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## **ECO-ANXIETY, TRAGEDY, AND HOPE:**

### **PSYCHOLOGICAL AND SPIRITUAL DIMENSIONS OF CLIMATE CHANGE**

*by Panu Pihkala*

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*Abstract.* This article addresses the problem of “eco-anxiety” by integrating results from numerous fields of inquiry. While climate change may cause direct psychological and existential impacts, already now vast numbers of people experience *indirect* impacts in forms of depression, socio-ethical paralysis, and loss of wellbeing. This is not always evident, because people have in response developed psychological and social defenses, including “socially constructed silence.” I argue that this situation causes the need to frame climate change narratives as emphasizing hope in the midst of tragedy. Framing the situation simply as a threat or a possibility does not work. Religious communities and the use of methods which include spirituality have an important role in enabling people to process their deep emotions and existential questions. I draw also from my experiences from Finland in enabling co-operation between natural scientists and theologians in order to address climate issues.

*Key words:* eco-anxiety, eco-psychology, climate change, theology, philosophy of hope, religion and nature, religion and ecology, environment, mortality, emotions

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## WHAT IS “ECO-ANXIETY”?

Climate change has both direct and indirect effects (see the useful chart below, by Clayton et al. 2014). The indirect impacts are often difficult to notice for several reasons. They may happen gradually and avoid attention. In addition, indirect mental impacts are often unconscious. People have deep existential questions and emotions which are difficult to process. Already in 1972, psychoanalyst Harold Searles suggested that “[a human person] is hampered in his meeting of this environmental crisis by a severe and pervasive apathy which is based largely upon feelings and attitudes of which he is unconscious” (Searles 1972).

A significant impact of climate change (and other environmental problems) is “eco-anxiety.” The term is used to describe various difficult emotions and mental states arising from environmental conditions and knowledge about them. Eco-anxiety can result directly from an environmental problem, but most often it is an indirect impact. For example, a person may feel anxiety and sorrow because a woodland area next to him is cut down. But even more people experience anxiety because they feel that climate change is taking away their future. (For case examples, see Bodnar 2008; Gillespie 2016; Moser 2013.)

In my view, there is currently not enough research on eco-anxiety, although the theme is a subject of growing interest. The situation is further complicated by the fact that because there is not yet a common interdisciplinary field of studies on the subject, people are using various terms for similar phenomena. For example, Daniel Goleman (2009) has suggested the use of “eco-angst.” Often the discussion is centered around particular emotions, such as guilt (Mallett 2012) or grief (Cunsolo Willox 2012; Randall 2009). Certain studies utilize a wider perspective and

discuss these various issues under the overall topic of eco-anxiety (Clayton et al. 2017; Albrecht 2011). It should be noted that there are certain communicative problems with words beginning with the prefix eco: they seem to polarize people (Marshall 2015). Personally I started my writing on the subject by using the term “environmental anxiety” (Pihkala 2016a). However, the term “environmental” has its own problems, and because eco-anxiety seems to be more and more widely used, I too have opted for this term.

There is a wide variety of forms included in eco-anxiety. Some people have been reported to get psychosomatic symptoms when they hear of environmental destruction. (Cf. Stoknes 2015, chap. 15.) For most people various difficult emotions and mental states occur and are intertwined with other issues in life. It is often difficult to separate eco-anxiety in a straightforward manner from other anxieties. For example, a person can often feel depression first and foremost because he has lost his job, but in the background is also anxiety about the state of the world and climate change. Eco-anxiety affects both individuals and communities, reducing their resilience by increasing paralysis and hopelessness. It can be seen to strengthen mal-adaptive behavior, such as the use of addictive substances (Bodnar 2008; Greenspan 2004, 151) and the appeal of authoritarian, sometimes violent, movements.

In this article, I will discuss both emotions and existential questions as related to climate change and eco-anxiety. By existential questions I mean fundamental questions which arise when people are confronted with major problems and, in this case, even the possibility of the end of life of the human species (or at least the end of large parts of civilized life). These questions are related to existence and the meaning of existing. Psychotherapist Sally Gillespie has displayed how these kind of questions arise in therapeutic discussion groups which deal with eco-anxiety. She writes about “existential fears about impermanence, death and non-existence”

(Gillespie 2016, 187). Another psychotherapist, Miriam Greenspan, provides a concise list of certain other key existential questions which people have in times of global environmental destruction: “Why do the innocent suffer? Why is there so much unnecessary cruelty and pain in the world? Does God exist? What am I here for?” (2004, 129). These questions are in a way ancient and permanent, for they have been asked in religious literature, philosophy and drama for ages. But the global environmental threat brings a certain new dimension into these questions, as I will discuss below.

### DENIAL AND SILENCE

The Australian scholar Glenn Albrecht (2011) has constructed a useful typology of various impacts of climate change. He divides these into two main categories: “Somaterratic (Body-Earth)” and “Psychoterratic (Psyche-Earth).” These phenomena are naturally linked. For example, heat stress also worsens the psychic impacts. I will here focus on his discussion about psychoterratic syndromes, of which he uses the terms eco-anxiety, ecoparalysis, solastalgia (more about that later), and econostalgia.

When Albrecht begins discussing ecoparalysis, he makes a very important point about eco-anxiety: it often results in a state which looks like apathy, but which is actually not manifesting lack of concern. Psychologists and psychoanalysts such as Renée Lertzman (2015) and Mary Pipher (2013) have written about the same theme, pointing out that there is “a myth of apathy” (see also Lertzman 2013; Nichol森 2002). Many people in fact care too *much*, not too little, and as a result they resort to psychological and social defenses. Albrecht calls this state ecoparalysis: people would like to be able to act, but find themselves paralyzed. This naturally has dire consequences for sustainability.

I have written elsewhere (Pihkala 2017a) more about “the myth of apathy” and states of denial about climate change. Here I will provide a concise overview. Eco-anxiety is closely linked with psychological and social defenses. If and when people find it too difficult to process the emotions and existential questions related to environmental problems, they have a tendency to resort to various defenses (and coping mechanisms). Full-scale denial is only one of these responses. Different forms of disavowal are much more common. People find ways to both know and not to know at the same time. (For overviews, see Reser & Swim 2011; Weintrobe 2013.) This results in a vicious circle. Because of denial and disavowal, the problems get worse. This in turn breeds more anxiety, which many try to deal with by more denial, and emotional pressure keeps building.

Scholars have noted that climate change generates “socially constructed silence” (Norgaard 2011; more widely Zerubavel 2006). When there are difficult and disturbing phenomena in a social group, people implicitly develop a kind of silent contract not to speak about the problems. Only on special occasions people burst into feeling and speaking openly about them. Psychiatrist Robert Jay Lifton’s theoretical insights about “double life” and “psychic numbing” have been applied to describe these situations (Nicholsen 2002; see also Lifton 2014). The numbing of emotional life is connected to what Lertzman (2015) calls “environmental melancholy.” People resort to a kind of anticipatory mourning where they try to break down in advance the emotional connections to certain things so that they don’t have to suffer when they lose them.

Later in this article I will suggest practical ways in which these phenomena can be dealt with in a less damaging way. An important thing to do is to research these issues and to speak about them openly. As climate communication scholar George Marshall (2014) has suggested,

we should openly admit that the situation is very difficult. This difficulty includes both practical and cognitive difficulty, which has been discussed on the pages of *Zygon* (50:4, December 2015), and the emotional and existential difficulty which is the subject of this article.

## SOLASTALGIA AND GRIEF

I will discuss certain key emotions and existential questions as regards eco-anxiety. I will start with emotions and first I will discuss grief. Grief is an emotion which arises from pain or loss which has happened either to the person herself or someone (or something) dear to her. Only recently have therapists begun to acknowledge that environmental problems do indeed cause serious grief to numerous persons. People feel many kinds of sorrow and loss in relation to environmental problems, including climate change. This is sometimes called “environmental grief” or “climate grief”. (For a good introduction into grief and the environment, see Cunsolo & Landman [eds.] 2017).

However, for most people, there are not many occasions in which they are invited to express these feelings and share them with others. I have elsewhere (Pihkala 2017b) suggested that the theoretical concept of “disenfranchised grief,” developed originally by grief scholar Kenneth Doka (1998), can and should be applied also to environmental grief. The term refers to types of grief that are, for various reasons, so difficult for others that they tend to disregard the feelings of those who experience them. The grief is not given its due voice: thus, disenfranchised grief. Examples include (in various societies) infertility, grief for a deceased same-sex partner, and grief for deceased unborn babies.

Grief studies have shown that if grief is not given its due place, problems result for both the psychic life of individuals and the well-being of social groups. Individuals may resort to

maladaptive behavior such as psychic numbing or the use of addictive substances as an effort to run away from complicated grief. Groups do not function as well as they could if some of their members suffer from such phenomena, and in addition the groups themselves need to process grief communally. Having shared rituals of grief seems to be a universal human need. As regards environmental grief, this brings out the question of power relations. Who gets to decide what grief is appropriate? For example, are elderly people allowed to express their grief in relation to the cutting down of forests to make more room for sub-urban sprawl? Or are the people of coastal areas allowed to express their grief about the loss of the beach areas because of sea-level rise, most evidently resulting from climate change? Or are these types of grief made disenfranchised by emphasizing that “progress” inevitably requires these kind of sacrifices? (For climate grief, see Cunsolo Willox 2012; for grief about sea-level rise, see Moser 2013; and see also Randall 2009; Bodnar 2008.)

Glenn Albrecht has developed a new term for a grief-related phenomenon which is found all around the world: “the lived experience of the physical desolation of home” (Albrecht et al. 2007, 96). He calls this solastalgia. The word is combined of solace and nostalgia (and hints to desolation as well). Places and place-connections which used to give solace are being destroyed. Examples include the loss of local area to a construction of a mine or a dam, or loss of familiar places because of extreme weather resulting from global warming. This is not yet nostalgia, because home still exists, but is in the process of being damaged. When the effects of climate change become worse in various areas of the world, there will be more solastalgia, and there is a need for a growing understanding of the phenomenon.

Psychologists have noted that humans have the tendency (or, bias) to make assessments about global conditions on the basis of their local conditions and experiences. Local and global



are connected also in this sense. This means that if it is desired that people would have greater hope about the future of the living conditions on the global planet, people's experiences of their local environments also must be taken seriously. There has to be room for expressing solastalgia and other types of environmental grief.

Albrecht (2011) notes also the existence of "econostalgia," the desire to return to environmental conditions which have usually passed away. This can create serious melancholia. I would add that this has also the dangerous potential to strengthen the appeal of authoritarian leaders and movements. Often by emphasizing local or national identity, authoritarian leaders promise to lead their followers back to a time when things were still good. Nowadays, environmental conditions are sometimes part of this kind of appeal. In addition, there seems to be a dangerous connection between the denial of climate change and the appeal of strong authoritarian leaders. Leaders who deny climate change seem to offer a kind of solution to the anxiety that people feel about climate change. They offer a false hope that the problem is not real. This can cause much emotional pressure to stay on the side of the leader who has become a token for the non-existence of the climate problem. This is one possibility in which people give up their freedom in an effort to make anxiety go away, which was the general theme of the psychoanalyst and writer Erich Fromm (1941).

## MORTALITY

Ernst Becker (1972) suggested, following Sigmund Freud, that behind the appeal of authoritarian movements is also the fear of death. People join movements in order not to think about death and in order to participate in something larger than themselves, "an immortality project" in Becker's terms, which gives meaning to their mortal lives.

Several scholars, some explicitly following Becker, have suggested that climate change is closely associated with death and mortality in people's minds. Climate change causes unconscious thoughts and feelings about death and destruction. This in turn would activate triggers which cause people to direct their thoughts and actions to other subjects that generate pleasure or provide other kinds of distraction, such as excessive drinking, work-a-holism, or sex and sexual fantasies (see the case examples in Bodnar 2008; see also Dickinson et al. 2013; Gillespie 2016; Marshall 2015, chap. 38; Foster 2015).

Shierry Nicholzen (2002) has applied Robert Jay Lifton's theoretical framework of "symbolic immortality" to describe issues related to mortality and the environmental crisis. Lifton described different ways in which people look for a continued sense of meaning for their mortal lives despite death. These sources of meaning are encountered through symbols: thus, symbolic immortality. These symbols are already part of the continuing meaning, but also point towards a fuller realization of what they represent.

Lifton's list includes "biological", "creative", "theological", and "natural" types of symbolic immortality. People can feel that their lives have continued meaning even after they will be dead by thinking that their legacy goes on (a) in their offspring and close ones (biological), (b) in the accomplishments of their work life and creative art efforts, or (c) through participation in the various narratives of religions (theological). Fascinatingly, Lifton found out in his empirical studies that (d) the feeling that life goes on in the world of nature was an important source of meaning and type of symbolical immortality for many people. (For a useful and critical discussion, see Killilea 1988).

Nicholzen, and later Lifton himself, have noticed that in the time of climate change and other global environmental catastrophes, many people unconsciously feel that all these sources

of meaning and types of symbolic immortality are threatened. One can no longer be certain that the offspring or creative legacies will survive. And even the world of nature itself seems to be under threat (Nicholsen 2002; Lifton 2017, 2014).

If this is so, as I believe it is for many people, the roots of the existential and spiritual crisis that climate change posits go very deep into the core of being mortal humans. In the so-called Terror management Theories (TMT), scholars have noticed that fear of death very often causes people to strongly defend the current status quo of things as a defense mechanism against uncertainty (Pyszczynski, Greenberg, and Solomon 1999). Janis Dickinson and others (2013) have applied this directly to climate change. The form of defense against anxiety which Erich Fromm described as “automaton-conformity” seems to take place also in our times (Fromm 1941; see also Dodds 2011, 34–5). People try to be like everyone else and continue unsustainable behavior as in a collective hypnosis or trance, even when they know on some level that this is disastrous (see also McIntosh 2008, 99).

It is possible to turn this close connection between mortality and climate change into an asset, as Dickinson (2009) is proposing. Using Becker’s theories, she notes that the pursuit of sustainability can also turn into “an immortality project” that empowers and motivates people. In any case there is the need to provide opportunities for people to deal with their deep wishes and fears as related to death and symbolic immortality.

## DEALING WITH THE EXISTENTIAL DIMENSION

There are various ways to define existential questions, but mortality and the meaning of life are nevertheless an elementary part of them. Terminology related to existential questions has been used prominently by the so-called existential philosophers and theologians of the 20<sup>th</sup> century,

but also by thinkers working on various fields such as psychology, medical care, and education. In my view, it is useful to delineate three main categories of existential questions: first, the shock and meaning of existing at all; second, the significance of the life of a person among other persons; and third, the relation of human beings to the whole cosmos (and to Earth and “nature” in particular). (Cf. Tillich 1952.)

Climate change raises questions from all of these major categories. This begets another question: In our societies, who should take care of dealing with these kind of deep psychological and existential dimensions? Psychologists and psychotherapists are naturally one answer, but efforts are required also from others. I will now focus on the role of faith communities and discuss how this is related to the wide discipline of environmental education.

Faith communities are in a special position to deal with the existential dimensions, because this general area has traditionally been their area of expertise. The communal life of faith communities can offer a safe place, a so-called holding environment (of it and environment issues see Lertzman 2015; Nichol森 2002) in which deep and troubling issues can be processed. The various rituals of faith communities offer holistic ways to engage both bodies and minds, together with others. (I will develop this further in a forthcoming article, Pihkala 2018.)

The processing of the existential questions and emotions is part of the wide field of environmental education and advocacy. Although the word education is often linked with traditional educational activities for children and youth, it is important to notice that already in the 1970s environmental education was globally defined in a broader sense (Tbilisi 1977). To my knowledge, it is the best word and field available for the general subject of helping others to act more sustainably. For a wider discussion of this and also about the various related terms, such as education for sustainable development, see my recent article (Pihkala 2017a).

There are several needs for further multi- and interdisciplinary work among related fields of enquiry. In theology, religious studies, and the discussion on religion and science, there is the need to engage the literature on environmental education. In environmental education, there is a need for further discussion and understanding about the role of spirituality, religion, and faith communities. Important pioneering work on this theme has been done by Greg Hitzhusen (2012, 2011, 2007, 2006; see also Toh and Cavagas 2010; Pihkala 2017c, 245–58). And there is the need for all these fields to further discuss the results of various fields related to psychology and the environment (for these fields, see Paidas 2011; see also Pihkala 2017a).

The dealing with the existential dimensions of climate change very often has a spiritual tone, although the form of this can be very varied. This is naturally related to the discussion of how spirituality is defined. What I mean here by the spiritual tone is that the existential questions lead a person to engage something larger than him- or herself, often in the context of profoundly meaningful processes of questioning and experiencing. And to put it the other way around: many activities which have a spiritual nature can be useful in processing the existential questions.

#### HAVING HOPE IN THE MIDST OF TRAGEDY

The half-hidden phenomena of eco-anxiety, psychological and social defenses, and the deep existential questions involved, have profound consequences for environmental communication. An overly strong emphasis on the threats and damage, the so-called “doom and gloom” approach, can backfire and strengthen the anxiety and paralysis. However, based on interdisciplinary studies, I strongly emphasize that an overly strong emphasis on optimism is also problematic, because deep down people know the seriousness of the situation. Issues of justice and marginalization are also relevant here. Optimism sounds like a very different message when

it is heard by those who suffer from environmental racism. Examples of this include indigenous peoples, for whom climate change is “only” a yet another tragedy caused by peoples who have often oppressed them (Whyte 2017; for good reflections on justice issues as regards mourning, also by indigenous peoples, see Cunsolo Willox 2012), and marginalized urban communities, who feel that optimistic language is disrespectful and ignorant of their current plight (see, for example, Jenkins 2013; for theoretical considerations about “eco-justice” and environmental justice, see also Pihkala 2016b).

My suggestion is that we should frame the message as hope in the midst of tragedy (Pihkala 2017a; similar views of integrating both “the good and the bad” are taken by Hall 2014; Peterson 2015; Solnit 2016.) I will return below to hope, which is a key element for survival and emotional resilience. By using terminology related to tragedy, it is possible to show understanding for the great losses that have already occurred and will inevitably still occur, although humanity can yet have an effect on how much damage climate change will bring in the future.

There is an ancient discussion still going on about how to define tragedy. One key question in this debate is the relation between evil and tragedy: are all evil events tragic? I join those thinkers who explore the roots of tragedy in its relation to goodness. A classic element in tragic plays is the fall of a good character into evil, which is seen as tragic. We see and feel tragedy when something which should have been good turns into evil. An even more complex facet of tragedy is the intertwining of good and evil (cf. Peters 2002). The environmental philosopher John Foster, who has given much thought to tragedy, sees a key element in “environmental tragedy” to be the fact that much environmental damage stems from same human characteristics that are also the source of many good things: such as technological creativity and

a forward-looking attitude (Foster 2015). Let it be mentioned that this discussion is closely related to the long and on-going discourse on science and technology also on the pages of Zygon (see, for example, Tucker 2015).

Foster also develops the important point that climate change and the environmental crisis have already brought tragic losses: losses that cannot be reversed. Extinction is a prime example of this kind of loss. In classic tragic plays, irreversible loss is a key element. Part of their power and appeal comes from the way in which they enact on the stage such total losses (cf. Shakespeare's *King Lear*, for example). At the same time, there is a strange relief in the process of admitting and encountering such losses together. Tragic plays can function as therapeutic processes and as kinds of vaccinations which try to prevent further evil by "injecting" parts of it into the audience. A key aim is to generate compassion to those who suffer. (Cf. the introductory discussion into tragedy in Wallace 2007; Bushnell 2008.)

Sensibility to the gravity of loss and the tragic elements in reality have lead several thinkers to use concepts of hope which reflect this ambiguity. I use "hope in the midst of tragedy", which could be called also "tragic hope." Some others use the term "optimism", but define it so that an overly optimistic position is avoided. Examples include Victor Frankl's "tragic optimism" (for its adaptation into climate matters, see Ramsay & Manderson 2011) and Shaun Chamberlin's "dark optimism" (see <http://www.darkoptimism.org>, accessed 10.10.2017). Such a hope is perhaps more "hope in spite of" than "hope because of."

In our era of climate change, several philosophers of hope have resonated with Jonathan Lear's concept of "radical hope." Lear defines this as hoping even when we cannot yet know what might save us. Amidst the complexities of climate change and the Anthropocene, this indeed seems to be the situation – and the task (cf. Orr 2009). Another way to formulate the

challenge is to use the terminology of “learned ignorance”, of which see Carol Wayne White’s article in this theme number (White 2018).

#### ‘REALIST THEOLOGIANS’ AND TRAGIC HOPE

Insights for the current situation can be found from a time and place that may sound surprising to many: from the so-called “realist theologians” of the mid-twentieth-century. Their contributions are first and foremost relevant to those who wish to draw from Christian theology, but it should be emphasized that they are not relevant only for Christians. Prime examples are the leading figures of this loosely defined group of theologians: Reinhold Niebuhr (1892–1971) and Paul Tillich (1886–1965). They had a very wide societal influence, which reached outside the groups of believers (Dorrien 2003).

Several of these theologians have been called by different names, such as “Niebuhrians” or “Theologians of Crisis.” What I mean by my selection of them and the term is a group of theologians who shaped the liberal tradition into a new direction by emphasizing ambivalence and discussing with the so-called “neo-orthodoxy” the retrieval of certain themes of traditional Christianity. These theologians had a strong ecumenical identity and they helped to shape world Christianity. Most of them met regularly in a closed group called “Theological Discussion Group” (formerly, “The Young Theologians”). Included were many leading theologians of the time, such as H. Richard Niebuhr, John Bennett, Henry van Dusen, and Walter Marshall Horton. (Pihkala 2017c, 57–9.)

In my recent book, I bring out that several of these theologians were also pioneers in religious environmental thought. Thus I call them “early ecotheologians”, among others such as Liberty Hyde Bailey, Walter Lowdermilk, and Bernard Meland (Pihkala 2017c; a summarizing



article is Pihkala 2016c). They are relevant for the era of climate change because of their understanding of the tragedy of history, the powers of evil, and the ambivalence of humanity. Some of them are even more relevant because they, despite all this, emphasize hope, and discuss its significance also as regards the environment. I will here only briefly discuss three of them: Tillich, Daniel Day Williams, and Joseph Sittler.

While Paul Tillich is currently mainly known for his contributions to existential and psychological theology, he was a multi-faceted thinker who from very early on also discussed environmental themes. His key writings on this theme include “Nature and Sacrament,” written originally in German at the end of the 1920s, and “Nature, Also, Mourns for a Lost Good,” published prominently in 1948. In his famous three-volume *Systematic Theology*, environmental themes are not at the forefront, but he does discuss the significance of “the inorganic” (Pihkala 2017c, 163–77.)

Two of his late sermons are especially relevant for the theme of eco-anxiety. In “The Right to Hope” Tillich (1965) emphasizes that hope and despair are inevitably linked and give power to each other. Despair is not the real enemy. What is to be avoided is total hopelessness, which causes a person to fall outside the rhythm of hope and despair. Then there is nothing left and meaning is gone. By this emphasis on the inevitability and even a certain dark fruitfulness of despair, Tillich joins the views of several psychologists whose thoughts have been applied to eco-anxiety, such as James Hillman (see Nichol森 2002; Stoknes 2015).

In “Man and Earth” Tillich (1963) shows pioneering insight by discussing the feelings of shame that people have because of the environmental damage that humans have caused. Guilt and shame are crucial emotions related to eco-anxiety, and there is new research and literature being written on them. Assistant professor Sarah Fredericks (University of Chicago) is writing a

monograph on them, and I will also discuss them more in my future work, in which I apply Tillich's famous book *Courage to Be* (1952) to the time of climate change and the Anthropocene. The book includes discussion on emotions, but its major emphasis is on discussing existential questions. Tillich engaged in discussions with both existential philosophers and depth psychologists, such as the aforementioned Erich Fromm.

Daniel Day Williams (1910–1973) is another of the so-called realist theologians who contributed to ecotheology and tragic hope. Williams was a bridge-builder between the process theology of the so-called Chicago school and the theological work of the seminaries of the East Coast of the US. He had an important role for the discussions of religion and science: Williams introduced process thought to Ian Barbour (1923–2013), a key pioneer in these discussions. (Pihkala 2017c, 198–204, 238–9.)

Already in 1949, Williams published a book which dealt with ecotheology and hope. *God's Grace and Man's Hope* was adamant about the ambivalence of human efforts, but still emphasized the significance of hope. He applied the insights of the “neo-orthodox” theologians, such as a Niebuhrian emphasis on human ambivalence, to describe the tragic nature of history: “The inner contradictions of human life will again and again erupt in historical crises, wars, catastrophes, ages of despair...” (Williams 1949, 30). This is a philosophy of history which can be applied to the era of climate change as well, especially as Williams clarified that Niebuhrian thought need not be understood as completely pessimistic. Williams made an important effort to integrate liberal theology and neo-orthodoxy, which enabled him to emphasize the possibilities of social and environmental action (Pihkala 2017c).

Fascinatingly, Williams devoted all of chapter 7 to a discussion of environmental themes as intertwined with social themes. He developed ecotheology further by discussing

environmental concerns not only as ethical issues, but something which is related to the fundamentals of Christian faith. This shows clearly in his subtitle: “Christian hope is sustained by, and expresses itself in, a reverent grateful love for the good earth” (Williams 1949, 163). Hope not only expresses itself in environmental action, but such action upholds hope itself.

Among the realist theologians, American Lutheran and ecumenical theologian Joseph Sittler (1904–1987) was the one who developed ecotheology the furthest. He gave the aforementioned point by Williams an even stronger emphasis in his numerous public speeches and short writings: Christians and other religious people should see environmentalism as related to the basics of their faith, or otherwise the issues do not get the attention they deserve and require. In an influential article in *Zygon*, Sittler noted: “it is a very difficult job to get even Christians to see that - - [pollution] is *Christianly* blasphemous” (Sittler [1970] 2000, 84).

Drawing from both process thought and other sources, Sittler emphasized the importance of “an ontology of relations” and proposed that the entire doctrine of grace should be seen differently: as closely connected to the world of nature. In Sittler’s words, nature is “a theatre of grace”: the whole creation is “graced” by God. Things of nature are gifts which should be literally enjoyed with joy and reverence: “abuse is use without grace”. Using old theological vocabulary, Sittler emphasized both “special grace” related to special revelatory and salvific acts of God, and “common grace” which abounds in all creation. (Sittler 2000; Pihkala 2017c.) As David Tracy (1981) has noted, Sittler joined those “theologians of manifestation” who see the extraordinary in the ordinary.

Using Sittler’s frame of thought, the climate crisis is for the believers a deeply religious issue, both as it relates to inter-human relations and to the more-than-human world. Insights for realistic ethics and theology of hope can be found from his lyrical works. Sittler emphasized that

ethical decisions often take place in very ambiguous circumstances. He had lived through two world wars and used an example from war history to demonstrate ethical dilemmas. An enemy submarine has just sunk a ship, whose crew is floating on the sea surface. The captain of a destroyer could probably sink the submarine by using depth charges, but that would also kill the unfortunate crew of the allied wreck. Which counts more, the prevention of further damage by the submarine, or the lives of the allied crew? Even more, the decision has to be made immediately. Sittler's point is that there are major ethical decisions in which all options include both good and bad consequences. He summarizes: "One has to do what one [thinks he] must, and say one's prayers". (Sittler [1958] 1998; of the book and environmental ethics, see Saler 2010.) In the times of climate change, numerous ethical decisions have this character, and include a similarity with the aforementioned example also in the sense that human lives are at stake. One way to approach this is to raise the troubling questions of a later Protestant ethicist, Christoph Stückelberger (2009), who asks as regards climate change: "Who dies first? Whom do we sacrifice first?"

However, both Stückelberger and Sittler speak also of hope despite these gloomy and realistic concerns. This brings out a difference between secular and religious ethics, since for them, hope is related to Christian faith. Sittler's perhaps most focused discussion on hope is his three-part sermon on Romans 8, a key text for Christian ecotheology. Sittler discusses the connections between hoping and waiting, but emphasizes that people have to act in hope and faith, also as regards environmental issues. (Sittler [1975] 2000.)

Some later "theologians of hope", especially Jürgen Moltmann, built on Sittler's thought when they constructed a more developed theological scheme. Sittler's influence on discussions about religion and science was channeled primarily through Philip Hefner's work, who was his

younger colleague (see the dedication and many references in Hefner 1993; Stone 2004, esp. 766; the Joseph Sittler Archives in Chicago holds much material related to Sittler and Hefner). Also, Ian Barbour expressed interest in Sittler's ecotheology. (Pihkala 2017c, 238-241, 254.) Sittler's thought has remained a source of inspiration for many people working with environmental issues, although his influence is carried on especially by Lutherans (cf. Bloomquist [ed.] 2009; Dahill & Martin-Schramm [eds.] 2016).

### PUTTING TRAGIC HOPE INTO PRACTICE

In the future I will write more about theology of hope in the Anthropocene, based on insights both from the realist theologians and later theologians of hope. (This will be my contribution to a research project on "Being Human in the Age of Humans", 2017–2018: see <http://ctshf.nd.edu/news/call-for-proposals-being-human-in-the-age-of-humans/>, accessed 10.10.2017.) I will finish this current article by discussing practical ways to engage climate change in the spirit of a tragic hope. I will draw from various disciplines and provide information about literature for further study.

*Communication.* Environmental education and communication are closely connected. The things that I argued above have direct consequences to environmental communication. Over-optimism should be avoided, also over-pessimism. Some scholars of environmental communication have written about this need, and their writings provide insights for further development (see Hall 2014; Marshall 2015; and several important articles by Susanne Moser 2007, 2015. For Moser's insightful recent work, see <http://www.susannemoser.com/publications.communications.php>, accessed 10.10.2017).

*Education (as widely understood)*. There are some international scholars and practitioners of environmental education who have taken seriously the emotional and existential dimension. I have found particularly useful the works of Elin Kelsey and David Hicks. Kelsey has advocated for a wider understanding of the variety of emotions involved in environmental issues (Kelsey & Armstrong 2012; Zeyer & Kelsey 2013) and has produced hope-inspiring materials. *Beyond Doom and Gloom* (Kelsey [ed.] 2014) is a collection of letters about hope, while the web site <http://www.oceanoptimism.org> (accessed 10.10.2017) is dedicated to sharing good news about ocean protection amidst the general atmosphere of ocean-inspired anxiety (microplastics etc.).

David Hicks has for years developed “futures education,” which has indeed often been a “missing dimension in education,” as a subtitle of one of his books suggests (Hicks 2002). In such a work, the role of emotions and existential questions is crucial. The future is a key existential concern. People ask: What will happen to me, those close to me, and the world? Many emotions are involved, such as fear and expectation. Young people, the main subject of education, already experience many emotions and existential questions when they enter the classroom (or other educational setting). These must be taken into account, and when education about climate change proceeds, the educators must be sensitive to that which arises. Many teachers, for example, are tempted to be silent about the emotional dimension and defend their position by saying that they are not therapists. However, silence is not a good option, for it makes troubling emotions and existential angst only worse. In such a case, young people feel that either the adults don’t know or then they don’t care, and both of these views can damage human relations and resilience. (Eaton 2016.)

Hicks is realistic about the situation and points out the need of support for teachers and educators so that they would dare to give space for emotions in their curricula. Forms of support

include education for the educators themselves, and providing spaces and materials to help them process their own emotions first. At the same time, Hicks encourages educators on the basis of his own experiences: one doesn't need to be a miracle worker. For example, many young people are much relieved when a safe adult gives them a space and a time to discuss these matters (Hicks and Bord 2001). In addition to Hicks' work on future scenarios and educating for hope in the time of climate change (Hicks 2014), there has recently been published more literature on dealing with the emotions in climate education (see several articles in Siperstein, Hall & LeMenager [ed.] 2017; and Winograd [ed.] 2016).

*Psychological insights.* The other subjects which I discuss in this subchapter also draw from psychological literature, but here I draw attention to a few key works and themes. Systems thinker and environmental philosopher Joanna Macy has been a pioneer in emphasizing the emotional and existential dimensions of global problems such as the nuclear threat (Macy 1983) and climate change. Written together with Chris Johnstone, her book *Active Hope: How to Face the Mess We're in without Going Crazy* (Macy and Johnstone 2012) has been instrumental for numerous others writing about these themes. The book provides resources for self-reflection and group work. Macy's Buddhist influences and integration of new kinds of rituals, such as the Council of All Beings, link her work with religious environmentalism.

British psychotherapist Rosemary Randall has written pioneering texts about several psychological phenomena related to environmentalism (2005, 2009, 2013). Together with Andy Brown she has published a highly useful book about applying psychological wisdom in practical conversations and action related to climate change, *In time for Tomorrow? The Carbon Conversations Handbook*. The book includes a skillful chapter on anxiety, hope, and other related subjects (Randall & Brown 2015, 161–86.)

In my own recent book (Pihkala 2017b, in Finnish) about eco-anxiety and hope, I propose that two skills and insights are most needed. First, drawing from Stoknes (2015, 183), I emphasize the need to acknowledge and accept that there are seasons in the human mind, just as there are in nature. Despair and even depression (to a reasonable extent) are not to be always condemned; they may be as necessary and natural as is winter before spring. I use the concept “seasons of the soul” to describe this thought. Naturally, if a person is stuck in a kind of never-ending psychic winter, help is needed.

Second, I develop further the idea of “a binocular vision” as applied to environmental problems. The concept, which has been used in a variety of ways, was originally coined by the group psychologist Wilfrid Bion (1897–1979) and applied to environmental issues by NicholSEN (2002). The main idea is that there are multiple things happening in a certain situation at the same time. If a person is able to partly step outside the group (as with one foot in and one foot out) and observe the situation, differing sets of focus can reveal different things. With one focus level, there appears a certain state of things; with another focus, something different. I use the concept to emphasize the need for people to develop this sense of a binocular vision as regards climate change and the Anthropocene. At the same time, numerous good and bad things are happening. For example, many politicians don’t seem to care about climate change, but then again numerous young people all over the world work towards building more resilient societies. Many species have been lost, but the numbers of some have been able to be restored. To find a balance between optimism and pessimism, we need to see both sides of the story.

However, more often the problem is that we don’t see the good, the sources of hope, because of several reasons. The news culture is biased towards bad news, and a prevalent, melancholic, eco-anxiety makes it difficult to see all the good things that are happening



(examples of these good news and sources of hope are found also in the articles of this theme number: see esp. Austin 2018; Kelley 2018).

*Art-based activities.* Emotions are holistic matters and dealing with them is easier when people's bodies are involved. Art-based methods help people step outside the everyday mechanisms of silence and denial by providing a kind of liminal space or holding environment. Liminal spaces and activities, such as many rituals, are situated between ordinary life and the extraordinary. As a result, normal constraints do not matter as much. (For a classic discussion on liminality, see Turner 1982; for ritual and eco-anxiety, my book in Finnish, Pihkala 2017b, is the widest discussion known to me). I have personally co-operated with art educators such as Anna Lehtonen in organizing workshops where climate change is encountered through embodied action and the use of participatory drama (see Lehtonen 2015; for wider reflections on art-based environmental education, see Lehtonen, Salonen & Cantell 2018; van Boeckel 2013). Other forms of art-based activities such as creative writing can also help with eco-anxiety, and the literature on so-called "environmental criticism" or eco-criticism offers insights for that (for climate change, see Gabriel & Garrard 2013; in general, see Garrard [ed.] 2014).

*Religion and Science -discussions.* Dialogue between people from various backgrounds can also help to increase understanding and grow hope. An example of this is the Finnish high-level discussion group on religion and science, initiated by climate scientists and theologians. (My experiences of the activities of the Zygon Center in Chicago were among the reasons that prompted me to work towards the founding of this group.) After two years of discussions, the group issued a joint statement on climate change, emphasizing that this wicked problem needs both scientific research and changes in our worldviews. The public saw this as a new kind of co-operation between theologians and natural scientists. For example many scientists later

commented that the statement was a source of inspiration and hope for them. (The statement, “Climate change challenges our world-views”, can be found, in Finnish, at: <http://www.ilmastokannanotto.fi>, accessed 11.11.2017. The responses were discussed for example at the Sofia Earth Forum, Helsinki, Summer 2016. See also the multidisciplinary climate education course, openly accessible, at <http://www.climatenow.fi>, accessed 11.11.2017.)

On a much wider level, the same kind of appeal of the combination of religion and science is seen in the huge global impact of the environmental encyclical by Pope Francis, *Laudato si'* (2015). The encyclical was often mentioned as a source of moral support in the speeches of the Paris COP Climate conference, and its significance has been discussed also by prominent secular thinkers (see, for example, Klein 2015; Chakrabarty 2017).

While I have focused on emotions, psychology, and existential questions, it also should be emphasized that there is a close connection to climate sciences as regards eco-anxiety. High-quality research in the natural sciences enables people to know what the situation is and is likely to be (see the articles in this *Zygon* issue, such as Carr 2018, Austin 2018). This information may of course cause anxiety, as discussed above, but scientific information can also help to reduce anxieties by showing that the most striking apocalyptic visions of the near future are not realistic. Let it be added that apocalyptic thought and eschatology are important subjects in their own right as regards climate change, but I can't discuss that further here for space limitations (for literature, see Skrimshire [ed.] 2010; Skrimshire 2014; Rossing 2007). Many have claimed that we are living in “the end times” (cf. Zizek 2010); at least we are living in very special times, when the contributions of people from a vast diversity of backgrounds are needed.

## SUMMARY

In brief, my argument in this article has run as follows. First, through careful analysis and observations, and by reading research on the theme, one can notice the silence and denial about climate change among ordinary people. Underneath the mask of apathy, people have profound feelings. I discussed interdisciplinary studies on “eco-anxiety,” the negative emotions and existential questions related to environmental problems and especially climate change. For example, people have existential concerns about the meaning of life, the significance of their personal lives, and finitude. I introduced Glenn Albrecht’s typology of various psychic reactions to environmental problems and especially his concept of “solastalgia,” a form of environmental grief generated by losing important aspects of one’s home environment. I then discussed emerging research on the importance of grief and mourning related to climate change.

Second, moving to further discussions on the existential dimensions of climate change, the research and philosophy on the role of mortality as regards climate change should be given more attention. Studies in Terror Management Theory have been applied to climate change. It has been revealed that climate change is linked with mortality in many people’s minds, and as a result they tend to resort to psychological defenses, especially if they are confronted with fear-generating environmental communication. Hope and despair in the era of climate change are also related to what Robert Jay Lifton calls “symbolic immortality,” the ways in which humans seek meaning for their lives in spite of mortality. People have the feeling that climate change threatens all kinds of symbolic immortality, which generates anxiety.

Third, religious communities and leaders have important ways to help people, for example by providing opportunities to mourn and to process existential questions such as finitude. This led me to briefly discuss the role of religion and spiritual experiences in relation to environmental education, which is a theme that would require further research.

Fourth, the situation at hand causes the need to frame climate change narratives as emphasizing hope in the midst of tragedy. Framing the situation simply as a threat or a possibility does not work, for it is neither credible (for most people) nor realistic. Communication must do justice to the amount of losses that have taken place and the grief that people experience. I discussed the possible contributions of tragedy both as a form of art and as a philosophical-theological task, pointing out to the fact that people have found tragic plays strangely comforting for ages. I explored various philosophies of hope which seek a kind of middle way between optimism and pessimism, sometimes by using the concept of tragedy.

Fifth, based on my earlier research, the contributions of the so-called “realist theologians” from the mid-twentieth-century provide important insights into the situation at hand. These insights are most appealing to those who share the key ideals of Christian theology, but they do also have a wider appeal. These theologians, such as Paul Tillich, Daniel Day Williams, and Joseph Sittler, had a realistic, even tragic, view of history, but still they emphasized hope. They also made pioneering ecotheological contributions and had an impact on discussions on religion and science.

Finally, there are the practical dimensions of what I have presented. In the hope of sparking further dialogue between various fields, I discussed relevant literature from a wide variety of disciplines, such as communication, education, psychology, the arts, and the dialogue on religion and science. Experiences from work on these fields in Finland were mentioned.

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## REFERENCES

- Albrecht, Glenn. 2011. “Chronic Environmental Change: Emerging ‘Psychoterratic’ Syndromes.” In *Climate Change and Human Well-being: Global Challenges and Opportunities*, edited by Inka Weissbecker, 43–56. New York: Springer.
- Albrecht, Glenn et al. 2007. “Solastalgia: the distress caused by environmental change,” *Australasian Psychiatry* 15:Supplement, 95–98.
- Austin, Emily. 2018. *Zygon: Journal of Religion and Science* 53:
- Becker, Ernest. 1973. *The Denial of Death*. New York: Free Press.
- Bloomquist, Karen, ed. 2009. *God, Creation and Climate Change: Spiritual and Ethical Perspectives*. Lutheran World Federation Studies 2009/2. Minneapolis: Lutheran University Press.
- Bodnar, Susan. 2008. “Wasted and Bombed: Clinical Enactments of a Changing Relationship to the Earth.” *Psychoanalytic Dialogues* 18: 484-512.
- Boeckel, J. van. (2013). *At the Heart of Art and Earth: An Exploration of Practices in Arts-Based Environmental Education*. Helsinki: Aalto University.
- Bushnell, Rebecca. 2008. *Tragedy: A Short Introduction*. Blackwell Introductions to Literature 18. Malden: Blackwell.
- Carr, Paul. 2018. *Zygon: Journal of Religion and Science* 53

- Chakrabarty, Dipesh. 2017. "The Future of the Human Sciences in the Age of Humans: A Note." *European Journal of Social Theory* 20: 39–43.
- Clayton, Susan, Christie Manning, and Caroline Hodge. 2014. *Beyond Storms & Droughts: The Psychological Impacts of Climate Change*. Washington, DC: APA and ecoAmerica.
- Clayton, Susan, Manning, Christie, Krygsman, Kirra, & Meighen Spicer. 2017. *Mental Health and Our Changing Climate: Impacts, Implications, and Guidance*. Washington, DC: APA and ecoAmerica.
- Cunsolo Willox, Ashlee. 2012. "Climate Change as the Work of Mourning." *Ethics & the Environment* 17:137–64.
- Cunsolo, Ashlee, and Karen Landman, eds. 2017. *Mourning Nature: Hope at the Heart of Ecological Loss and Grief*. Montreal: McGill-Queen's University Press.
- Dahill, Lisa E. & James B. Martin-Schramm, eds. 2016. *Eco-Reformation: Grace and Hope for a Planet in Peril*. Eugene: Wipf and Stock.
- Dickinson, Janis L. 2009. "The People Paradox: Self-Esteem Striving, Immortality Ideologies, and Human Response to Climate Change." *Ecology & Society* 14:1-17.
- Dickinson, Janis L., Rhiannon Crain, Steve Yalowitz, and Tammy M. Cherry. 2013. "How Framing Climate Change Influences Citizen Scientists' Intentions to do Something about it." *Journal of Environmental Education* 44:145-58.
- Dodds, Joseph. 2011. *Psychoanalysis and Ecology at the Edge of Chaos: Complexity Theory, Deleuze/Guattari and Psychoanalysis for a Climate in Crisis*. London & New York: Routledge.
- Doka, Kenneth Jr. 1998. *Disenfranchised Grief: Recognizing and Treating Hidden Sorrow*. San Francisco: Jossey-Bass Publishers.

- Dorrien, Gary J. 2003. *The Making of American Liberal Theology, Volume 2: Idealism, Realism, and Modernity, 1900-1950*. Louisville, KY: Westminster John Knox Press.
- Eaton, Marie. 2017. "Navigating Anger, Fear, Grief, and Despair." In *Contemplative Approaches to Sustainability in Higher Education: Theory and Practice*, edited by Marie Eaton, Holly J. Hughes, and Jean McGregor, 40-54. New York: Routledge.
- Foster, John. 2015. *After Sustainability: Denial, Hope, Retrieval*. London and New York: Routledge.
- Francis, Pope. 2015. *Laudato si': On the Care of Our Common Home*. Encyclical. Huntington: Our Sunday Visitor.
- Fromm, Erich. 1941. *Escape from Freedom*. New York: Rinehart & Co.
- Gabriel, Hayden & Greg Garrard. 2012. "Reading and Writing Climate Change." In *Teaching Ecocriticism and Green Cultural Studies*, edited by Greg Garrard, 117–129. Houndmills & New York: Palgrave Macmillan.
- Garrard, Greg, ed. 2014. *The Oxford Handbook of Ecocriticism*. New York: Oxford University Press.
- Gillespie, Sally. 2016. "Climate Change Imaginings and Depth Psychology: Reconciling Present and Future Worlds." In *Environmental Change and the World's Futures: Ecologies, Ontologies and Mythologies*, edited by Jonathan P. Marshall and Linda H. Connor, 181–95. New York: Routledge.
- Goleman, Daniel. 2009. "The Age of Eco-Angst." *New York Times* 27.9.  
<https://opinionator.blogs.nytimes.com/2009/09/27/the-age-of-eco-angst/?mcubz=1>,  
accessed 10.10.2017.

- Greenspan, Miriam. 2004. *Healing Through the Dark Emotions: The Wisdom of Grief, Fear, and Despair*. Boulder: Shambhala.
- Hall, Cheryl. 2014. "Beyond 'Doom and Gloom' or 'Hope and Possibility': Making Room for both Sacrifice and Reward in our Visions of a Low-Carbon Future." In *Culture, Politics and Climate Change: How Information Shapes our Common Future*, edited by Deserai A. Crow and Maxwell T. Boykoff, 23–38. London: Routledge.
- Hicks, David. 2014. *Educating for Hope in Troubled Times: Climate Change and the Transition to a Post-Carbon Future*. London: Institute of Education Press.
- Hicks, David. 2002. *Lessons for the Future: The Missing Dimension in Education*. Futures and Education Series. London: Routledge.
- Hicks, David and Andy Bord. 2001. "Learning about Global Issues: Why Most Educators Only Make Things Worse." *Environmental Education Research* 7: 413-425.
- Hitzhusen, Gregory E. 2006. "Religion and Environmental Education: Building on Common Ground." *Canadian Journal of Environmental Education* 11: 9-25.
- . 2007. "Judeo-Christian Theology and the Environment: Moving Beyond Scepticism to New Sources for Environmental Education in the United States." *Environmental Education Research* 13: 55-74.
- . 2011. "Climate Change Education for Faith Based Groups." Unpublished manuscript of a presentation at a national conference on climate change education. Ohio State University & Ohio Interfaith Power and Light. Available at [https://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse\\_072575.pdf](https://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse_072575.pdf), accessed 10.10.2017.



- . 2012. "Going Green and Renewing Life: Environmental Education in Faith Communities." *New Directions for Adult and Continuing Education* 133: 35-44.
- Jenkins, Willis. 2013. *The Future of Ethics: Sustainability, Social Justice, and Religious Creativity*. Washington: Georgetown University Press.
- Kelley, Peter. 2018. *Zygon: Journal of Religion and Science* 53:
- Kelsey, Elin, ed. 2014. *Beyond Doom and Gloom: An Exploration through Letters*. Munich: RCC.
- Kelsey, Elin and Carly Armstrong. 2012. "Finding Hope in a World of Environmental Catastrophe." In *Learning for Sustainability in Times of Accelerating Change*, edited by A. E. J. Wals and P. B. Corcoran, 187–200. Netherlands: Wageningen Academic Pub.
- Killilea, Alfred G. 1988. *The Politics of Being Mortal*. Lexington: University Press of Kentucky.
- Klein, Naomi. 2015. "A Radical Vatican?" *The New Yorker* 10.7. Available at <https://www.newyorker.com/news/news-desk/a-visit-to-the-vatican>, accessed 10.10.2017.
- Lehtonen, A. (2015). "Calls for Creative Collaboration: How Can Drama Provide Creative and Collaborative Learning Methods for Climate Change Education?" *Nordisk Dramapedagogisk Tidskrift* 52, 34–37.
- Lehtonen, Anna, Cantell, Hannele & Arto O. Salonen. 2018 (forthcoming). "Climate Change Education in the Era of Anthropocene." In *Learning at the Edge of History*, edited by Jenna Lähdemäki & Justin Cook. London: Palgrave Macmillan.
- Lertzman, Renée Aron. 2013. "The Myth of Apathy: Psychoanalytic Explorations of Environmental Subjectivity." In *Engaging with Climate Change: Psychoanalytic and Interdisciplinary Perspectives*, edited by Sally Weintrobe, 117-33. London and New York: Routledge.

- \_\_\_\_\_. 2015. *Environmental Melancholia: Psychoanalytic Dimensions of Engagement*. Hove and New York: Routledge.
- Lifton, Robert Jay. 2014. "Mind and Habitat: Nuclear and Climate Threats, and the Possibility of Hope." *Bulletin of the Atomic Scientists* (16th April). <http://thebulletin.org/mind-and-habitat-nuclear-and-climate-threats-and-possibility-hope7051#skip-link>, accessed 10.10.2017.
- \_\_\_\_\_. 2017. *Climate Swerve: Reflections on Mind, Hope, and Survival*. New York: The New Press.
- Macy, Joanna. 1983. *Despair and Personal Power in the Nuclear Age*. New Society Publishers: Philadelphia.
- Macy, Joanna & Chris Johnstone. 2012. *Active Hope: How to Face the Mess We're in without Going Crazy*. Novato: New World Library.
- Mallett, Robyn K. 2012. "Eco-Guilt Motivates Eco-Friendly Behavior." *Ecopsychology* 4: 223-31.
- Marshall, George. 2015. *Don't Even Think about it: Why our Brains are Wired to Ignore Climate Change*. New York: Bloomsbury Publishing USA.
- McIntosh, Alistair. 2008. *Hell and High Water: Climate Change, Hope and the Human Condition*. Edinburgh: Birlinn.
- Moser, Susanne C. 2007. "More bad news: the risk of neglecting emotional responses to climate change information." In *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, edited by Susanne C. Moser and Lisa Dilling, 64–80. Cambridge: Cambridge University Press.

- . 2013. “Navigating the political and emotional terrain of adaptation: Community engagement when climate change comes home.” In *Successful adaptation to climate change: Linking science and policy in a rapidly changing world*, edited by Susan C. Moser and M. T. Boykoff, 289–305. New York: Routledge.
- . 2015. “Whither the heart(-to-heart)? Prospects for a humanistic turn in environmental communication as the world changes darkly.” In *The Routledge Handbook on Environment and Communication*, edited by Anders Hansen and Robert Cox, 402–13. London: Routledge.
- Nicholsen, Shierry Weber. 2002. *The Love of Nature and the End of the World: The Unspoken Dimensions of Environmental Concern*. Cambridge: MIT Press.
- Norgaard, Kari Marie. 2011. *Living in Denial: Climate Change, Emotions, and Everyday Life*. Cambridge: MIT Press.
- Orr, David W. 2009. *Down to the Wire: Confronting Climate Collapse*. Oxford: Oxford University Press.
- Paidas, Stephanie M. 2011. "Psychologies of the Environment: Searching for Themes in the Literature." *Ecopsychology* 3: 125-138.
- Peters, Karl E. 2002. *Dancing with the Sacred: Evolution, Ecology, and God*. Harrisburg: Trinity Press International.
- Peterson, Anna. 2015. "Climate Change and the Right to Hope." *Tikkun* 30: 42-3.
- Pihkala, Panu. 2016a. “The Pastoral Challenge of the Eco-Reformation: Environmental Anxiety and Lutheran ‘Eco-Reformation’.” *Dialog: A Journal of Theology* 55: 131-40.

- . 2016b. "Recognition and Ecological Theology." *Open Theology* 2: 938–50. Available at <https://www.degruyter.com/view/j/opth.2016.2.issue-1/opth-2016-0071/opth-2016-0071.xml>
- . 2016c. "Rediscovery of Early Twentieth-Century Ecotheology." *Open Theology* 2: 268–85. Available at <https://www.degruyter.com/view/j/opth.2016.2.issue-1/opth-2016-0023/opth-2016-0023.xml>
- . 2017a. "Environmental Education After Sustainability: Hope in the Midst of Tragedy." *Global Discourse* 7, 109–27.
- . 2017b. *Päin helvettiä? Ympäristöahdistus ja toivo* ["Eco-anxiety and Hope"]. Helsinki: Kirjapaja.
- . 2017c. *Early Ecotheology and Joseph Sittler*. Series on Religion and the Environment 12. Zürich: LIT Verlag.
- . 2018 (forthcoming). "The role of faith communities in alleviating eco-anxiety." In the book resulting from the "Faith Communities and Environmental Activism" Conference in Edinburgh, Scotland, May 2017.
- Pipher, Mary. 2013. *The Green Boat: Reviving Ourselves in our Capsized Culture*. New York: Riverhead Books.
- Pyszczynski, Tom, Jeff Greenberg, and Sheldon Solomon. 1999. "A Dual-Process Model of Defense Against Conscious and Unconscious Death-Related Thoughts: An Extension of Terror Management Theory." *Psychological Review* 106: 835–45.
- Ramsay, Tamasin and Lenore Manderson. 2011. "Resilience, Spirituality and Posttraumatic Growth: Reshaping the Effects of Climate Change." In *Climate Change and Human*

- Well-being: Global Challenges and Opportunities*, edited by Inka Weissbecker, 165-84.  
New York: Springer.
- Randall, Rosemary. 2013. "Great Expectations: The Psychodynamics of Ecological Debt." In *Engaging with Climate Change: Psychoanalytic and Interdisciplinary Perspectives*, ed Sally Weintrobe, 87-102. London and New York: Routledge.
- . 2009. "Loss and Climate Change: The Cost of Parallel Narratives." *Ecopsychology* 1: 118-129.
- . 2005. "A New Climate for Psychotherapy?" *Psychotherapy and Politics International* 3, 165–79.
- Randall, Rosemary and Andy Brown. 2015. *In Time for Tomorrow: The Carbon Conversations Handbook*. Stirling: The Surefoot Effect.
- Reser, Joseph P., and Janet K. Swim. 2011. "Adapting to and Coping with the Threat and Impacts of Climate Change." *American Psychologist* 66: 277-89.
- Rossing, Barbara. 2007. *The Rapture Exposed: The Message of Hope in the Book of Revelation*. New York: Basic Books.
- Saler, Robert C. 2010. "Creativity in Earthkeeping: The Contribution of Joseph Sittler's *The Structure of Christian Ethics* to Ecological Theology." *Currents in Theology and Mission* 37: 126-135.
- Searles, Harold. 1972. "Unconscious Processes in Relation to the Environmental Crisis." *Psychoanalytic Review* 59: 361-74.
- Siperstein, Stephen, Shane Hall, and Stephanie LeMenager, eds. 2017. *Teaching Climate Change in the Humanities*. London & New York: Routledge.

- Sittler, Joseph A. 2000. *Evocations of Grace: Writings on Ecology, Theology, and Ethics by Joseph Sittler*. Edited by Peter W. Bakken and Steven C. Bouma-Prediger. Grand Rapids: Eerdmans.
- . [1975] 2000. "Nature and Grace in Romans 8." in *Evocations of Grace: Writings on Ecology, Theology, and Ethics by Joseph Sittler*, edited by Peter W. Bakken and Steven C. Bouma-Prediger, 207–22. Grand Rapids: Eerdmans.
- . [1970] 2000. "Ecological Commitment as Theological Responsibility." *Zygon: Journal of Religion and Science* 5: 172-81. Republished in *Evocations of Grace: Writings on Ecology, Theology, and Ethics by Joseph Sittler*, edited by Peter W. Bakken and Steven C. Bouma-Prediger, 76–86. Grand Rapids: Eerdmans.
- . [1958] 1998. *The Structure of Christian Ethics*. Louisville: Westminster John Knox Press.
- Skrimshire, Stefan. 2014. "Climate Change and Apocalyptic Faith." *WIREs Clim Change* 5:233–246.
- Skrimshire, Stefan, ed. (2010). *Future Ethics: Climate Change and Apocalyptic Imagination*. London: Bloomsbury Publishing.
- Solnit, Rebecca. 2016. "'Hope Is an Embrace of the Unknown': Rebecca Solnit on Living in Dark Times." *The Guardian* 15.7. Available at <https://www.theguardian.com/books/2016/jul/15/rebecca-solnit-hope-in-the-dark-new-essay-embrace-unknown>, accessed 10.10.2017.
- Stoknes, Per Espen. 2015. *What we Think about when we Try Not to Think about Global Warming: Toward a New Psychology of Climate Action*. White River Junction: Chelsea Green Publishing.

- Stone, Jerome A. 2004. "Philip Hefner and the modernist/postmodernist Divide." *Zygon* 39: 755-772.
- Stückelberger, Christoph. 2009. "Who dies first? Who is Sacrificed First? Ethical Aspects of Climate Justice." In *God, Creation and Climate Change: Spiritual and Ethical Perspectives*, edited by Karen Bloomquist, 47-62. Minneapolis: Lutheran University Press.
- The Tbilisi Declaration. 1977. The World's First Intergovernmental Conference on Environmental Education. UNESCO and UNEP.
- Tillich, Paul. 1952. *Courage to Be*. New Haven: Yale University Press.
- . 1963. "Man and Earth." In *The Eternal Now: Sermons*, 54-64. London: SCM Press.
- . 1965. "The Right to Hope." *Neue Zeitschrift Für Systematische Theologie Und Religionsphilosophie* 7: 371-77.
- Toh, Swee-Hin and Virginia Floresca Cawagas. 2010. "Transforming the Ecological Crisis: Challenges for Faith and Interfaith Education in Interesting Times." In *Education and Climate Change. Living and Learning in Interesting Times*, edited by Fumiyo Kagawa and David Selby, 175-96. London and New York: Routledge.
- Tracy, David. 1981. *The Analogical Imagination: Christian Theology and the Culture of Pluralism*. London: SCM Press.
- Tucker, Mary Evelyn. 2015. "Can Science and Religion Respond to Climate Change?" *Zygon* 50: 949–961.
- Turner, Victor. 1982. *From Ritual to Theatre: The Human Seriousness of Play*. New York: PAJ Publ.

- Wallace, Jennifer. 2007. *The Cambridge Introduction to Tragedy*. Cambridge: Cambridge University Press.
- Weintrobe, Sally. 2013. "The Difficult Problem of Anxiety in Thinking about Climate Change." In *Engaging with Climate Change: Psychoanalytic and Interdisciplinary Perspectives*, edited by Sally Weintrobe, 33-47. London and New York: Routledge.
- White, Carol Wayne. 2018. "Re-Envisioning Hope: Anthropogenic Climate Change, Learned Ignorance, & Religious Naturalism." *Zygon: Journal of Religion and Science* 53:
- Whyte, Kyle P. 2017. 2017. "Is It Colonial Deja Vu? Indigenous Peoples and Climate Injustice." In *Humanities for the Environment: Integrating Knowledges, Forging New Constellations of Practice*, edited by J. Adamson, M. Davis, and H. Huang, 88-104. London & New York: Earthscan.
- Williams, Daniel Day. 1949. *God's Grace and Man's Hope*. New York: Harper and Brothers.
- Winograd, Ken, ed. 2016. *Education in Times of Environmental Crises: Teaching Children to be Agents of Change*. New York: Routledge.
- Zerubavel, Eviatar. 2006. *The Elephant in the Room: Silence and Denial in Everyday Life*. Oxford: Oxford University Press.
- Zeyer, A and Elin Kelsey. 2013. "Environmental Education in a Cultural Context." In *International Handbook of Research on Environmental Education*, edited by Robert B. Stevenson, Michael Brody, Justin Dillon, and Arjen E. J. Wals, 206–212. New York: Routledge.
- Zizek, Slavoj. 2010. *Living in the End Times*. London & New York: Verso.



**Author's Note to bottom of first page.**

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