

KNOWLEDGE, IMAGINATION, AND STORIES IN THE AESTHETIC EXPERIENCE OF FORESTS

JUKKA MIKKONEN

A key dispute in environmental aesthetics concerns the role of scientific knowledge in our aesthetic appreciation of the natural environment. In this article, I will explore this debate by focusing on the aesthetic experience of forests. I intend to question reductive forms of the scientific approach and support the role of imagination and stories in nature appreciation.

I. INTRODUCTION

There has long been a debate in environmental aesthetics about the guiding principles of the aesthetic appreciation of nature. According to the ‘scientific approach’, supported by philosophers like Allen Carlson, Holmes Rolston III, Marcia Muelder Eaton, Robert S. Fudge, Patricia Matthews, and Glenn Parsons, the aesthetic appreciation of nature ought to be based on our scientific knowledge of nature, such as our knowledge of natural history. In turn, philosophers who have argued for ‘non-scientific approaches’, like Ronald Hepburn, Arnold Berleant, Stan Godlovitch, Noël Carroll, and Emily Brady, have maintained that the aesthetic interpretation and evaluation of nature is essentially an imaginative, emotional, or bodily activity.

In this paper I shall explore the debate by focusing on the aesthetic experience of forests. The distinctive experience of a forest, together with the mythological and cultural meanings of woodlands and trees, provides an intriguing opportunity to examine the relationship between the essential and the accidental, or the global and the local, in philosophical aesthetics. It is an opportunity to explore what we look at when we look at nature. Indeed, trees, for instance, have a vast amount of symbolic value.¹ The Tree of Life (or the World Tree) is a central motif in various mythologies and religions. Trees also carry epistemic symbolism, from the biblical Tree of Knowledge to the Aristotelian–Linnaean tree model which, despite criticism, keeps guiding our way of categorizing things. The tree is one of Jung’s archetypes and symbolizes things

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¹ Of course, the question of nature appreciation could be explored with respect to other sorts of environments. What is it to aesthetically appreciate a *sea*, for instance?

such as growth, life, development, and 'the maternal aspect', old age, personality, and finally death and rebirth.² The forest, in turn, has a significant place in the Western cultural imagination. Its transhistorical interest lies in its mixed nature as a threat and a shelter. It is *mysterium tremendum et fascinans*: a place of alienness and danger, and a permanent source of wonder, respect, and meaning. Today, forests are an important topic also because of the growing awareness of their ecological significance.

At the same time, the forest is a very problematic object, for forests and experiences with them are many in kind. Climatic differences, for instance, make forests perceptually and experientially distinct. Light and hot tropical forests provide aesthetic experiences different from those with dark and cold boreal forests; I will concentrate on Northern coniferous forests which are the most familiar to me. Further, there are different criteria of beauty applied in appreciating different types of forest, such as pristine forests, managed forests that have primarily a restorative or 'aesthetic' function, and strictly commercial forests. What is characteristic of pristine – or 'nature-like' – forests are their diversity of tree species, of varying ages and shapes, dense undergrowth, and high number of fallen trees. The density of a pristine forest decreases visibility, and fallen trees challenge one's passing through it, affecting the sense of surprise, mystery, even danger, all of which are absent from homogenous, 'cleaned' commercial forests. I will focus on pristine forests, acknowledging that the concept is difficult to define, such forests are scarce, and people's experiences of them is rare.³

Experiences with trees and forests also differ because nature is a cultural concept and an aesthetic experience of it is a cultural phenomenon: one may wonder whether a Japanese person appreciates the beauty of a blossoming cherry tree the same way a Briton looks at a yew; for example, the latter hardly centres her appreciation on the Zen-based idea of transient beauty. Moreover, as a *place* a forest always has a ground layer of mythological and historical meanings. Near Mount Fuji is the forest of Aokigahara, which is said to be haunted by the ruined spirits (*yūrei*) of the elders left there to die, and is a popular location for suicides today. Compasses do not function there, which is claimed to be caused

² Carl Gustav Jung, 'The Philosophical Tree', in *The Collected Works of C. G. Jung*, vol. 13, *Alchemical Studies*, ed. Gerhard Adler and R. F. C. Hull, trans. R. F. C. Hull (London: Routledge & Kegan Paul, 1967), 272.

³ To be sure, a 'wild forest' may also reasonably be seen as a cultural artefact made by demarcation. For example, Greenblatt considers Nevada Falls Trail in Yosemite National Park to be a 'private zone of publicly demarcated Nature' and an example of capitalist aesthetics. See Stephen Greenblatt, 'Towards a Poetics of Culture', in *The New Historicism*, ed. H. Aram Veeger (London: Routledge, 1989), 9.

by of the volcanic rock. Knowledge of the history of the place makes the experience of it creepy, and in the light of this knowledge it might be psychologically challenging to approach the forest as mere botanical objects.

In addition, wherever a natural environment has a connection with cultural identity or has, say, a restorative use, it is difficult to say what counts as 'aesthetic' in its appreciation exactly. Emily Brady remarks:

the forest has special significance in many Nordic cultures as a place of solitude and engagement with nature. While aesthetic qualities may have some role in why the forest is valued, in this context it is more that the forest is seen as perhaps one thing that defines Nordic cultural identity.⁴

An extensive question is how an aesthetic experience of nature relates, for instance, to recreational or restorative uses of nature, such as enjoying the feelings caused by physical activities (the kinaesthetic dimension) and seeking solitude and tranquillity in the woods (the contemplative or therapeutic dimension). The relations between intrinsic and instrumental values in our experiences with nature are complex. These broad matters will only be touched upon in this paper, which focuses on exploring the scientific and non-scientific approaches to the aesthetic appreciation of forests.

II. APPRECIATING NATURE: TWO APPROACHES

Allen Carlson has famously argued that the aesthetic appreciation of nature should be based on our knowledge of nature. He claims that just as our knowledge of art history and artistic traditions guides our appreciation of art, so should our knowledge of natural history and natural science guide our appreciation of nature.⁵ He argues that we need to understand objects as members of the categories to which they belong: we may enjoy forms and colours in nature, for example, but in order to make aesthetic judgements that are likely to be true, we must know something about the object that we appreciate.⁶ Another proponent of the scientific approach, Holmes Rolston III, while sympathetic to many aspects of the non-scientific views, asserts that

⁴ Emily Brady, *Aesthetics of the Natural Environment* (Edinburgh: Edinburgh University Press, 2003), 22.

⁵ Allen Carlson, 'Appreciation and the Natural Environment', *Journal of Aesthetics and Art Criticism* 37 (1979): 273.

⁶ Allen Carlson, 'Nature, Aesthetic Judgment, and Objectivity', *Journal of Aesthetics and Art Criticism* 40 (1981): 25; 'Nature and Positive Aesthetics', in *Nature, Aesthetics, and Environmentalism*, ed. Allen Carlson and Sheila Lintott (New York: Columbia University Press, 2008), 225; and 'Nature, Aesthetic Appreciation, and Knowledge', *Journal of Aesthetics and Art Criticism* 53 (1995): 393.

scientific knowledge is required in a proper aesthetic experience of nature, in order to grasp the aesthetic value of ecological processes and ecosystems.⁷

In the non-scientific camp, science-based nature appreciation, especially Carlson's 'environmental model', has been considered overly restrictive. Noël Carroll, for one, says that the cognitivist approach 'excludes certain very common appreciative responses to nature [...] which we might refer to as "being moved by nature"', such as excitement caused by a waterfall or a sense of homeyness which a silent arbour arouses in us.⁸ Carroll states that an emotional response to nature may be a *legitimate* appreciative response.⁹ Besides emotions, philosophers in the non-cognitivist camp have emphasized the role of multi-sensory engagement (Berleant), imagination (Hepburn, Brady), and mystery (Godlovitch) in nature appreciation.

The debate between the scientific and the non-scientific approaches may seem odd. There are so many dimensions in our aesthetic experiences with natural environments, so many different values and sorts of knowledge involved – different environments perhaps emphasizing different ways of engagement –, that it is difficult to understand reductive enterprises that make claims concerning an 'appropriate' response to nature.¹⁰ Indeed, there are philosophers in both camps who think that the question of nature appreciation is about emphasis and sympathize with holistic approaches to nature appreciation. All 'cognitivists' or 'conceptualists' do not fully subscribe to Carlson's 'natural environmental model' and his necessary and sufficient conditions. Rather, these philosophers maintain that some scientific knowledge is relevant and enhances our initial aesthetic appreciation of nature.¹¹ Carlson, in turn, thinks that non-scientific appreciation of nature is

⁷ Holmes Rolston III, 'Does Aesthetic Appreciation of Landscapes Need to Be Science-Based?', *British Journal of Aesthetics* 35 (1995): 377; 'Aesthetic Experience in Forests', *Journal of Aesthetics and Art Criticism* 56 (1998): 162.

⁸ Noël Carroll, 'On Being Moved by Nature: Between Religion and Natural History', in *Landscape, Natural Beauty and the Arts*, ed. Salim Kemal and Ivan Gaskell (Cambridge: Cambridge University Press, 1993), 245.

⁹ Noël Carroll, 'Emotion, Appreciation, and Nature', in *Beyond Aesthetics: Philosophical Essays* (Cambridge: Cambridge University Press, 2001), 384.

¹⁰ See Ronald Hepburn, 'Data and Theory in Aesthetics: Philosophical Understanding and Misunderstanding', in *Environment and the Arts: Perspectives on Environmental Aesthetics*, ed. Arnold Berleant (Aldershot: Ashgate, 2002), 30; 'Landscape and Metaphysical Imagination', *Environmental Values* 5 (1996): 197.

¹¹ See Yuriko Saito, 'Appreciating Nature on Its Own Terms', *Environmental Ethics* 20 (1998): 135–49; Patricia Matthews, 'Scientific Knowledge and the Aesthetic Appreciation of Nature', *Journal of Aesthetics and Art Criticism* 60 (2002): 37–48; Glenn Parsons, 'Nature Appreciation, Science, and Positive Aesthetics', *British Journal of Aesthetics* 42 (2002): 279–95, and 'Freedom and Objectivity in the Aesthetic Appreciation of Nature', *British Journal of Aesthetics* 46 (2006): 17–37; see also Rolston III, 'Aesthetic Experience in Forests'.

‘superficial, mistaken or defective in some other way.’¹² The scientific approach – an objective aesthetics and true judgement – is also defended with reference to ‘moral and ecological reasons’,¹³ or claiming that aesthetic values affect areas such as conservation and environmental decision-making, in which uninformed appreciation may lead to ecologically unwanted results, such as some species flourishing at the expense of others.¹⁴

Knowledge certainly comes in useful when evaluating the properties of natural objects. Appreciating the grandeur of a tree, for instance, requires some sort of knowledge (or idea) about the object in question. Whether this knowledge needs to be scientific and whether it is sufficient to explain our aesthetic experiences with nature are other questions. On the other hand, scepticism towards the scientific approach is also easy to understand. Scientific considerations and technical terms may appear hostile to one’s aesthetic experience with (majestic) natural objects, an experience regularly characterized by incomprehension and awe and in psychology studied as a ‘peak experience’.¹⁵

Carlson’s ‘environmental model’ has been criticized in various ways in recent decades. In this essay, I shall illustrate certain problems in his theory by examining our aesthetic encounters with forests. I intend to question reductive forms of the scientific approach and support the role of imagination and stories in nature appreciation.

III. NATURE AND KNOWLEDGE

When we ponder the role of scientific knowledge in nature appreciation, we ought to know what exactly is meant by ‘scientific knowledge’. Carlson originally spoke of ‘common sense/scientific knowledge’,¹⁶ then knowledge of natural history and natural science,¹⁷ and later knowledge of astronomy, physics,

¹² Allen Carlson, ‘Budd and Brady on the Aesthetics of Nature’, *Philosophical Quarterly* 55 (2005): 107; see Carlson, ‘Nature, Aesthetic Appreciation, and Knowledge’, 394, 398–99; and Allen Carlson, ‘Nature Appreciation and the Question of Aesthetic Relevance’, in Berleant, *Environment and the Arts*, 72–73.

¹³ Carlson, ‘Appreciation and the Natural Environment’, 274.

¹⁴ Marcia Muelder Eaton, ‘Fact and Fiction in the Aesthetic Appreciation of Nature’, *Journal of Aesthetics and Art Criticism* 56 (1998): 152.

¹⁵ See Matthew G. McDonald, Stephen Wearing, and Jess Ponting, ‘The Nature of Peak Experience in Wilderness’, *Humanistic Psychologist* 37 (2009): 370–85.

¹⁶ Carlson, ‘Appreciation and the Natural Environment’, 273. Carlson maintains that scientific knowledge of nature is ‘only a finer grained and theoretically richer version of our common everyday knowledge of it, and not something different in kind’. Allen Carlson, *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture* (London: Routledge, 2000), 7. For a perceptive view on the differences between scientific and common-sense knowledge, see Brady, *Aesthetics of the Natural Environment*, 183–84.

¹⁷ Carlson, ‘Nature, Aesthetic Judgment, and Objectivity’, 25.

chemistry, biology, genetics, meteorology, geology, and ecology, for instance.¹⁸ But what counts as relevant scientific knowledge with regard to forests? Which scientific discipline(s) would provide that? The problem is that natural environments may be approached scientifically in numerous ways, and these different ways may lead to different, perhaps even conflicting, views of relevant scientific knowledge.¹⁹ What is the level of generality required in categorizing natural objects? On what taxonomic level should one be able to classify the thousands of different species that occupy the woods?²⁰ Should all scientific information be given the same significance? As science cannot establish the notion of relevance itself, talk of 'relevant knowledge' does not sound meaningful.²¹

Carlson has attempted to tackle the question of relevance by means of his notion of 'order appreciation' and concepts such as 'natural order', 'forces of nature', and 'the story given by natural science – astronomy, physics, chemistry, biology, genetics, meteorology, geology, as well as the particular explanatory theories within these sciences.'²² 'Story' is an important concept in our enterprises to make natural environments and ecosystems intelligible.²³ However, it is not a concept of natural science but a concept that essentially characterizes *human (or human-like) experience*.

Moreover, science is not a coherent, fixed set of true beliefs about the structure and behaviour of the physical and natural world. Paradigmatic scientific theories may be controversial, as classic theories of forest succession are today. There may be competing scientific models that attempt to explain a given phenomenon. In addition, scientific studies of a natural environment are tied to the context in which they were conducted. While natural laws themselves are general, a natural environment is particular, and a theory developed in a certain environment might not suit other environments as such. For example, a detailed picture of the development of Scandinavian boreal forests is still missing. Nature is full of wonders for the scientific mind too, and we have a great many questions to which we do not yet have exact answers.

¹⁸ See Allen Carlson, 'Appreciating Art and Appreciating Nature', in Kemal and Gaskell, *Landscape, Natural Beauty and the Arts*, 220; Carlson, *Aesthetics and the Environment*, 120; and Carlson, 'Budd and Brady', 107.

¹⁹ Matthews, 'Scientific Knowledge', 45; see also Robert Stecker, 'The Correct and the Appropriate in the Appreciation of Nature', *British Journal of Aesthetics* 37 (1997): 398; and Hepburn, 'Data and Theory in Aesthetics', 33.

²⁰ See Thomas Heyd, 'Aesthetic Appreciation and the Many Stories about Nature', *British Journal of Aesthetics* 41 (2002): 128.

²¹ Stecker, 'The Correct and the Appropriate', 398.

²² Carlson, 'Appreciating Art', 219–20.

²³ See Holmes Rolston III, *Environmental Ethics: Duties and Values in the Natural World* (Philadelphia, PA: Temple University Press, 1988), 239.

Moreover, science is often (if not always) guided by an instrumental interest. This can be seen in evaluative terms, such as ‘forest diseases’ and ‘forest damages’, which suggest material loss for humans. When we speak of a natural environment that can provide material resources, politics sneak in; those who fund scientific research are keen to guide its focus. Many philosophers would dismiss this as a practical problem, but it has such a significant impact on both nature and culture that it has to be at least briefly addressed.

Gustaf Sirén was a Finnish forest researcher. His doctoral dissertation (1955) was about the development of spruce forests in Northern Finland and the reasons for their bad growth and slow regeneration. The study was commissioned by the state-owned enterprise Administration of Forests, which wanted to chop down more spruce forests in Northern Finland. According to Sirén’s research, the conditions for growth in a spruce forest continuously worsen as old trees die and the humus grows thicker. After its climax, a natural forest begins to ‘decline’, Sirén argued.²⁴ He maintained that a natural spruce forest would ‘decay’ dramatically and completely ‘fall into ruins’ at the age of about 300 years (that is, after an initial forest fire).²⁵ His study was slightly criticized after its publication, but the criticism was overshadowed by his economically mesmerizing proposal of chopping down the northern forests. Though Sirén’s experiments have since been questioned in forest ecology, his views on the development of the forest, together with his colourful expressions – ‘decline’, ‘decay’, ‘falling into ruin’ –, live on. ‘Scientific knowledge’ may consist of misconceptions that are difficult to root out or views that have begun to lose their paradigmatic status.

I have taken Carlson’s proposal literally. He might reply that we are pursuing an ideal and that the scientific method provides us with the most appropriate information about nature. But scientific knowledge – up-to-date, exact knowledge – is simply *too far* from our life-world and ordinary encounters with nature. And even if we had the appropriate knowledge, there is a long way to go from the identification of a natural object to the aesthetic appreciation of the natural environment. As in art appreciation, *recognizing* a text as an English or Italian sonnet is not yet its *interpretation*, let alone *appreciation*.²⁶ When in our aesthetic encounters with nature we see fallen, partly decayed leaves, we look at their colours and shapes, perhaps smell their scents. Do we think of hydrolysis and polysaccharides, cellodextrins and glucose? It is difficult to see how these concepts related to the scientific understanding of decay would be necessary for our aesthetic appreciation of the leaves. Also, the concepts are clearly insufficient

²⁴ Gustaf Sirén, *The Development of Spruce Forest on Raw Humus Sites in Northern Finland and Its Ecology* (Helsinki: Finnish Literature Society, 1955), 387.

²⁵ *Ibid.*, 376, 404.

²⁶ See Peter Lamarque, *The Philosophy of Literature* (Oxford: Blackwell, 2009), 168–69.

for the aesthetic appreciation of the leaves and the environment that they are part of. Rather, for a profound aesthetic experience – for a humanly meaningful experience –, we are required to regard the ambience, establish a *thematic* level, and connect the perception of the leaves intelligibly with abstract ideas, such as fading away, death, momentariness, change, departure.

Scientific knowledge may definitely enhance or modify our admiration of nature.²⁷ For a layman, knowledge of a tree ‘disease’ might turn a tree initially perceived as ‘absorbing’ into ‘grotesque’. A polluted environment might be visually impressive, but we certainly would not call it naturally beautiful; likewise, knowledge that the colours of a sunset are due to pollution would give its beauty a different, sad tone.²⁸ On the other hand, rust in a stream might not look ugly when it is identified as a natural substance.

It seems that there are two sorts of beauty in nature: that of the senses and that of the intellect. An experience with an old-growth forest, for instance, may be strange or uncomfortable for an urban dweller; yet, that person may consider the forest, its existence as such, beautiful and valuable. Further, while scientific knowledge may help us to see natural objects, such as snakes or bats, without their negative cultural connotations,²⁹ it might not dispel the disgust caused by our sensory experience of them.³⁰ (Conversely, some scientists claim that science explains why people are inclined to *avoid* dead and sick animals, faeces, blood, and the like.) But scientific knowledge is often only supplementary, like a translator’s geographical clarification in the footnotes of a historical novel. When I enjoy the sight of a purple spruce, recognizing that its flowers have a colour uncommon for a spruce, and am told that the colour is caused by a mutation, there is nothing in that scientific fact – that explains its distinguished outlook – which adds to my appreciation of the tree.

Above all, the scientific and aesthetic *stances* are radically different. Science seeks order and laws, whereas aesthetic appreciation is free to wander and play.³¹

²⁷ See Saito, ‘Appreciating Nature’, 140.

²⁸ See Matthews, ‘Scientific Knowledge’, 43.

²⁹ See Yuriko Saito, ‘The Aesthetics of Unscenic Nature’, *Journal of Aesthetics and Art Criticism* 56 (1986): 106.

³⁰ Robert S. Fudge, ‘Imagination and the Science-Based Aesthetic Appreciation of Unscenic Nature’, *Journal of Aesthetics and Art Criticism* 59 (2001): 278.

³¹ Hepburn has perspicaciously illustrated the difference between scientific and aesthetic modes of experience. See Hepburn, ‘Landscape and Metaphysical Imagination’, 194–95; ‘Trivial and Serious in Aesthetic Appreciation of Nature’, in Kemal and Gaskell, *Landscape, Natural Beauty and the Arts*, 65–80; ‘Nature Humanised: Nature Respected’, *Environmental Values* 7 (1998): 267–79; and ‘Data and Theory’, 30. For similar views, see Brady, *Aesthetics of the Natural Environment*, 101–2; Ronald Moore, ‘Appreciating Natural Beauty as Natural’, *Journal of Aesthetic Education* 33 (1999): 51; and Malcolm Budd, *The Aesthetic Appreciation of Nature: Essays on the Aesthetics of Nature* (Oxford: Clarendon Press, 2002), 92, 108, 129, 147.

The *objects* (or *foci*) of these approaches also differ: aesthetic appreciation of nature emphasizes the perceived particular, whereas science is after partly invisible causes and the universal.³² In our aesthetic encounters we experience a forest with our senses, whereas a scientific look at a fungus requires a microscope.³³ Nonetheless, Yuriko Saito has attempted to build a bridge between the intellect and the senses by suggesting that those natural sciences that are based upon empirical observations, such as geology, could enhance or otherwise modify our experience of nature. This is, Saito thinks, because the geological events that have shaped the objects are 'embodied' in the objects and can be seen in them.³⁴ Some other cognitivists, worried about the theoretical burden of the scientific approach, have proposed a distinction between *thinking with* scientific concepts and *perceiving under* them, claiming that the latter is required in the aesthetic appreciation of nature,³⁵ or inevitable because of the assumed theory-ladenness of observation.³⁶

The emphasis on observation makes the scientific approach much more plausible since it highlights sensory experience central to the aesthetic appreciation of nature. At the same time, however, it raises doubts about the need for *scientific* knowledge. Why would common-sense knowledge that comes through experience not be sufficient? Indeed, in contemplating the formation of natural objects, ordinary people seem to consider their empirical knowledge and folk beliefs to be sufficient and even more suitable than scientific details, which are seen more as an extra. When it comes to the kind of knowledge required in the aesthetic appreciation of nature, an interesting candidate would be what Emily Brady calls 'local knowledge', a type of common-sense knowledge based on 'the experience of a place and local practices in relation to the land!'³⁷ In this form of knowing, 'universal truth' would be replaced with 'local truth' and 'bioregional truth'.³⁸

³² See Jerome Stolnitz, *Aesthetics and Philosophy of Art Criticism* (Boston: Houghton Mifflin, 1960), 35; see also Saito, 'Appreciating Nature', 144; and Moore, 'Appreciating Natural Beauty', 51. Heyd maintains that scientific considerations steer the appreciator's focus from *concrete to theoretical* which, he thinks, has no place in the aesthetic appreciation of nature; see Heyd, 'Aesthetic Appreciation', 128–29.

³³ Certainly, we may aesthetically appreciate microscopic images of natural objects, but so far that is distinct from our ordinary experiences of nature. See Budd, *Aesthetic Appreciation of Nature*, 16n18, 107.

³⁴ Saito, 'Appreciating Nature', 145; 'Aesthetics of Unscenic Nature', 105. Likewise, Carlson ('Appreciation and the Natural Environment', 269) proposes that natural objects may 'express' the natural forces that have shaped them.

³⁵ Matthews, 'Scientific Knowledge', 41; see also Fudge, 'Imagination', 281.

³⁶ Glenn Parsons, 'Theory, Observation, and the Role of Scientific Understanding in the Aesthetic Appreciation of Nature', *Canadian Journal of Philosophy* 36 (2006): 165–86.

³⁷ Brady, *Aesthetics of the Natural Environment*, 184.

³⁸ *Ibid.*, 185.

Even so, the scientific and aesthetic *attitudes* are dissimilar and their *objects* different. When scientifically studying a botanical habitat, one needs to carefully limit the object of study in spatial and temporal terms. (Although Carlson explicitly rejects the object model of nature appreciation, his 'environmental model' is ultimately about perceiving *natural objects* in their proper *categories*.)³⁹ An aesthetic experience of a forest, in turn, is *too complex* to fit in a scientific approach. A forest is an extremely protean entity, in continuous, convoluted change, containing life ranging from microorganisms to large animals. Its perceptual features vary all the time: light and rain affect its colours, and the scents and smells are different between and within the seasons.

Also, aesthetic engagement with a forest requires our entering the woods, and in the forest, our experience of the environment is always partial, subjective, and accidental: what we perceive depends on our interests, expectations, choices, and sheer happenstance. Moreover, the distinction between the subject and the object, which is essential for science, does not hold in the forest, where the object surrounds the subject and the subject blends in with the object.⁴⁰ Arnold Berleant is right in saying that the environment is *in* the appreciator, for example, as air in her lungs:⁴¹ ancient forests have produced the oxygen one inhales, and the carbon dioxide one exhales feeds the growing trees. The appreciator is a participant who affects the life in the woods: she has to be careful not to disturb animals and watch out for beasts, and she always leaves her mark in the forest.

IV. TRADITION, STORIES, AND IMAGINATION IN THE FOREST

Whereas science requires us to focus on an isolated object, there is often a narrative dimension and dramatic elements in our aesthetic experiences of nature; these relate to our bodily presence and proceeding in the environment. Fog may hide the trees and reveal them little by little, disclosing things in a mysterious fashion.⁴² Our position changes constantly and our steps guide the 'story': a light grove after a dark coniferous forest or vice versa – the objects encountered are the same but the experiences radically different.⁴³ A brave person

³⁹ See Carlson, *Aesthetics and the Environment*, 106.

⁴⁰ For a critique of the subject/object distinction in environmental aesthetics, see Arnold Berleant, *The Aesthetics of Environment* (Philadelphia: Temple University Press, 1992), 27, 164, 170–71.

⁴¹ Arnold Berleant, *Living in the Landscape: Towards an Aesthetics of Environment* (Lawrence: University Press of Kansas, 1997), 11.

⁴² See Aarne Kinnunen, 'Luonnonestetiikka' [The aesthetics of nature], in *Ympäristöestetiikka*, ed. Aarne Kinnunen and Yrjö Sepänmaa (Helsinki: Gaudeamus, 1981), 37. For dramatic elements in our aesthetic experiences with nature, see also Hepburn, 'Data and Theory', 33.

⁴³ Was it really this path we walked here? How come we didn't notice *that!*

may surrender to the forest and let it tell its story; after all, the forest constantly invites one deeper and deeper. But a forest may also misguide one. One's unawareness of one's location and direction – mystery and uncertainty, *auf dem Holzwege sein* – may be desired things in one's search for tranquillity. Conversely, one's getting lost in a perhaps even familiar forest may be a frightening experience and in Nordic culture is known to produce a feeling of the unreal.⁴⁴

The debate on the guidelines of nature appreciation is a typical philosophical debate in that the participants are not much interested in whether their theoretical models are compatible with actual practices. Yet the discipline of environmental aesthetics is often justified by referring to practice and to the fact that people appreciate natural environments aesthetically. Of course, philosophical theories about norms of nature appreciation need not agree with the way people actually appreciate nature; nevertheless, they should be consistent with *some* actual practice. The problem with Carlson's reformative and normative approach is its insensitivity to actual practices of aesthetic appreciation of nature (other than the 'object model' and the 'landscape model' of appreciation). While Carlson suggests that 'the naturalist and the ecologist are well equipped to aesthetically appreciate the nature', he does not pursue this intriguing idea.⁴⁵

The notion of *story* has been associated with the aesthetic appreciation of nature in several ways. Some maintain that our encounters with nature are largely understood in story form. Some claim that cultural stories inevitably guide our appreciation and evaluation of nature. Some propose that we could apply stories, such as those of other, say, indigenous cultures, to enhance our understanding and appreciation of nature. And as noted, Carlson speaks of the story given by natural sciences and Rolston of the story ('dramatic play') of nature. In what follows, I discuss stories both as culturally inherited regulative models and as tools that can be applied to enhance the aesthetic experience of the environment.

IV.1. CULTURAL STORIES

First, some cultural conceptions and stories are preconditions for experiences of natural environments to be intelligible. Such is the concept of *wilderness* and our cultural understanding of it. The forest researcher Petri Keto-Tokoi argues that a primeval fear – of cold, hunger, and the dark; of loneliness, getting lost, hurting oneself, death – is central to an experience of a natural forest.⁴⁶ Wilderness (and

⁴⁴ Finns speak of *metsänpeitto* (forest cover), a phenomenon in which people are unable to recognize the terrain around them, even on familiar ground.

⁴⁵ Carlson, 'Appreciation and the Natural Environment', 273.

⁴⁶ Petri Keto-Tokoi and Timo Kuuluvainen, *Primeval Forests of Finland: Cultural History, Ecology and Conservation* (Helsinki: Maahenki, 2014), 82.

wildness) cannot be properly experienced without these feelings, which, while they may partly have a biological origin, are to a large extent inherited through stories, starting, perhaps from Grimm's stories (and their adaptations) and the like. Truly, in writing about his son with Down syndrome – a person not afraid of the dark – the aesthetician Aarne Kinnunen remarks: 'When someone fears the dark, which is quite usual, the fear comes from a mythology. If one does not master or know one's mythology, one does not fear the dark.'⁴⁷

The forest has a substantial place in the cultural imagination of the West. It is *outside* (Lat. *foris*) culture and rationality. Robert Harrison, who has studied the motif of the forest in Western literatures, insightfully sums up its otherness: 'in the religions, mythologies, and literatures of the West, the forest appears as a place where the logic of distinction goes astray. Or where our subjective categories are confounded. Or where perceptions become promiscuous with one another, disclosing latent dimensions of time consciousness.'⁴⁸ By its very form and structure, a forest covers and conceals.⁴⁹ It creates a mystery that prompts our imagination: we may run into something wonderful or terrible there. Visibility is low, and the trees that surround us take different forms. We are outside the culture and our sovereignty, and encounter the otherness of the plant and the animal. There is also temporal otherness, for the forest represents cyclical time. Yet, the forest calms us; we are in a familiar shelter, our primordial home.

Experiences of nature are always cultural events, in which the tradition regulates the wanderer's ways of conceiving the environment. We go into the forest for certain *reasons*. A forest is, for example, a place for contemplation: in many religions, enlightenment or revelation takes place in the wilderness (one thinks, for example, of Moses) or at least under a tree (Buddha); even modern science establishes a mythical link between the tree and insight (Newton), and so does philosophy (Heidegger in the solitude of Todtnauberg). In recreational use, in which most of our aesthetic experiences of forests assumedly take place, people, at least Nordic people, enter the woods in order to get rid of the everyday, including – or indeed particularly – science and technology. The loss of subjectivity characteristic of the experience of forest is often considered a liberating experience. Germans, in turn, seek *Waldeinsamkeit*, 'woodland solitude'.

⁴⁷ Aarne Kinnunen, *Päätoiminen elämä* [Full-time life] (Helsinki: Otava, 2011), 280.

⁴⁸ Robert Pogue Harrison, *Forests: The Shadow of Civilization* (Chicago: University of Chicago Press, 1993), x.

⁴⁹ Brady (*Aesthetics of the Natural Environment*, 150–72) insightfully distinguishes different modes of imagination which are required in perceiving and comprehending natural objects.

IV.2. ENVIRONMENTAL CRITICISM

In addition to myths, traditions, and broad cultural conceptions, whose role in shaping our experiences we might not properly acknowledge or be able to exactly verbalize, some philosophers have argued that modern documentary and artistic depictions of nature could guide us in the aesthetic appreciation of nature. Yrjö Sepänmaa, for one, has proposed that there is a practice of 'environmental criticism'. Environmental criticism, such as works of nature writing, provides us with virtual experiences of a natural environment with an interpretive and evaluative dimension. Such works both manifest cultural attitudes to nature and regulate modes of reception. They describe aesthetic experiences and offer us ways to look at the nature. What distinguishes them from sociological studies of the aesthetic appreciation of nature, for example, is that they are well informed about natural environments and exhibit expertise and aesthetic sensitivity, akin to works of art criticism.⁵⁰

Relying on the notion of environmental criticism, I propose that works of nature writing may substantially illuminate and enhance our aesthetic appreciation of nature. In a sense, this is also to follow Carlson's lead: to study the work of those acquainted with nature. However, naturalists or ecologists, whom Carlson speaks of, do not appreciate nature aesthetically *as a part of their profession*. We have to look for informed depictions that we recognize as containing *aesthetic* appreciation.

Although modern nature writing has its roots in natural history and draws on the natural sciences, it also reveals the richness of aesthetic experience and the narrowness of reductionist scientific models of nature appreciation; for example, the focal role of metaphorical imagination in the aesthetic appreciation of nature can be seen in the works of the genre.⁵¹ When describing his encounter with screech owls, Thoreau compares them to 'mourning women' and says that 'their dismal scream is truly Ben Jonsonian'.⁵²

It is no honest and blunt tu-whit tu-who of the poets, but, without jesting, a most solemn graveyard ditty, the mutual consolations of suicide lovers remember the pangs and

⁵⁰ Yrjö Sepänmaa, *The Beauty of Environment: A General Model for Environmental Aesthetics* (Helsinki: Academia Scientiarum Fennica, 1986), 79–136, esp. 135; 'Environmental Stories: Speaking and Writing Nature', in *The Aesthetics of Natural Environments*, ed. Allen Carlson and Arnold Berleant (Peterborough, ON: Broadview Press, 2004), 283–93. For the relevance of stories in appreciation, see also Heyd, 'Aesthetic Appreciation', 130–34.

⁵¹ Nature writing is of course a broad genre, encompassing different kinds of works, from those that emphasize natural history to those that focus on philosophical reflection, and from natural history essays to travel and adventure writing. See Thomas J. Lyon, *This Incomparable Land: A Book of American Nature Writing* (Minneapolis, MN: Milkweed, 2001).

⁵² Henry Thoreau, *Walden, or Life in the Woods* (Boston: Ticknor and Fields, 1854), 135.

the delights of supernal love in the infernal groves. [...] They are the spirits, the low spirits and melancholy forebodings, of fallen souls that once in human shape night-walked the earth and did the deeds of darkness, now expiating their sins with their wailing hymns or threnodies in the scenery of their transgressions. They give me a new sense of the variety and capacity of that nature which is our common dwelling. *Oh-o-o-o-o that I never had been bor-r-r-r-n!* sighs one on this side of the pond, and circles with the restlessness of despair to some new perch on the gray oaks. Then – *that I never had been bor-r-r-r-n!* echoes another on the farther side with tremulous sincerity, and – *bor-r-r-n!* comes faintly from far in the Lincoln woods.⁵³

In turn, John Muir rejoices:

How fresh the woods are and calm after the last films of clouds have been wiped from the sky! A few minutes ago every tree was excited, bowing to the roaring storm, waving, swirling, tossing their branches in glorious enthusiasm like worship. But though to the outer ear these trees are now silent, their songs never cease. Every hidden cell is throbbing with music and life, every fibre thrilling like harp strings, while incense is ever flowing from the balsam bells and leaves.⁵⁴

Nearly a hundred years later, the naturalist writer Roger Deakin wrote: 'I have learnt to treat blackthorn with respect. Now and again it pierces my leather hedging gloves like a snake bite. It is the viper of trees. The spines are syringes loaded with some obscure poison that causes the deep puncture wound to bruise and throb painfully for days.'⁵⁵ Nevertheless, depictions of nature in nature writing are not recordings of reality but textual artefacts. In examining them, we are confronted by questions related to the *mimetic* and *thematic* dimensions of nature representation, its fidelity and artistic (for example, symbolic) aspects. Thoreau, for one, edited his early version of *Walden* to render the atmosphere more pastoral: reality – a mouse's sharp claws – did not suit his ideals and had to be softened a bit.⁵⁶ In nature writing, lived experience is used as material for the story, and even the sincerest documentary enterprises use dramatic devices and employ mythical structures in which, say, animals are made human-like subjects with human-like intentions. Further, stories are always perspectival. There is the narrator's point of view, influenced by cultural attitudes, ideological views, communal values, and personal reactions: what is considered worth telling and which objects are given significance (grand trees or slime mould).

⁵³ Ibid., 135–36.

⁵⁴ John Muir, *My First Summer in the Sierra* (Boston: Houghton Mifflin, 1911), 195–96.

⁵⁵ Roger Deakin, *Wildwood: A Journey Through Trees* (London: Penguin, 2007), 360.

⁵⁶ See Lawrence Buell, *The Environmental Imagination: Thoreau, Nature Writing, and the Formation of American Culture* (Cambridge, MA: Harvard University Press, 1995), 94–96.

Does the nature appreciation represented in nature writing describe *aesthetic* responses? Often it seems to correspond to what we call aesthetic in everyday discourse. On the face of it, a great many works seems to support a pluralistic view of nature appreciation, because they conjoin natural historical knowledge, imagination, metaphors, and emotional responses in depicting experiences we classify as aesthetic. But such depictions do not themselves settle the philosophical debate, even for the benefit of pluralism. Instead, there is a risk of circularity in the meta-critical method: we learn about the aesthetic appreciation of nature by investigating works of nature writing, but in order to determine to which extent the works describe *aesthetic* encounters with nature, we need to employ conceptual distinctions drawn in philosophy.

Nature writing tends to *enhance* our understanding and appreciation of the aesthetic value of the environment. Yet not all stories are valuable. A rewarding story of nature needs to make the environment intelligible and reveal its aesthetic properties and values. A successful story depicts objects, properties, and aspects worthy of aesthetic appreciation, and characterizes the ambience of the environment; it provides us with vocabulary and concepts for understanding the character of the environment. It may illuminate the environment by apt new metaphors or steer our attention to objects (or their properties) whose aesthetic value we have not noticed before. And just as the role of scientific knowledge and non-scientific stories has been defended by proposing that their value is determined on functional criteria,⁵⁷ so is a work of environmental criticism relevant if it enriches our appreciation of a natural environment.

As there are different, equally plausible ways to interpret works of art, there are different, equally illuminating stories about nature. (Actually, thinking of the indeterminacy and constant change of a natural environment, nature is even more open-ended.)⁵⁸ But not all environmental stories are good. A story essentially needs to match the environment's character (as conceived by the experiencer). If our experience of the environment does not accord with the story, if we do not *learn* to see the environment the way proposed by the story, we cannot consider the story to have much value. Among bad stories there are, for instance, idiosyncratic (non-shareable) ways of looking at nature, such as imaginings that do not resonate among other appreciators.

⁵⁷ See Fudge, 'Imagination'; Heyd, 'Aesthetic Appreciation'.

⁵⁸ The indeterminacy of the 'natural environment' as an object of apprehension leads Malcolm Budd to claim that aesthetic judgements about nature are relative to the experiences, and the experiences are never the same. Budd, *Aesthetic Appreciation of Nature*, 107–8, 109, 147.

Some stories simply ask too much of the imagination: they are cognitively and experientially too distant from us. While we can theoretically understand an indigenous mythical view of nature, imaginatively *perceiving* the environment the way suggested by the myth may be unattainable and require a make-believe too challenging to engage in, at least for the duration of the experience. Some stories, in turn, are exclusive, because they connect to an alien national history or the like; Simon Schama shows how the Białowieża Forest was used to support cultural identity in both Polish-Lithuanian and German mythological enterprises, the one different from the other.⁵⁹ Besides their being alien, many might consider the German *Urwald*-story to be also morally suspect; it is part of a National Socialistic worldview, and many would be unwilling to hold it even in their imagination.

Marcia Muelder Eaton emphasizes the potential harms of stories and argues that 'imaginative fancies – often directed by fictional creations – can and do lead to harmful actions.'⁶⁰ She claims that in fiction, there is often a tendency to sentimentalize or demonize, and both tendencies lead to misconceptions. As her example, she uses Felix Salten's *Bambi* (1923), which has 'made it incredibly difficult to look at a deer in terms that are true to it as an object on its own and even more difficult to respond to it in terms appropriate to the role that it increasingly plays in the ecological systems which it has come to dominate.'⁶¹

I have several doubts about this view outside the context of children's literature and exceptionally naïve readers. While I consider non-fictional nature writing to be the paradigmatic example of environmental criticism, I have also argued for imaginative and metaphorical elements in nature writing, and must therefore say a few words about fictions and myths as aesthetically guiding stories of nature. To begin with, I doubt that fictions have a tendency to sentimentalize or demonize, for such tones also lessen the aesthetic value of the works. Further, I suspect that sophisticated readers do not gain beliefs and values from fiction transparently, without interpreting and assessing the works. More likely, our positive or negative associations with natural objects and environments are multifaceted. At least in Nordic countries, wetlands are not abhorred because they 'have so often been conceptualized as "swamps" inhabited by various kinds of slime monsters',⁶² as Eaton maintains, but because swamps – remote, unpopulated areas – have been used as sites for infanticide and other dark activities, which have provided the material for stories of various sorts; underlying

⁵⁹ Simon Schama, *Landscape and Memory* (London: Harper, 2004), 61, 69.

⁶⁰ Muelder Eaton, 'Fact and Fiction', 152.

⁶¹ *Ibid.*

⁶² *Ibid.*, 153.

these folk tales is presumably also a Christian story of wetlands as ungodly (unfertile) grounds.

The role of imaginative stories in shaping aesthetic preferences and thus affecting the preservation of nature would be a complex topic of its own. A few words are called for here. First, *Bambi* did not produce the love for deer but operated upon it. In fact, it is claimed that humans tend to aesthetically prefer certain mammals ('charismatic megafauna'), such as human-like 'smiling' dolphins or koalas⁶³ – hence the cute panda in the WWF logo. Moreover, the biologists Patricia A. Fleming and Philip W. Bateman claim that 'ugly' species attract little *scientific* attention and 'global and national conservation funding largely overlooks non-charismatic species'.⁶⁴ Surely, we need ecologically informed stories to preserve endangered 'ugly' species. Yet, the idea of the (equal) value of all living beings is a *moral* position distinct from science.⁶⁵ For example, some biologists would like to get rid of the malaria-transmitting *Anopheles* mosquito, arguing that its extinction would not affect the ecosystem, at least no more than some other, 'naturally occurring' extinction. Of course, fictions and stories may be used for various persuasive purposes. Nature writing affects conservation, both generally and by emphasizing individual species. Nonetheless, nature writing is a self-reflective, self-critical cultural practice that implies biodiversity and preservation as its values.

IV.3. IMAGINATIVE TENDENCIES

As for imagination, there are certain interesting perennial themes in nature writing, such as the idea of wildness and our tendency to humanize nature. Since Romanticism, representations of wild nature have praised the diversity and indeterminacy of the natural environment, a theme that is also highlighted in science-based nature writing. A characteristic often emphasized in representations of natural beauty in nature writing is that a natural environment is a product of chance. In a pristine forest every tree is an individual. Its place in

⁶³ For biological approaches to the appeal of animals to humans, see David L. Stokes, 'Things We Like: Human Preferences among Similar Organisms and Implications for Conservation', *Human Ecology* 35 (2007): 361–69; and Sarah Batt, 'Human Attitudes towards Animals in Relation to Species Similarity to Humans: A Multivariate Approach', *Bioscience Horizons* 2 (2009): 180–90.

⁶⁴ Patricia A. Fleming and Philip W. Bateman, 'The Good, the Bad, and the Ugly: Which Australian Terrestrial Mammal Species Attract Most Research?', *Mammal Review* 46 (2016): 241.

⁶⁵ We should not accept the scientific approach to nature appreciation because of the moral demand for appreciating 'nature as nature'. Sympathy for nature does not necessitate scientific knowledge (think of indigenous people), whereas scientific knowledge might not lead to preservation but abuse (think how Planet Earth has changed during the modern scientific period).

the forest, its surrounding, weather history, and various other – partly unknown – factors have made it what it is. In Nordic boreal forests, people are accustomed to appreciating the accidental, the unpredictable, the unforeseen.⁶⁶ The Finnish naturalist Reino Kalliola suggested in a radio speech in 1944:

The beauty of an old-growth forest is perhaps not as easy to understand as the beauty of a well-kept commercial forest [...] An old-growth forest lacks the purposefulness characteristic of cultivated forests, which is one of the traditional characteristics of beauty. In an untouched forest, there is nothing domesticated or cultivated, nothing tamed or subjected to utility. But there is freedom and strength, the wild, unchained primitive strength of nature. Its atmosphere is romantic, fabulous, mysterious, pious, oddly enchanting.⁶⁷

Kalliola proposes that there are two sorts of sylvan beauty: that of virgin nature and that of the cultivated environment. Interestingly, the popular, Romantic (perceptual) notion of virgin natural beauty is at odds with the (intellectual) notion of beauty embodied in Carlson's scientific approach, for Carlson thinks that the untouched natural environment has aesthetic qualities, such as 'unified' and 'orderly', but lacks qualities, such as 'incoherent' and 'chaotic'.⁶⁸ He says:

these qualities which make the world seem comprehensible to us are also those which we find aesthetically good. Thus, when we experience them in the natural world or experience the natural world in terms of them, we find it aesthetically good. This is not surprising for qualities such as order, regularity, harmony, balance, tension, conflict, and resolution are the kinds of qualities which we find aesthetically good in art.⁶⁹

Carlson's approach not only conflicts with the practice of nature appreciation; his idea of the 'harmony' or 'balance' of a natural environment is also ecologically outdated. According to contemporary biology, there is no 'balance' or 'harmony' in nature. Carlson insists that aesthetics and science are connected: were a scientific paradigm to change, it would also affect the aesthetics of nature.⁷⁰ This makes one wonder what the proper aesthetic adjectives in the scientific approach are today.

In addition to that, we find indeterminacy and chance valuable in nature; we also seem to have an inclination to personify. In a comfortable environment, we seek enjoyment in 'recognizing' human (or animal) shapes in nature, while in

⁶⁶ These aspects seem central to our appreciation of nature; see Hepburn, 'Nature Humanised', 277–78.

⁶⁷ Reino Kalliola, 'Suomalainen aarniometsä' [Finnish primeval forest], in *Luonto sydämellä: Kirjoitelmia ja puheita 1930–1977* (Helsinki: WSOY, 1978), 160.

⁶⁸ Carlson, *Aesthetics and the Environment*, 73.

⁶⁹ Carlson, 'Nature and Positive Aesthetics', 31.

⁷⁰ Carlson, *Aesthetics and the Environment*, 94.

a dark unfamiliar environment human-shaped figures in nature may frighten us. We attribute human-like characters to non-human objects in nature, both animals and plants. We value a 'stubborn' tree which grows without getting anywhere really. When I see the marks of the European spruce bark beetle in a tree, alien writing first comes to my mind. I know that the marks were left by a beetle; but central to my appreciation is the shape of the marks and its writing-like connotations – knowledge of the functions of the different tunnels does not remove this impression. It is no wonder that the scientific name of the species is *Ips typographus*. Just as folk names carry cultural historical knowledge, so too botanical names carry metaphorical ways of seeing.

One worry, however, is that anthropomorphism inappropriately attributes distinctively human characteristics to nature. And anthropomorphic thinking really could lead us astray, for instance, when we take animals to be playing when they are actually fighting for territory or preparing to mate. In such misguided thinking, we are no longer appreciating nature as nature. What is worse, anthropomorphism can lead to actions that may harm nature. But *make-believe* is different from belief. When I playfully imagine or make-believe (but not believe) that a singing bird is praising the Creator, in order to enhance my enjoyment of a sylvan experience, I do not see that imagining as distorting the character of the environment.⁷¹ Rather, the image is part of my larger cultural conception of nature, which includes, for instance, obsolete beliefs about nature.⁷²

Finally, we may – and from a moral point, should – seek to understand our environment from the viewpoint of the non-human world. Nevertheless, it is inconceivable how our attempts to conceive the environment from a non-human point of view could ever succeed, since our perception, imagination, concepts, and language are human. We just have to remind ourselves that the people of the forest are distinctive and valuable.

V. CONCLUSION

A popular view today is that we can no longer look at nature without thinking about pollution and the effects of human beings on the environment. Even in a pristine forest a look at the sky reminds us of the ubiquity of human beings. Is there any place left for 'innocent' aesthetic experience centred on imagination and abstract themes now, at a time of environmental crises and

⁷¹ Clearly, this would be different, were the object of my appreciation the *birdsong* itself. For playful imagination, see also Brady, *Aesthetics of the Natural Environment*, 167.

⁷² Personifications and other imaginings also stem from a cultural background, and it is worth asking, for example, what in an anthropomorphic look at nature is genuinely innate – how natural is our inclination to humanize? – and what is cultural. In exploring the question, nature writing proves important again.

the Anthropocene, or is such a response a mere relic of bourgeois aesthetics? Akin to the notion of 'nature', things we appreciate in the forest apparently change over time – and as the practice changes, the principles of appreciation need to be revised. The fascination with the wilderness originates to a great extent in German Romanticism and ways of looking at nature from historical art and also in travel advertisements and other national imagery. But similarly, the ideal forest of contemporary ecological awareness – a natural-like forest or a forest returning to its natural state – is like the forest of a Romantic poem. And as long as there are forests, there is imagination: a forest characteristically hides, and we shall continue to fear and be awed by it. Our dreams of Paradise are inscribed on us, and the darker the sky gets, the more we turn towards imagination – either to escape or to predict what is to come.⁷³

Jukka Mikkonen

Department of History and Philosophy, University of Tampere,
Kanslerinrinne 1, 33100 Tampere, Finland
jukka.mikkonen@uta.fi

School of Humanities, University of Eastern Finland,
Yliopistokatu 4, 80101 Joensuu, Finland
jukmikko@uef.fi

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⁷³ On the other hand, thinking of ecocide just prompts imagination. Also, new biocentric and posthuman ways of thinking invite frantic imaginings; for such, see Michael Marder, *The Chernobyl Herbarium: Fragments of an Exploded Consciousness* (London: Open Humanities Press, 2016).

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