis of interest-based moral considerability. Nevertheless, what all arguments for moral rights show is that, regardless of its foundation, there is something special both about moral rights, and the things that can have or should have rights.

4.2 Rights as means-end constructions

What rights *are* must be understood by what they are supposed to achieve. Rights serve to meet an end, a status quo or state of being that is desirable or morally good, which can only be achieved through the guided action required of the right and subsequent obligation.[126] There is an end to the purpose for which the right was attributed; the ultimate purpose of rights, is that good or end.[127] It comes as little surprise that what that means depends on the conception of rights one engages in.[128] For example, rights can be understood as justified constraints on agents, as protected choices, advantaged wills, etc.[129] This decides our understanding and desires of what a right is supposed to do or how it functions, but equally influences who has the right or to whom a duty is owed.

I have previously argued that all moral patients have the potential for moral rightsholdership. Furthermore, I have claimed that if something has an interest, it has moral considerability and is a moral patient. Moral rights aim to protect that interest. This does not mean that rights to protect an interest do not constrain behavior, however. The moral patient having a right will result in the moral agent's behavior being constrained or 'guided'. Rights always place normative constraints on moral agents. Those constraints are also always owed or due the rightsholder.[130] Jenkins states ''The primary locus of rights might thus be said to lie in the sense of justice. Rights have their origin in the effort to redress what is experienced as an undeserved harm; that is, as a wrong. The purpose of a right is thus to right a wrong".[131] Generally, violating a right means *wronging* the rightsholder. Its

[122] Thomson, *The Realm of Rights*, 38.
[123] Batavia, and Nelson. "For Goodness Sake! What Is Intrinsic Value and Why Should We Care?", 369; O'Neill, "The Varieties of Intrinsic Value".
[124] In some cases there are laws on how humans ought to treat objects without them being moral patients. For example, historical buildings can be 'listed' and can only be 'treated' in a certain way. This is on the basis not of a (moral) right, but on grounds of procedure (law). It is not the *building qua itself* that has resulted in this procedure, but I suspect, the function it has as an object of historical study to humans.
[125] Taylor, Respect for Nature, 222. Although he was no proponents of rights, as he meant to achieve his goals by the attitude of respect for nature.
[126] Jenkins, *Social Order and the Limits of Law*, 242.
[127] Ibid, 242-3.
[128] Rainbolt, The Concept of Rights, 77.
[129] For a full discussion, see Rainbolt, The Concept of Rights.
[130] Rainbolt, The Concept of Rights, 85.
[131] Jenkins, *Social Order and the Limits of Law*, 243.

interest or wellbeing is harmed, and we say that its rights are violated. The right aims to safeguard the interest of the rightsholder. This 'wronged' indicates that there is a moral obligation (normative constraint) not to behave in such a way; this is what a right aims to do.[132] This is a relational obligation between the moral agent and the moral patient, owed the rightsholder (moral patient).[133]

4.3 Hohfeldian rights-relations

I have stated before that rights only occur in rights-relations.[134] *Moral rights* specifically can only occur between the moral agent and the moral patient, but rights and subsequent duties only come into play where there is *contact*. More on contact later. First needs to be clear what rights-relations are, and what they *do*.

Rights relations, or relational obligations have been depicted in schematic correlatives by Wesley Hohfeld. His scheme lays bare the structure of rights-relations, and how indivisible these relations are. Furthermore, it shows how they function. He depicts them schematically in logical correlatives between parties.[135] Hohfeld's scheme of rights-relations basically consists of four correlatives: claims and duties, liberties and no-claims, powers and liabilities, and immunities and disabilities.[136] I will simplify matters and mainly use the terms claims and duties, as it suffices to show how rights are relational.

The basic construction of a rights-relation is this: If a person X, promises person Y that he will do act A, then Y has a moral claim that X do A.[137] Or, X's having a right against Y is equivalent to Y's being under a duty to X.[138]

The first thing that is clear from this basic example is that there is a claim and a duty, and that they are correlatives. However, this is conditional on the fact that there is a rights-relation between the two, in this case the holding of a promise, and that both the claim and the duty have the same content (A). In different terms, this rights relation is conditional on both relations having the same *content*, the *object* of the first relation being the *subject* of the second relation and the *object* of the second relation being the *subject* of the first relation.[139]

Secondly, it shows the way that Hohfeldian rights-relations always have three parts: the two entities with rights-relations to eachother (X and Y), and the content of the rights-relation (A). More plainly, the moral patient who has a claim, the moral agent who has a duty, and the content of the duty owed to the moral patient by the moral agent. The rights-relation necessarily entails the above outlined correlatives (claims/duties, liberties/no-claims, etc), but only if those have the same content.[140] The content of a rights-relation is always an act. That act can be *to do* something, or to *not do* something.[141]

Claims and duties only exist in their correlation: there cannot be a right without a corresponding obligation.[142] Where one schematic position is occupied –by a right of a moral patient,

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[132] Rainbolt, The Concept of Rights, 85.
[133] Ibid.
[134] Bryson, Ken A. "Negotiating Environmental Rights" *Ethics, Place & Environment* 11, no. 3 (2008): 351-66, 352.
[135] This is not without some controversy, for example about whether the components that make up the scheme are indeed, as Hohfeld claims, sui generis and self-explanatory; see Sumner, *The Moral Foundation of Rights*, 19; Rainbolt, The Concept of Rights, 17.
[136] Rainbolt, The Concept of Rights, 2-5.
[137] Ibid, 5.
[138] Thomson, *The Realm of Rights*, 39; Jenkins, *Social Order and the Limits of Law A Theoretical Essay*, 241. Sumner, *The Moral Foundation of Rights*, 26.
[139] Rainbolt, The Concept of Rights, 2, 3.
[140] Ibid, 2.
[141] Ibid, 4, 23.
[142] Sumner, *The Moral Foundation of Rights*, 34-35; Thomson, *The Realm of Rights*, 2

means that there is another position occupied, that of the agent with the corresponding duty.[143] What it means (substantively) to have a right, can be therefore be understood by looking at what its correlative duty is.[144]

Moral claims on the basis of wellbeing/interest

Having an interest or a state of wellbeing is not the same as having a moral claim or right. Having a morally relevant interest, like wellbeing, enables the moral patient to have a right[145]. While the ecosystem has moral considerability, and is a moral patient, it does not suddenly have a moral right. A right is not a label to randomly stick on something. Moral rights are a means of protection of an interest, and only exist in correlation to a corresponding moral obligation. To understand when a moral patient has a moral right, I must explain when rights-relations between the moral patient and the moral agent occur.

The origin of Hohfeldian correlatives

While the Hohfeldian scheme of rights clearly portrays the logical correlatives of rights-relations, it has a blind spot. The logical correlatives are sui generis, at least according to him.[146] This is an unsatisfactory answer. I have stated that claims and duties are logical correlatives, following the Hohfeldian conception of rights. Moreover, I agree that this claim/duty correlation is conditional on the fact that they have the same content. I have added that this is in fact conditional on there being a rights-relation at all, but it is as yet unclear *when* those two parties have a rights-relation of which they share the same content. This question is often overlooked.[147]

Examples of rights-relations like promises or contracts are easily explained. They seem to appeal to both morality and to intentional agreement. However, there are also moral rights and moral rights-relations without intentional agreement. There are duties that we have because of morality, that correspond to others having moral rights. If moral rights-relations can only occur between the moral agent and the moral patient, and they are conditional on them having the same content, the question remains *when* this happens. I will explain the answer to this question in Chapter 5 by developing the Contact-Theory.

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[143] Sumner, *The Moral Foundation of Rights*, 35.

[144] Thomson*, The Realm of Rights*, 40.

[145] Raz has also taken interest as a basis for rights, but interest as benefit. This leads to complications. I have explained how I understand interest in Chapter 2, which differs from Raz's conception. See Rainbolt, The Concept of Rights, 88.

[146] Sumner, *The Moral Foundation of Rights*, 19; Rainbolt, The Concept of Rights, 17.

[147] Rainbolt, The Concept of Rights, 17, 18.

Chapter 5. Rights-relations and the Contact Theory

While the relational account of rights answers how rights function, and in parts what they do, it is not clear when these rights relations occur. The source of these rights-relations or correlatives is assumed, or accepted as self-explanatory, coming from itself. This misses a key tenet of rights-relations. Not knowing when these rights-relations occur between moral agents and moral patients results in misunderstanding how some rights-relations come about involuntary, and also how these rights-relations can occur between humans and non-humans.

Rights and duties rely on a relation, or *contact* to exist. Entities do not 'possess' rights as an attached quality, but they come into play when there is a rights-relation between moral agents and moral patients. [148] Rights do not exist intrinsically, nor are they inherent to beings or entities. In fact, conceiving of rights as intrinsic or as qualities of things is anathema to what a right is and how it functions. A right is not a quality of a thing, but a means to protect their interests, due them on the basis of morality. [149] It is to have a claim to a duty from a moral agent when there is a rights-relation between the moral agent and moral patient.

I have established that the ecosystem has a telos in homeostasis; this is its interest, and striving towards this telos is how it flourishes or has wellbeing. This striving is enabled by achieving resilience, through biodiversity. This means that the ecosystem has moral considerability. It has an interest that should be taken into account, or in other words, it is a moral patient. Rights-relations occur between moral agents and moral patients: in this case, between humans and the ecosystem. These rights relations can confer duties on the part of the moral agent. However, I have not yet explained when we can speak of there being present rights and subsequent duties. To have an interest is not to have a claim in itself. Having an interest enables something to be harmed or affected, and then it has a claim, because then a rights-relation is invoked. Previously I have shown that rights mean to protect an interest, and to harm that interest is somehow *morally wrong.* This invokes the rights relation in order to address that wrong. This gives a hint as to the answer to the question of when rights-relations occur, as it coveys affect. The answer to the question of *when* rights-relations occur*,* is *contact*.

Contact in its basic premise means a relationship in which the moral patient's interest is affected by the moral agent. I want to showcase how this should be understood by leaning on the work of Clare Palmer in her Laissez-Faire Intuition (LFI). [150] Hers is a normative framework on how humans should relate to animals. I want to extrapolate briefly on her account, as it accurately displays how *contact* creates duties. While it is not meant as a rights-theory, it is a good demonstration of how *contact* works between moral agents and moral patients. This is why I have chosen to briefly explain her LFI, to aid the visualization of what I call the Contact-Theory. Or in other words, it shows plainly how contact between moral agents and moral patient who are not agents come into being.

5.1 The Laissez-Faire Intuition

The LFI is an animal rights theory. Palmer bases moral considerability on beings having a moral interests.[151] Palmer too, focuses on innate capacities to indicate the wellbeing or interest of the

[148] Jenkins, *Social Order and the Limits of Law*, 242-3.
[149] Sumner, *The Moral Foundation of Rights*, 87.
[150] She explains this at length in her book; animal ethics in context, and she outlines different levels of the LFI. I have condensed the key ideas in her book to the LFI for brevity.
[151] Palmer, Clare. *Animal Ethics in Context*. New York: Columbia University Press, 2010, 45.

animal, much like resilience.[152] Her Laissez-Faire Intuition aims to clarify what fair relationships between humans and non-human animals look like.

The degree of responsibility of the moral agent, or what I would call moral duty, is determined by the *degree of contact* that the moral agent has with the moral patient. Generally, this means that where the human-animal relationship has affected the capacities of the animal, and thus their welfare, there is an increased moral responsibility. Palmer describes *contact* as follows: "relation" in this context … includes having an effect, potentially having an effect, or having had an effect on another, or the existence of an interaction between one being and another, such that the effect or interaction makes a difference in states of affairs".[153] When I discuss her 'degrees of contact', this is not meant to comment on moral salience or the content of the duty. I want to showcase through her examples how and when contact is established, and how this leads to moral duties, including involuntary duties and those that come forth from 'distant' contact.

The widest circle of relation of contact, is no contact at all. This is what she calls the 'No Contact LFI'. [154] Wild animals are always primarily better off being not interfered with, by virtue of them being –and remaining, wild. There is no responsibility to help them, as we have no relationship with them that affects their capacities or interests. As there is no contact, there are no duties.

A very close degree of contact is present in domesticated animals. We have a duty to assist and care for them, as we have created, shaped, and influenced them to be domesticated, and thereby have affected their capacities.[155]

In between wild animals and domesticated animals lie several degrees of contact. Duties and responsibilities of moral agents towards them are decided by the degree of affectation. Where there is an anthropogenic vulnerability or dependence of the animal which is in any way created by contact with humans, we have a duty towards the animal. [156] Contact occurs in three ways, that each affect the animal. Palmer has clarified these and derived three categories: direct harm, transgenerational harm or received benefits, and a shared attitude of permission.

I want to extrapolate a little on these, because it clarifies what I mean with *contact* between moral patients and moral agents. Often we misunderstand the ways in which we affect other moral patients, most definitely when they are not agents or cannot communicate their displeasure or harm with us. This is especially true for moral patients like animals, or indeed the ecosystem.

Direct causation is straightforward: causing an animal to be worse off than before interference creates a duty for reparation, compensation, or other care.[157] In the case of indirect, transgenerational causality, where there are benefits received due to past harm, there is also a moral obligation for repair or other care.[158] Aside from having caused the harm and benefitting from the harm, there is another layer of contact that forms a moral obligation: this is the attitude that (indirectly) contributes to the perpetuation and production of the harm, which she calls a "shared attitude" of permission.[159] For example, buying fur and contributing to the demand, as well as

[152] This capacity is the natural capacity of animals to live and thrive, or rather, to live according to their nature, with which they can be independent and care for themselves

[153] Palmer, Animal Ethics in Context, 48.

[154] Although we might be permitted to help in certain circumstances Palmer, Animal Ethics in Context, 3, 63.

[155] Ibid, 5, 48, 67.

[156] Ibid, 48.

[157] Ibid, 96.

[158] This is not unproblematic, but neither can it be completely refuted as absurd. For example, reparations for war crimes are also paid to descendants, and recently moves have been made to address the benefits and suffering brought forth by slavery and colonization.

[159] Palmer, Animal Ethics in Context, 114.

potentially popularizing the purchase of such an item by wearing it.[160]

Through this analysis, she accurately depicts the ways in which moral agents affect moral patient's interests, and that it creates a duty on the part of the agent when their interests are affected to their detriment. It clearly shows the way contact creates this relation of obligation; I call this a rights-relation. Where there is contact between the moral agent and the moral patient, the moral patient has a right to have their interests protected in that relation, and the moral agent has a duty towards the moral patient. I call the explanation of this process the "Contact Theory", and it answers how and when the ecosystem has moral rights.

5.2 Contact Theory applied to the ecosystem

The 'Contact Theory' has shown how moral rights come into existence where there is contact. This contact establishes the rights-relations. Or in other words, that there is a duty corresponding to a right between the moral agent and the moral patient. In Palmer's LFI, the type of contact has influence on the content of the duty, although that is not part of this thesis.

I will illustrate what contact between ecosystems and humans looks like, and thus when there are rights-relations. It is fairly obvious that there is some contact between humans and the ecosystem. Humans generally do not exist outside of the only biome we can inhabit, nor are we the product of extra atmospheric, extra-terrestrial processes. We are but one species that inhabit the earth, but as humans, we are the only ones that can qualify for moral agency.[161] We both need the ecosystem for our survival, and we interact with it on many levels. As humans are part of the ecosystem, and necessarily like any organism, influence it in myriad ways, one could easily state that therefore the vilification of human induced climate change is not a question of justice towards nature. If what we do is natural and unavoidable, then perhaps it cannot nor should it be halted.[162] Aside from making the natural into the normative, as moral agents our relation to other moral patients is necessarily different; we can be held accountable for our actions, and our actions can be subject to moral judgement. It is because we are moral agents that our contact with moral patients invokes rights-relations, and subsequently duties.

Palmer divided contact into three categories; benefit from the harm/effect on the interest, benefit from the past harm, and an attitude of acceptance. It is possible to draw the same parallels not just with animals, but with the ecosystem as well. For example, direct harm would be a lack of biodiversity due to factory farming, or acid rain due to nuclear energy production. Past benefit would be evidenced by our high standard of life filled with modern day conveniences such as cars, prepackaged foods, synthetic fibers in fast-fashion clothes, etcetera. Lastly, most of us have no thought of, or otherwise shrug when faced with the consequences of our actions to the ecosystem, or are otherwise unwilling to take responsibility. As such, we also have the shared attitude of permission for these practices to continue. These examples are not meant to imply or hint at the content of subsequent moral obligations, but to demonstrate that all of these behaviors are contact, and create rights-relations.

Additionally, the case of climate change is an instance of contact.[163] As explained in Chapter 1, our knowledge of the earth's ecosystem is vast. Biological science enables us to explain why

[160] She has a wonderful example of displaced coyotes and housing development in her book, as well as many other instances of varying degrees of contact. See pages 96, 102-106, and 143-151.

[161] As I have stated in Chapter 2, humans are the only moral agents.

[162] Taylor*, Respect for Nature*, 3; Crowley, "From "natural" to "ecosocial Flourishing"*",* 74.

[163] Humans generally cause four types of environmental change, of which climate change is but one; nutrient enrichment, toxin accumulation, climate change, and ozone depletion. See Reece, Campbell Biology, 1213, 1253, 1285, 1300.

certain biomes and communities exist in certain areas, how they interact with eachother and the environment, and what makes it thrive.[164] Principal in determining the location and characteristics of these biomes is climate.[165] Small scale differences in climate –also called abiotic factors, such as sunlight or temperature, affect the biosphere and all that lives within it. Both biotic and abiotic factors influence biomes, and can cause disturbance.[166] Currently, humans are the greatest disturbance on nature; human activity out-charts all other disturbing events in their impact on all terrestrial and marine life. The speed in which climate is now changing due to human activity causes an extraordinary amount of disturbance; so severe, that there is no chance for recovery, like increased biodiversity and ecological succession to take place.[167] The effects of these influences are even present in the most remote areas on earth.[168] The disturbance caused by humans has weakened the ecosystem because of those effects; the ecosystem is increasingly simple, and less resilient to more change.[169] Resilience is necessary for the ecosystem to be able to strive for its telos, homeostasis. In other words, humans have affected the interest of the ecosystem; its resilience is severely weakened. There are many such instances of contact which have impaired the flourishing of ecosystems. In affecting a moral patient's interest, a subsequent duty to repair, recompense, or otherwise increase its flourishing is morally obligatory. The exact content of this duty, or of the right of the ecosystem is not within the scope of this thesis. What the Contact-Theory shows clearly is how through contact between moral agents and moral patients, moral rights-relations come into being, and subsequent moral rights and moral duties arise.

[164] Reece, Campbell Biology, 1210-1212.
[165] Ibid, 1196.
[166] Ibid, 1195; Post, et al. "The Problem of Boundaries in Defining Ecosystems", 111.
[167] Reece, Campbell Biology, 1253,1285, 1300; Bookchin, Post-scarcity Anarchism, 59.
[168] Taylor, Respect for Nature, 4-5, 8; Reece, Campbell Biology, 1253,1285, 1300.
[169] Reece, Campbell Biology, 1213; Bookchin, Post-scarcity Anarchism, 19; Taylor, Respect for Nature, 48.

Concluding remarks

My main goal in this this was to argue for pro tanto moral rights for ecosystems. I explained how ecosystems should be understood on the basis of solid biological science. Many endeavors into arguing the moral considerability of nature either are preemptively stopped or run into unsolvable problems because they lack correct knowledge of biology and ecological processes. This results in conceptual incoherency of, and false beliefs about nature. By understanding how those arguments are false, a coherent and correct conception of the ecosystem is possible. The ecosystem is a separate entity, that functions in its own way. Biotic and abiotic factors within it are interdependent. Nature is neither static nor strictly deterministic, although it is constantly evolving and developing to increase its resilience. The purpose of this resilience is to maintain or achieve homeostasis, an integrated dynamic equilibrium. Disturbances are part of the process of achieving homeostasis since it generally is followed up with increased ecological succession. Excessive disturbance however can also interfere in achieving increased resilience, and thereby thwart the striving towards homeostasis.

Knowing these characteristics of the ecosystem, we can point to what makes it morally considerable, or in other words, why it should be due consideration when moral agents take actions that affect it. In this thesis, I have based moral considerability and moral patientship on having an *interest.* I have argued that teleology is necessary in understanding what it means to have an interest, but that both teleology and having an interest do not need to rely on intent or experiential wellbeing. I explained that Aristotle's conception of teleology explains the striving towards the telos as the expression of innate capacities. When it can strive towards its telos, when it can express its innate capacities, it is flourishing. In other words, it has wellbeing. Aristotle did not include conscious intent or ambition in his teleology. Aristotle's account is also biologically correct in stating that this striving is not deterministic. This is reflected by ecological processes, that develop in nondeterministic and variable ways, and through which the ecosystem continuously strives to achieve homeostasis. I have claimed that this is an interest, which means that the ecosystem has moral considerability, and moral patientship. It is possible to determine its wellbeing, and if it is being harmed or not.

If something is a moral patient, it is possible for it to have moral rights. In other words, rightsholdership can be due those that have moral considerability and interest. Moral rights are means-end constructions, which aim to protect an interest or value. Rights must be understood as relational correlatives; they are not attached qualities, but always exist between an agent and a rightsholder. Moral rights specifically only exist between a moral patient, which has a claim, and a moral agent, who has a duty. Moral agency is required for being the subject of a duty or obligation, and only humans fulfill the criteria for moral agency.

However, the relational account of rights does not explain *when* these rights-relations occur. Moral rights-relation also occur without prior agreement, and where a moral patient cannot actively claim its right. To answer when these rights-relations occur, I have explained the Contact-Theory. *contact* is there where a moral patient's wellbeing, its interest, is affected by a moral patient. Through illustrating some examples from Palmer's LFI, it has become clear what kind of instances of contact there are. Her account helped highlight how and when rights-relations between humans and nonhuman moral patients occur. I have extrapolated on contact by giving multiple examples of several types of contact between humans and the ecosystem. Thereby, I have shown that there are manifold instances of contact between humans and the ecosystem. These instances of contact bring forth rights-relations. In sum, it is then that the ecosystem has a moral right.

Questions for further research and limitations

While this thesis has shown through a relational account how ecosystems have moral rights, there are some related issues that I have not addressed. Contact relies on having an effect on, or affecting the interest of a moral patient. What is not explicitly addressed is the question of causality, and responsibility or duty related to causing an effect on interest. Palmer implicitly addresses the question of causality by distinguishing different types of harm and benefit of contact. It is not within the scope of this thesis to address this, and it is therefore not included.

Moreover, I have stated that where there is contact between a moral agent and a moral patient, there is a subsequent rights-relation. However, necessary for the moral agent is *agency*. I have not addressed the scope of agency, and for example, if someone can be blamed for harmful behavior (contact) when he has no other viable options.

Subsequently, there remains the question of the content of the rights and obligations. In this thesis I have concerned myself with arguing that contact between moral agents and moral patients creates moral rights-relations. Similarly to the first question, I have not addressed what these rights and obligations specifically entail, for example a duty to repair. It was not the goal of this research to set out a substantive theory of rights, nor to provide answers to questions of rights and duties in specific instances of contact.

What has been achieved in this thesis is a theory of interest-based moral rights for ecosystems that explains rights as relational. The interest based account for moral considerability avoids previous mistakes in environmental ethics. It provides an account of ecosystem wellbeing that is scientifically valid, coherent, and knowable. Moreover, it enables ecosystems to be considered moral patients, which is essential in establishing rights-relations, which only exist between moral agents and moral patients, and only where there is contact. Where that is the case, we can successfully speak of moral rights for ecosystems.

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