

CLIMATE TRAUMA

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The mental health effects of climate change have attracted a lot of attention in recent years as the threats posed by a warming world are becoming harder and harder to ignore. The growing frequency and severity of extreme weather events around the world have helped make the somewhat abstract concept of climate change tangible in people's minds. After all, one can experience devastating hurricanes, destructive floods, prolonged droughts or intensified wildfires, but not gradually rising global temperatures. Not only is the dire impact of global warming on the planet becoming increasingly clear, even at just 1 degree Celsius above pre-industrial levels, but scientists' warnings about what is in store are also becoming more and more alarming. Combined with the increasing visibility of climate change, bleak scientific reports such as the one issued by the UN's Intergovernmental Panel on Climate Change (IPCC) in October 2018 are taking a toll on people's mental well-being.

A Yale and George Mason survey taken in December 2018 documents "a continued upward trend in Americans' concern about global warming": 69% of the American population are at least "somewhat worried" about global warming, and 29% are "very worried" about it – which is the highest level since the surveys began in 2008 (Leiserowitz et al. 2018: 3). According to a 2012 report from the National Wildlife Federation, "[a]n estimated 200 million Americans will be exposed to serious psychological distress from climate related events and incidents" (Coyle and Van Susteren 2012: v). A 2017 report sponsored by the American Psychological Association and ecoAmerica finds that climate change produces both acute mental health impacts, such as "increases in trauma and shock, post-traumatic stress disorder (PTSD), compounded stress, anxiety, substance abuse, and depression", and chronic ones, including "higher rates of aggression and violence, more mental health emergencies, an increased sense of helplessness, hopelessness, or fatalism, and intense feelings of loss" (Clayton et al. 2017: 7).

Groups facing particularly high mental health risks include climate scientists and activists, who spend their days immersed in depressing information and often confront apathy, denial and hostility. A number of articles in the popular press have brought attention to these groups' psychological plight. One prominent example is an article in *Esquire* profiling the glaciologist Jason Box after he had tweeted his alarm – "we're f*cked" – at learning that methane plumes were escaping from the sea-floor in the Arctic ocean (Richardson 2015). Another well-known case is that of the biologist and IPCC contributor Camille Parmesan,

who announced that she had become “professionally depressed” as a result of her research on climate change (Thomas 2014). The meteorologist and journalist Eric Holthaus also drew attention when he posted a series of tweets venting his feelings of grief and despair about environmental destruction (Oberhaus 2017). A website titled “Is This How You Feel?” gathers together hand-written letters from dozens of climate scientists describing how they are being psychologically or emotionally affected by their work (Duggan 2014). Most of these letters are dominated by feelings of anger, frustration, anxiety, guilt and despair.

A new vocabulary for environmentally induced distress

The filmmaker and activist Gillian Caldwell, for her part, has used the language of trauma to describe the emotional demands involved in getting her country to act on climate change. In a blog post titled “Coming Out of the Closet: My Climate Trauma (and Yours?)”, she stated:

I believe that I and many other people around the world are suffering from “Climate Trauma”. It’s my own term. I am not a mental health professional, but I can identify plain as day the symptoms I recognize in myself and in my colleagues traumatized by our work to tackle climate change.

(Caldwell 2009)

In fact, a fair amount of new terminology has been invented lately to name and communicate emotionally induced distress, which is unsurprising, perhaps, given the ever-accelerating increase in pace, scope and severity of environmental degradation. The last few years have seen the emergence of a culturally resonant repertoire of new coinages such as solastalgia, ecological grief, ecosickness, Anthropocene disorder and pre-traumatic stress disorder.

The oldest and most influential of these concepts is solastalgia, which was coined by the Australian philosopher Glenn Albrecht to describe a specific kind of homesickness felt at home. Albrecht developed the concept – a portmanteau of “solace” and “nostalgia” – around the turn of the millennium to refer to the psychological effects of extensive open-cut coal mining on the residents of the Upper Hunter Region of New South Wales, Australia. As opposed to nostalgia – the homesickness experienced by people when separated from a loved home – solastalgia is the distress produced by negative environmental change impacting on individuals while they are directly connected to their home environment. It is the loss of comfort, or “solace”, when one’s home is transformed by external forces – both naturally occurring and human-induced events and processes – mostly or completely beyond one’s control into something that is barely recognizable to its inhabitants. An evocative word first introduced in 2004 in the journal *EcoHealth* (Connor et al. 2004), solastalgia has brought Albrecht renown, led to an article in the *New York Times Magazine* (Smith 2010), been included in medical journal *The Lancet’s* 2015 “Health and Climate Change” report (Watts et al. 2015), and become the subject of various artistic projects, ranging from visual artworks to music, poetry and street theatre. Solastalgia perfectly encapsulates the feeling Zadie Smith seeks to put into words in her essay “Elegy for a Country’s Seasons” (2014), in which she bewails the loss of her familiar home environment in England due to subtle changes in the natural world around her caused by climate change.

In an article in *Nature Climate Change* that, like Albrecht’s coinage, also resonated with many people, Ashlee Cunsolo and Neville Ellis introduce the term “ecological grief” to denote “the grief felt in relation to experienced or anticipated ecological losses, including the loss of species, ecosystems and meaningful landscapes due to acute or chronic

environmental change” (2018: 275). They describe ecological grief as “a natural response to ecological losses [...] and one that has the potential to be felt more strongly and by a growing number of people as we move deeper into the Anthropocene [the new geological epoch defined by human impact]” (275). Heather Houser’s related concept of ecosickness refers to the interdependence between environmental change and human sickness, which Houser traces across a range of contemporary American novels and memoirs – constituting the emergent literary mode of “ecosickness fiction” – that “join experiences of ecological and somatic damage through narrative affect” in order to move readers towards environmental awareness (2014: 2).

Timothy Clark proposes the term “Anthropocene disorder” to describe a psychological affliction that emerges from the realization of a destructive incongruity between the human scale of daily life and the vast spatio-temporal scales of the Anthropocene. A “state of mind likely to become more widespread as the biosphere continues to degrade”, Anthropocene disorder names

a new kind of psychic disorder, inherent in the mismatch between familiar day-to-day perception and the sneering voice of even a minimal ecological understanding or awareness of scale effects; and in the gap between the human sense of time and slow-motion catastrophe and, finally, in a sense of disjunction between the destructive processes at issue and the adequacy of the arguments and measures being urged to address them.

(Clark 2015: 140)

This disorienting loss of a sense of proportion leads to feelings of “rage and even despair” as well as an awareness that such reactions are regarded as “disproportionate and imbalanced” by mainstream society (140). Anthropocene disorder “seems always ready to break out”, according to Clark, as we struggle with the human epoch’s “unique dilemma” that “one needs to think in contained ways that one knows, at the same time, to be insufficient or even perhaps as yet unrecognized forms of denial” (171).

The trauma of the future

Amidst this new vocabulary for mental anguish caused by environmental change, one term stands out as having attracted the attention of prominent scholars in the field of cultural trauma research: pre-traumatic stress disorder. The term was allegedly coined by Lise Van Susteren, a psychiatrist who specializes in the psychological effects of climate change. In an interview, she describes the condition as follows:

much of traumatic stress disorder is how we imagine things are going to be [...] we have in our minds images of the future that reflect what scientists are telling us; images of people and animals suffering because of dumb choices we’re making today. I would say it’s an entirely legitimate condition – accompanied by a non-stop, gnawing sense that more needs to be done.

(Van Susteren, quoted in Myers 2017)

However, the first recorded use of the term “pre-traumatic stress disorder” appears to be in a 2006 article on the satirical news website *The Onion*, which notes a rise in “pre-traumatic

stress disorder” among US military service personnel (“Report” 2006). A fictitious Walter Reed Army Hospital psychologist interviewed about this “future-combat-related” psychological condition is quoted as saying that they are seeing more victims experiencing “flash-forwards” of roadside bombings and rocket attacks or repeatedly “preliv[ing]” landmine explosions and mortar shellings wounding or killing innocent civilians, fellow soldiers or themselves. These soldiers are haunted not by traumatic memories of past events but by their own projections of events that they expect to experience or witness during their deployment to Afghanistan or Iraq. The article ends by pointing out that, according to unnamed researchers, it is not only members of the armed forces who are at risk for “Pre-TSD” but also other groups, including “parents of children approaching military age, Iraqi citizens, and any person who watches more than three hours of television news per day” (“Report” 2006).

In an instance of science imitating satire, a scholarly article published in 2015 in *Clinical Psychological Science* provided evidence for the actual existence of the condition identified by *The Onion*. Citing the *Onion* piece, Dorte Berntsen and David Rubin point out that “concern for future negative events is to be expected” (2015: 663) given post-traumatic stress disorder’s status as an anxiety disorder. They contend that pre-traumatic stress reactions such as intrusive images of and nightmares about negative future events, avoidance behaviour and increased arousal to stimuli associated with the events are “a real aspect of the phenomenology of PTSD” (663) – a central aspect even, which, however, has so far been largely overlooked. Presenting data from Danish soldiers who saw active service in Afghanistan, Berntsen and Rubin demonstrate that pre-traumatic stress exists and that it reliably predicts PTSD symptoms during and after deployment: past-related PTSD symptoms are found to be mirrored by similar future-related PTSD symptoms. Their findings suggest that the prevailing understanding of PTSD as a disorder primarily related to the past needs to be revised, as “intrusive images and dreams of future events and associated avoidance and increased arousal are experienced to the same extent as reexperiencing, avoidance, and increased arousal associated with past events” (672). According to Berntsen and Rubin, then, pre-traumatic stress does not constitute a separate, new diagnostic category that should get its own entry in the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders* (DSM); rather, they argue for a more expansive understanding of PTSD that would explicitly include pre-traumatic stress reactions. While Berntsen and Rubin focus on combat-related trauma, they leave open the possibility that other kinds of stressors may produce similar effects. Indeed, at the end of their study they write that

[f]uture research should examine whether it [the pre-traumatic stress reactions checklist they created to measure soldiers’ pre-traumatic responses] also may be used as a screening instrument in relation to nonmilitary traumatic events as well as other subjectively stressful events, such as exams, medical procedures, or childbirth.

(Berntsen and Rubin 2015: 671)

Paul Saint-Amour, the author of the first-full length treatment of pre-traumatic stress by a cultural critic, similarly discusses the notion initially in the context of military violence but later suggests that it could also apply to other phenomena. In *Tense Future: Modernism, Total War, Encyclopedic Form* (2015a), Saint-Amour calls for a re-orientation of trauma studies from the past to the future. As he points out, the field lacks “an account of the traumatizing power of anticipation” (Saint-Amour 2015a: 17). Due to trauma studies’ dependence on a “largely psychoanalytic chronology” (13), the notion of a pre-traumatic syndrome is “practically nonsensical” as the symptoms of trauma and the syndrome they constitute are

“emphatically and exclusively *post*-traumatic” (14). While not oblivious to the future altogether, the field tends to construct it as “a container for the repetition of past traumas” rather than as “a vector or agent of traumatization” (14, n. 17). According to Saint-Amour, it is time for trauma studies to take seriously the suggestion that the dread of a potentially oncoming disaster can traumatize as much as an actually realized one. *Tense Future* is primarily concerned with the prospect of total war in the literature from the interwar period. Saint-Amour argues that the years 1918–39 were characterized by a pervasive sense of anxious anticipation and were thus experienced “in real time as an interwar period” (8). In the wake of the First World War, the dread of an even more devastating future conflagration saturated the imagination, as evidenced by the cultural production of those years: canonical works of modernist fiction such as James Joyce’s *Ulysses* (1922) and Ford Madox Ford’s *Parade’s End* (1924–28) are reinterpreted as meditations on impending disaster. While focusing on the interwar period, Saint-Amour expands the scope of his inquiry to encompass the Cold War and even our own early-twenty-first-century moment, going so far as to characterize late modernity in its entirety as “perpetual interwar” (Saint-Amour 2015a: 305). After all, the experience of simultaneously remembering and expecting war is not unique to the historical interwar period but all too familiar also to those afflicted with anxiety about the prospect of nuclear annihilation or drone strikes. Indeed, Sarah Sentilles has coined the term “anticipatory traumatic stress disorder” to denote “the ‘anticipatory anxiety’ that results from the constant worry and fear of never knowing when the next drone attack will come” (Sentilles 2017: 300, n. 215). In a *New York Times* essay that covers some of the same ground as his book, Saint-Amour further specifies that “war has no monopoly on traumatizing anticipation” (2015b). He points out that other “storms in our future”, such as climate change, can also inflict psychic wounds.

The hypothesis that the dread of climate change amounts to a pre-traumatic stress syndrome is central to another major recent work of cultural scholarship, E. Ann Kaplan’s *Climate Trauma: Foreseeing the Future in Dystopian Film and Fiction* (2016). If the more familiar PTSD is “a condition triggered in the present by past events”, pre-trauma, according to Kaplan, describes how “people unconsciously suffer from an immobilizing anticipatory anxiety about the future” (2016: xix). Like Berntsen and Rubin and Saint-Amour before her, she notes that this phenomenon has been little studied so far, despite its increasing prevalence, and ventures that conceptualizing pre-traumatic stress syndrome or “PreTSS” offers “a new lens for an expanded trauma theory” (4). Taking a shorter historical view than Saint-Amour, Kaplan posits that we may now be entering a new era characterized by pervasive pre-trauma, in which people live in fear of a catastrophic future marked by environmental crisis. In the absence – as yet – of sound empirical evidence, it is unclear whether this collective anticipatory anxiety does indeed amount to trauma in the clinical sense, which is why it seems safer to label climate-related PreTSS a hypothesis for now. In this post-9/11 era, media of all kinds bombard us with “catastrophic futurist scenarios”, inviting audiences to project themselves forward into a devastated future world (xix). According to Kaplan, this results in “a pretraumatized population, living with a sense of an uncertain future and an unreliable natural environment” (xix). She expresses the hope that, rather than paralysing audiences, these dystopian scenarios will serve as a warning and wake-up call to help prevent the apocalyptic outcomes depicted. There is thus an explicit ethical dimension to Kaplan’s project of analysing dystopian fictions. Just as in art about past catastrophes such as the Holocaust we witness what must never happen again, she argues in an earlier article, in pre-trauma fictions we witness what must be stopped from happening in the first place (Kaplan 2013: 59).

Kaplan examines a wide range of futurist disaster narratives allegedly inducing pre-traumatic stress, both cinematic and literary ones. Her prime example, though, is *Take Shelter*, a feature film written and directed by Jeff Nichols and released in 2011 that “embodie[s] exactly” the phenomenon she is theorizing (Kaplan 2016: 2). Set in small-town Ohio, the film tells the story of a family man and construction worker, Curtis LaForche, who is plagued by a series of apocalyptic nightmares and visions. These take the form of thunderstorms, twisters, flash floods, motor-oil-like rain, swarms of menacing birds and attacks by the family dog and zombie-like strangers as well as people close to him. They can be interpreted as relating to pervasive fears about the threat of terrorism, economic precarity, the implosion of the American dream and – most literally and obviously – environmental devastation caused by climate change. Indeed, they prefigure the extreme and erratic weather conditions of the climate-changed future in store for us if not already upon us, such as severe hurricanes, torrential downpours and massive floods, as well as hinting at the collapse of human civilization that climate change could bring about (with society overrun by zombies). Curtis’s work and family life are thrown into turmoil and his sanity is called into question as a result of these unsettling premonitions of catastrophic climate change. At a community dinner, he gets into a fight with a former co-worker and unleashes a verbal tirade on everyone present, in which he announces that a devastating storm is coming for which none of them are prepared. His prophecy is apparently borne out in the film’s epilogue, where an actual end-of-the-world storm is seen gathering over the ocean, not only by Curtis this time but also by his wife and daughter. Steeped in an inexorable air of dread and foreboding, *Take Shelter*, for Kaplan, perfectly captures “the psychic state of a human being who is traumatized by imagining future climate catastrophe” (53–4). Another, more recent film showcasing this kind of anticipatory anxiety is Paul Schrader’s *First Reformed* (2017), which likewise features a leading character (as well as another key character) overwhelmed with dread about climate change. It is worth observing that the victims of PreTSS in these fictional examples are all white Western males, which raises the question of how race, gender and geopolitical location factor into this (as yet scientifically unvalidated) diagnosis.

Trauma beyond the human

Moreover, the expanded trauma theory called for by scholars such as Saint-Amour and Kaplan, which would be future- as well as past-oriented, remains wedded to the idea that trauma is an essentially human experience. That trauma theory has tended to espouse an anthropocentric worldview can be illustrated with reference to the story of Tancred and Clorinda, an episode from Torquato Tasso’s sixteenth-century epic poem *Gerusalemme Liberata* (*Jerusalem Delivered*, 1581) whose interpretations by Sigmund Freud and Cathy Caruth have attracted considerable interest within the field of humanistic trauma scholarship, making it a focal point for the articulation of trauma theory as well as for critiques that have been directed against it. In *Beyond the Pleasure Principle* (1920), Freud describes the story as follows:

Its hero, Tancred, unwittingly kills his beloved Clorinda in a duel while she is disguised in the armour of an enemy knight. After her burial he makes his way into a strange magic forest which strikes the Crusaders’ army with terror. He slashes with his sword at a tall tree; but blood streams from the cut and the voice of

Clorinda, whose soul is imprisoned in the tree, is heard complaining that he has wounded his beloved once again.

(Freud, quoted in Caruth 1996: 2)

While Freud interprets Tancred's unknowing wounding of his beloved, not just once but twice, as an example of the repetition compulsion inherent in trauma, Caruth draws attention to "the moving and sorrowful *voice* that cries out, a voice that is paradoxically released *through the wound*" (2). For Caruth, Tancred's story represents traumatic experience as "the enigma of the otherness of a human voice that cries out from the wound" (3). Many critics have expressed reservations about the ways in which Caruth's analysis shifts the focus from the Ethiopian princess Clorinda's wound to the white European crusader Tancred's suffering, mostly to do with perceived Eurocentric bias and the blurring of boundaries between perpetrator and victim (Leys 2000; Novak 2008; Rothberg 2009; Craps 2013). However, another aspect of this story and its interpretations by Freud and Caruth that has not yet been remarked upon is the anthropocentrism that underlies and unites these various accounts. Indeed, what Tasso's text and Freud's and Caruth's readings of it, as well as the critiques levelled at Caruth, have in common is the interpretation of harm to the natural world (a cut in a tree) in terms of violence and trauma inflicted on and suffered by humans (Clorinda and Tancred). The poem and its various readers are quick to trope away from environmental destruction, turning it into an image for human suffering. In thus derealizing and invisibilizing the scene of literal damage to a tree, this rhetorical operation is a manifestation of what has been called "plant blindness"; that is, "the inability to see or notice the plants in one's own environment" (Wandersee and Schussler 2001: 3). Tellingly, in the afterword to the twentieth-anniversary edition of *Unclaimed Experience: Trauma, Narrative, and History* (1996), where Caruth elaborates at great length on her reading of the Tancred and Clorinda story in *Gerusalemme Liberata* in an attempt to prove her critics wrong, "the issue of what happens to trees in the poem" is relegated to a footnote (2016: 179, n. 22).

However, we are also beginning to see attempts to reconceptualize trauma in non-anthropocentric terms and to acknowledge the interconnectedness and entanglement of human and non-human traumas. One example of this post-humanist turn is the notion of eco-trauma put forward by Anil Narine in the edited collection *Eco-Trauma Cinema* (2015). In the introduction to the book, Narine defines eco-trauma as

the harm we, as humans, inflict upon our natural surroundings, or the injuries we sustain from nature in its unforgiving iterations. The term encompasses both circumstances because these seemingly distinct instances of ecological harm are often related and even symbiotic: The traumas we perpetuate in an ecosystem through pollution and unsustainable resource management inevitably return to harm us.

(Narine 2015: 9)

According to Narine, "[n]ature [...] sustains and endures trauma as a human victim would", and, in turn, "a traumatized earth begets traumatized people" (13). Deploying and elaborating Nick Land's post-psychoanalytic notion of geotrauma (2011), scholars including Reza Negarestani (2011), Robin Mackay (2012) and Tim Matts and Aidan Tynan (2012) similarly insist on the need to extend trauma beyond the human and even the living to encompass the inorganic domain. According to Negarestani, "trauma should be understood not as what is experienced but as a form of cut made by the real or the absolute in its own unified

order” (2011: 53, n. 3). To liberate trauma theory from its anthropocentrism and biocentrism, he suggests, we need “a generalized conception of trauma”: “a cosmologically deepened account of trauma [...] that interconnects the particulate, the galactic, the stellar, the chemical, the biological, the socio-cultural and the neuropsychological within a continuous – albeit topologically counterintuitive – universal gradient” (26). In this account, which extends psychological trauma towards geology and cosmology, traumas are recursively “nested” within one another: “Since there is no single or isolated psychic trauma (all traumas are nested), there is no psychic trauma without an organic trauma and no organic trauma without a terrestrial trauma that in turn is deepened into open cosmic vistas” (Negarestani, quoted in Matts and Tynan 2012: 157). According to Matts and Tynan, geo-trauma can help us conceptualize “a materialism of suffering which is beyond the psychic domain, and which is profoundly *unnaturalizable* as an element of psychic interiority” (160).

Calls to rethink trauma from a broader conception of life or even inanimate matter, to give it a new materialist or post-humanist extension, challenge trauma studies to move beyond human exceptionalism and exemptionalism. As Ashlee Cunsolo and Karen Landman argue, it is vital to “disrupt the dominance of human bodies as the only mournable subjects” and to expand the realm of the grievable (2017: 16). Mourning ecological losses also involves reckoning with our complicity in environmental degradation – indeed, we are often implicated in these processes, if only by virtue of being inhabitants of the Anthropocene (Cunsolo and Landman 2017: 16; Rothberg 2014: xvi). While environmental issues in general and climate change in particular have so far received relatively little attention from trauma scholars, in the years ahead we can expect to see the field make significant strides in its engagement with our environmental predicament, if for no other reason than that ignoring that already grave predicament will become all but impossible as it continues to deteriorate.

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Further reading

- Albrecht, G. (2019) *Earth Emotions: New Words for a New World*, Ithaca: Cornell University Press. (Explains the author's concept of solastalgia as well as various other eco-emotions he has named, both negative and positive ones.)
- Cunsolo, A. and Landman, K. (eds) (2017) *Mourning Nature: Hope at the Heart of Ecological Loss and Grief*, Montreal and Kingston: McGill-Queen's University Press. (A pioneering collection of essays on mourning beyond the human.)
- Kaplan, E. A. (2016) *Climate Trauma: Foreseeing the Future in Dystopian Film and Fiction*, New Brunswick, NJ: Rutgers University Press. (An extensive treatment of the pre-traumatic stress disorder hypothesis in relation to climate change via film and literature.)