Climate Dialectics in Psychotherapy: Holding Open the Space Between Abyss and Advance

Janet L. Lewis, Elizabeth Haase, and Alexander Trope

Abstract: The complexity, uncertainty and charged nature of climate change make it a unique stressor that is irreconcilable at an individual level. This experience of impossibility leads to splitting of reactions into polarities, or dialectics, which must be contained to reduce climate distress and held open for generative use towards climate adaptation. We present a dynamic model for addressing climate change material within psychotherapy, wherein these climate dialectics are identified, explored, and held open. Clinical vignettes* illustrate therapeutic work with the particular climate dialectics of Climate Reality–Social Reality, Individual Agency–Collective Agency, Hope–Hopelessness, Certainty–Uncertainty, and Nature as Comfort–Nature as Threat. Situations of climate anxiety, solastalgia, disavowal, and the climate dismissive patient are addressed, as is the therapeutic use of the wordlessness that accompanies our relationship with the natural world. We explore and emphasize how a focus on the containment and transformation of climate anxiety, rather than on its reduction, assists in aligning with new realities and in the reduction of distress. Use of a developmental stage metaphor, attention to climate-specific countertransference enactments, and emphasis on authentic action are central to this process.

Keywords: climate change, dialectic, anxiety, eco-anxiety, psychotherapy

The dialectic, a tool for unearthing truth between opposing concepts, has both Eastern and Western roots (Gillon, 2016; Maybee, 2019). In psychotherapeutic contexts, a dialectical approach is applied whenever we name opposing parts that create inner conflict, allowing for

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an eventual integration of these parts within the larger psychic structure and thereby escaping destructive cycles of splitting or dissociation. While the unconscious functioning of dialectics can interfere with the capacity to absorb and think about all aspects of a difficult situation, their conscious exploration expands capacities for thought and feeling, fostering full engagement with reality. Here, we describe how recognizing and working with dialectics, paired with an emphasis on containment, is crucial to work with climate change in psychotherapy.

Climate change is characterized by its immense collective scale and its high degrees of temporal, geographical, social, and ecological uncertainty, features which are nonetheless punctuated by increasingly unmistakable climate-related events and disasters with manifest effects on individuals' daily lives. It has been described as a *hyperobject* (Morton, 2013), something that has vitality and cohesion, but is so distributed through space and time that its totality is unknowable and our ability to think about it is severely challenged.

"Climate anxiety" refers to a constellation of "psycho-terratic syndromes" describing connections between Earth's ecological strains and our human psychological responses, including solastalgia (the condition of being painfully nostalgic for the way the environment used to be (Albrecht, 2005; Albrecht et al., 2007)), shifting baseline syndrome (loss of memory for prior ecosystem and environmental conditions (Soga & Gaston, 2018)), pre-traumatic stress syndrome, analogous to that described in soldiers by Berntsen and Rubin (2015), referring to fears of impending trauma from climate disasters, climate grief (concepts of grief applied acceptance of climate upheaval (Cunsolo & Ellis, (2018)), and eco-anxiety (often used synonymously with climate anxiety, but suggesting a broader array of inciting factors). "Climate anxiety" thus refers to the large terrain of affective, cognitive, imaginal, and behavioral processes induced by contact with climate change themes, encompassing both emotional responses and inadequate coping reactions.

We believe that, though it is tied to this real and unprecedented form of global existential threat, climate anxiety arises from the elemental dynamic of splitting objects into conflicting or opposing parts due to an inability to properly contain their complexity and uncertainty. Collapsing thoughts and feelings about climate realities to one side or another of a split functions to hold cognitive dissonance at bay and allows for formulation of personal responses to a problem that is unsolvable at a personal level. The heightened polarizations that result are further magnified by intra-psychic defenses that maintain splitting—denial, projection, and introjection—leading to a "digging in" on one side or

another of a climate dialectic. This split is most famously enacted in the gulf between climate "doomsayers" and climate "dismissives."

The anxiety associated with climate change is based in real if uncertain threats. While psychically elaborated, it must be worked with differently than anxiety disorders, in which a threat is misperceived or exaggerated, and where the goal of treatment is to lessen the fear. We suggest that adaptive response to this anxiety includes transformation of fear into effective action, similar to other emergency responses. To pathologize anxiety related to climate change, even with the goal of lessening it in the short term through recognized anxiety-reduction techniques, is invalidating and participates in the denialism that has both worsened the climate traumas we now face and further stressed those motivated to courageous life-saving action.

THE IMPORTANCE OF THE DEVELOPMENTAL STAGE METAPHOR

Mental health professionals have cause to be as disoriented as others in confronting the realities of climate change. In our appreciation of climate change, it is easily argued that we are all in stages of emergence from disavowal, the defensive state wherein we both know and do not know (Weintrobe, 2013). However, we have understandings and skills that are pathways out of disorientation. Discussion of these dialectical concepts with colleagues can deepen necessary understandings.

Grappling with climate change is completely novel. The extent of the novelty and the demand for building psychological skills make working with climate change in therapy akin to working with a child entering a new developmental stage. We believe this analogy helps inspire the necessary attitude: acceptance of our clients and ourselves, our mutual uncertainty, and our co-evolving appreciation of local and global circumstances.

Bion's concept of containment (Bion, 1962) is applicable to consideration of early and ongoing development. Containment actively involves the psychology of the caregiver, in this case the therapist. Bion builds on Melanie Klein's understandings, describing that the caregiver takes in the projective identifications at play, actively metabolizes them, and willingly gives new things back, without being personally overwhelmed. Both container and contained "change in a manner usually described as growth" (Bion, 1962, p. 90). We are asserting here that the projections at play in climate discussion typically involve particular dialectics. Attention to countertransference, as with any subject

in therapy, can aid in their identification and uses. Given that climate material is experienced as irreconcilable at the level of the individual, projective identifications of aspects of climate response are ubiquitous, making attention to countertransference particularly useful and important. We refer to containment also in its larger sense, as those active engagements, cognitive frames, spiritual beliefs, and relationships that allow one to adaptively bear what can be difficult to bear.

Therapeutic techniques associated with responding to climate anxiety serve three functions. First, the therapist provides containment, particularly containment of dialectic extremes. Second, the therapist prevents traumatic dissociation or withdrawal, and the collapsing of thought onto one or the other side of any dialectic. Third, the therapist creates a space for creativity and transformation, including a space for things that cannot yet be felt, imagined, or verbalized. Holding open the space between dialectic poles can shine a light on underlying psychological processes, but might just as well be conceived, in the words of Bion, as "a penetrating beam of darkness" that allows even the faintest points of light to become distinct (Bion, 1990, p. 20).

In an age when planetary collapse is not just the speculation of sci-fi fiction or millenarian faith, the climate-informed therapist plays a critical role in preventing the collapse of thinking and communication abilities under the weight of unspeakable feelings of loss, anger, confusion, or apathy. This role helps to preserve a capacity to think under threatening and rapidly evolving conditions. In alignment with psychoanalytic ethics, psychic reality is prioritized, but not to the ultimate detriment of the patient. We offer the following climate dialectics as the poles that can keep our hearts and minds open and help us, as a healing profession, rise to the occasion.

## PARTICULAR CLIMATE DIALECTICS

We describe a method here whereby dialectics are identified, validated, and held open. To do this, the therapist recognizes a dialectic inherent in the anxiety the patient is describing and/or within their own countertransference. For example, the therapist may note their own hopelessness as a patient expresses a false hope. The therapist then opens the space to include the dialectic's opposing pole through personal reflection and interpretation that emphasizes "both/and": the coexistence of the poles and a large enough space to contain them both. The therapist de-stigmatizes this space by emphasizing the developmental position of both therapist and patient, implying a possibility of rapid growth through one's innate capabilities. This stance additionally

makes clear that the therapist does not have preexisting words and knowledge to solve or resolve the patient's distress, creating room for the patient's imaginative capacities to bear fruit.

We present here the five dialectics that we have found most salient and inclusive (see Figure 1). We have subsumed some other dialectics within these five. Because of climate change's complexity and charged nature, a multitude of other dialectics are discernible when climate disruption and related crises are broached in therapy.

1. Climate Reality and Social Reality

Vignette – The Activist. A climate activist is sitting across from a therapist who, while having called the patient's work "important," has in no way signaled an awareness of the particular seriousness and urgency of our climate situation. The therapist discusses ways that the patient might manage her anxiety but has not explored the patient's experience of doing climate-related work within a society that is not yet adequately acting on urgent climate information. The patient knows that the therapist lives in a house on low-lying waterfront and wonders
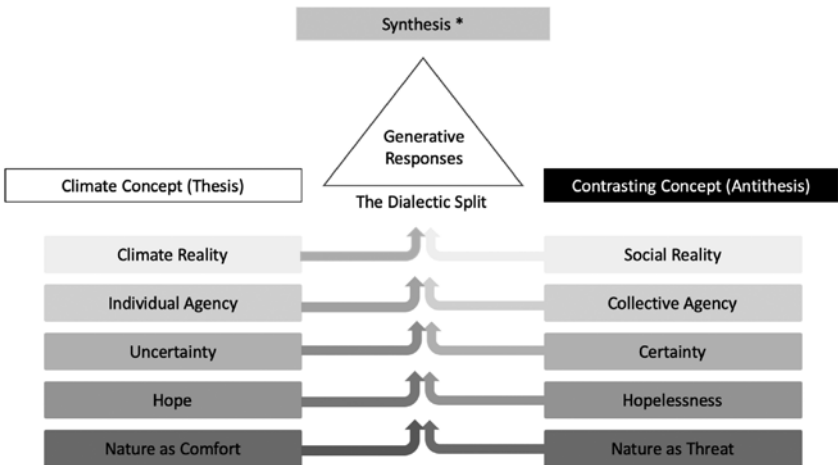
* Synthesis does not necessarily occur on a conceptual plane, as holding open the space between contrasting concepts often manifests as a matrix of generative responses (psychological, behavioral, interpersonal and ecological) that cannot be discursively delineated, yet are actively shaped and promoted by psychotherapy.

FIGURE 1. 5 Core Climate Dialectics for Climate-Informed Psychotherapy

vaguely whether she should protect the therapist from deeper aware-ness of the realities of climate change or raise the therapist's awareness about this vulnerability. The patient is feeling increasingly frustrated and hopeless about getting help for her own climate distress, so that she can continue her work without burning out or breaking down. She feels increasingly confused and incompetent over her inability to hold the social reality of the relationship with the therapist alongside her knowledge of climate reality.

When Freud introduced the reality principle, that the properly func-tioning ego mediates both internally and with the world such that the individual operates in consonance with reality, he did not anticipate the experience of anyone who takes climate change seriously: that of finding oneself living within two seemingly different realities. One is the disturbing reality of our urgent climate change situation, wherein the climate, upon which nearly all life on Earth depends, is being rap-idly heated, increasingly destabilized, and entering nonlinear tipping points, largely because of greenhouse gas emissions from human activ-ity, resulting in extreme weather patterns and other forms of disaster. Averting the most catastrophic scenarios requires rapid decarboniza-tion of our societies, development of methods of carbon capture, and preparation for future warming effects already "baked in" to the cli-mate system by previous emissions.

The second reality—our interpersonal, social, and cultural reality—involves typically slow-moving systems and norms in which we are all embedded, which often date to a time before awareness of climate change. These include our economic system, which is operating each year in an increasing ecological deficit (Borucke et al., 2013; Earth Over-shoot Day, n.d.).

Because of the coexistence of these two realities, one must cope simultaneously with knowledge of the greenhouse gas effect and eco-system destruction, and with the uncertainty of our social and cultural response to them. Without full-scale local and international agreement and engagement on climate solutions, individuals deal with cognitive dissonance between the felt experience of a need for rapid social trans-formation and a lived experience of its seeming impossibility.

Though there is a lack of adequate terminology for this experience, helpful precedents exist. This is the experience of anomie, first intro-duced by French sociologist Emile Durkheim in 1893 (Zhao & Cao, 2010), which refers to a disconnection between one's own ideals, and those reflected in the culture. Therapist awareness of these issues is cru-cial for effective work with patients. It is tempting for both patient and therapist to participate in what Charles Tart (1986) called "the consen-sus trance," the unconscious tendency to perpetuate social norms, now

understood to occur through attribution bias, motivated reasoning, and other cognitive biases.

Vignette – The Activist: Therapist Response. The above vignette could have several possible outcomes. Ideally, the therapist is able to explore the patient's discouragement, uncovering the patient's impression of the therapist's lack of climate awareness as well as their desire to "protect" the therapist. Similar to the management of any impasse (Hayes, Gelso, & Hummel, 2011), the therapist would reflect to herself and with colleagues about possible countertransference in its largest sense, including her own experience of climate change, without burdening the patient. Then the therapist would acknowledge with the patient any of her own contributions to the lack of discussion of a discomfiting topic, while focusing on the patient's experience. However, in a manner somewhat different than the usual management of countertransference issues, the therapist should be aware that, while the focus is on the patient's material, she is not true to this particular material without acknowledging and occupying a continuous understanding that climate change is our shared human dilemma. Here, a humanistic stance is most appropriate and honest. Humanistic therapy, which has a significant evidence base as described in the meta-analysis of Angus and colleagues (2014), includes an emphasis on authentic therapeutic relationship and "the constructive value of transforming struggle" (Bland and DeRobertis, 2017, p. 11). Its emphasis on "the person qua self as continually evolving" (p. 17) makes the humanistic perspective useful in reckoning with climate change, which as we have stated can be viewed as a developmental task akin to a child entering a new stage. This tradition offers a theoretical rationale for sharing one's own learning and development with the patient. This can be done without co-opting the therapy for the therapist's own climate goals, for example, in simply sharing, "Many of us are struggling with. . . ."

A humanistic stance broaches the larger context within which the dialectic of Climate Reality–Social Reality exists. In our good outcome scenario, the therapist is able to discuss with the patient how the patient's experience with the therapist is like the patient's experience in the world, being with the patient in the seemingly impossible space between climate reality and social reality, and naming the poles of the dialectic within which we all must live and work. Experiences of climate change are not only yours and mine; they are yours, mine, and ours.

An alternative, though less preferable, good outcome would be for the patient to find a more climate-aware therapist, rather than continue in a treatment where an important reality is neglected or denied.

2. Individual Agency and Collective Agency

Vignette – Childhood Trauma. A patient with PTSD from childhood abuse becomes extremely distressed by, and increasingly focuses on, environmental news. The patient remembers an oft-repeated mantra from her therapist: Unlike her childhood situation of helplessness, she is now able to make choices and take adult action. However, in imagining taking action against climate change, her sense of "small-ness" in the face of abuse is reinforced, evoking further distress. Any action she imagines taking feels inconsequential and incongruous to the scale of the problem. Imagining her complicity in environmental neglect is further distressing, as she experiences herself as the abuser of those more immediately affected by climate change. The therapist notices a desire to make the patient feel that her own actions are good enough in the face of such a big problem, and to discourage concern about feeling powerless. The therapist recognizes, however, that such "protection" would risk re-enacting the patient's experience of parental figures' ignoring abuse. Such a response might also reinforce dynamics of powerlessness, dissociation, and neglect that originated in the child-hood experience of being isolated with intolerable realities. Instead, the therapist affirms the size and complexity of climate change and edu-cates about the realities of complex systems and emergence, where both "wicked"ly difficult collectively created problems and the power of col-lective agency to address them can exist (Defries & Nagendra, 2017). She supports the patient in identifying community efforts where she may join with others and experience empowerment through collective activities and mass mobilization. Doing this necessarily involves ongo-ing work on tolerating frequent trauma-related feelings that arise for her in interpersonal situations, both with the therapist and within com-munity efforts, which the patient now has added motivation to address because they are relevant in personal, communal, and climate-related frames.

The dialectic of Individual Agency–Collective Agency often comes to the fore around issues of the perceived inadequacy of individual actions. Sometimes, this manifests in overt distress, as in the above vignette. Very often, it arises in complaints or seemingly dark-humored jokes about destructive cultural or societal patterns. In each of these cases, people experience themselves as somehow detached from, rather than interactive with, these collective forces, in a denial of the interde-pendence of individual and group will. The cognitive dissonance of this dialectic arises from knowing our individual material needs are at the core of transforming carbon usage, while understanding oneself to be only one of the roughly 1 billion citizens of the highly industrialized

countries requiring this change. At the same time, we are told to change these existing systems that structure nearly all basic features of our modern lifestyles and livelihoods. This makes us feel not only responsible at an individual level but also powerful and destructive. For those with childhood abuse histories, speaking truthfully about the abuse during their childhoods might have threatened family systems and attachments, giving these patients layered causes for anxiety in contemplating action, particularly individual action, within the analogously abusive situation of climate change.

A collapse into the individual agency pole of this dialectic at the expense of fully appreciating collective agency is common and is a cultural bias (Bandura, 2000). However, it produces dysfunctions. In the manic defense as described by Klein (1940), by becoming overcharged with one's individual agency, one can deny one's own vulnerability and fail to take self-protective action. One can end up trumpeting one's knowledge to others, rather than sharing vulnerability and creating community. One can be blinded by feeling powerful and miss seeing opportunities in areas where one is passive to change. One can avoid seeing how entrenched existing structures are and not prepare adequately to overcome real obstacles in the changing of them. And one can fail to appreciate that they are powerless to influence others unless they respect and hear them out. Creating space and appreciation for the complexity and power of our total human response to climate threats can be a starting point for a process of working with this complexity with others.

Vignette – Childhood Trauma: Therapist Response. The therapist's countertransference in the above vignette was thus overdetermined. It was tempting for both the therapist and the patient to collapse attention onto only the pole of the individual agency of each player, wishing to focus on places where the patient and the therapist could experience success through individual agency alone. While action itself may help to physiologically overcome a freeze response (Gorman and Gorman, 2017; Ledoux and Gorman, 2001), research on mobilizing the sense of individual agency in relation to climate highlights the long-term inadequacy of focus on individual agency alone (Büchs et al., 2018). By contrast, the experience of collective efficacy and communal effort has been demonstrated to fuel one's sense of individual effectiveness (Jugert et al., 2016). In relating to climate change, individuals easily feel their actions are "a drop in the bucket," but climate-informed therapy can help them to feel "many drops fill a bucket" (Soliman, Alisat, Bashir, & Wilson, 2018).

The therapist here encouraged agentic containment, as well as the cognitive containment inherent in understanding oneself to be part of

the complex Earth systems and to understand that all complex systems (including brain-mind and Earth-climate systems) are capable of undergoing "emergence," a shifting into new workable patterns, the details of which cannot be fully predicted beforehand (Cilliers, 2007). Work at various levels and from various angles assists in this process, as all individual, social, cultural, economic, and technological activities are ultimately intertwined with each other and with geological processes. We may trust that, with individual and collective engagement, shifts in a positive direction will result over time in both incremental and more acute transformative changes. Patients can be encouraged to pursue the actions most meaningful for their collective and personal identities. At the same time, we are true to reality when we hold in mind that large-scale legislative and corporate policies are now clearly required to address climate change, and therefore, so is mobilization of individual action towards these ends. We all live inside this reality and are not separate from it. The therapist in this vignette works hard to prevent dissociation and a collapse into only the individual agency pole, by emphasizing our (containing) shared experience of the Individual Agency–Collective Agency dialectic and its ultimate cause for substantial hope.

Feminist therapy can be a useful theoretical framework to add in working holistically with this Individual Agency–Collective Agency dialectic. Feminist therapy holds that the psychotherapy relationship can empower both self and group simultaneously when social and cultural forces that are marginalizing of oneself as an individual are considered in the therapy room (Frey, 2013). As the feminist mantra goes, *the personal is political*.

The *central relational paradox*, recognized in young adolescent girls and women (Gilligan, 1982, 1991; Gilligan, Lyons, & Hanmer, 1990; Miller & Stiver, 1997), contends that individuals tend to take parts of themselves out of relationship for the sake of relationships, behaving inauthentically when embedded in a culture that places constraints and double binds on their real experience of themselves. Inauthentic behavior within a maladaptively constraining social structure is then disempowering. With climate change, it can be argued that all humans and living things now constitute a "marginalized group" that can be assisted to raise its individual and collective consciousness by shedding inauthentic behaviors. Bringing behavior into alignment with what one knows is empowering but requires skills to tolerate relational gaps and a working to bridge these gaps, rather than withdrawing in shame, fear, anger, or confusion. A feminist therapy, such as relational-cultural therapy, attends to the gaps within the therapy relationship itself, normalizing the discussion of disconnections between patient and therapist

that arise based on differences and blind spots. Learning to tolerate, understand, and bridge these disconnections is then empowering for all concerned (Jordan, 2010). Patients learn to generalize this process of relational repair, a process particularly applicable to our climate situation, where we are faced with disconnections in our relationships with each other, our culture, our social and economic systems, and the natural world. The therapist in this case, by mentioning how the patient's struggle has also helped the therapist appreciate the importance of collective and not just individual agency, could demonstrate the bridging of a gap through relational engagement.

3. Hope and Hopelessness

Vignette – Multiple Disasters. A woman is still cleaning out her house from one flood when another flood hits. She is uninsured, and her income is decreased from the partial closure of the flooded restaurant where she works. She is exhausted, can't sleep, and argues with her husband, who is drinking more. She worries about her grandchildren breathing in mold and feels helpless to protect them. Local friends and family are similarly stressed. Proudly self-sufficient all her life, she had never allowed herself to feel hopeless in the past. But now she cannot see how her family will emerge from these repeated catastrophes. Appreciating realistically that even more flooding is possible, she feels she's staring into an abyss. Allowing herself to feel this hopelessness shatters her sense of identity. Her therapist focuses on connecting her to whatever resources he can, including a consultation for medication, and then notices that he hesitates to empathize too deeply with the extent of her dilemmas as he fears becoming overwhelmed and hopeless himself. He works in a county mental health center that functions continually in "emergency mode," as it is overwhelmed with local need. Both therapist and patient remain in a reactive mode, struggling to bounce back to their pre-disaster selves and modes of operation. They are in need of a new model: a new identity for the patient and new systems of response for the therapist.

The cognitive dissonance within the Hope–Hopelessness dialectic is that hope is essential, but impossible. Hope is traditionally conceived as the faith that things will improve, but climate evidence shows that some destructive processes are already hopelessly underway—here recognized concretely in the form of floods. As can be observed in climate discussions, thought and feeling easily collapse onto one pole of hope or hopelessness, between Pollyanna and Eeyore. Optimists decry that technology will save us; those who consider themselves climate

realists, particularly those who confront climate science and the political history of climate advocacy failures frequently, contemplate grim projections of the most severe impacts.

There are several defensive functions of a collapse in the Hope–Hopelessness dialectic. If one focuses on hope, one can deny or ignore frightening risks. Traumatized individuals may use hope to deny or triumph over irreversible impacts, often expressed as "beating" an invading enemy with whom one does not recognize interconnection. Those of us who are relatively affluent may deny our own vulnerability in hopeful expectation of continued material comfort, ignoring the real implications of climate catastrophe for food supplies, patterns of disease, and the stability of social structures. Simplistic hope can substitute for action, maintaining paralysis, avoiding complexity and uncertainty, or staving off anticipatory anxiety about the future of one's children. False hope is often maintained by projecting the feeling that there is nothing one can do onto something else: Congress is hopeless and those who disagree about the climate future are beyond reach, giving rise to paranoid elaboration of threats and a villainizing and self-defeating tendency to give up on working with any situation of difference.

The downsides of hopelessness are more self-evident: resignation, defeat, grief, depression. Particularly affected may be so-called "climate first responders," those involved in climate science, mitigation, disaster response, planning, policy development and implementation, and activism/advocacy. However, in many people, a simplistic hopelessness can have its own defensive functions. A simple embrace of hopelessness can bring relief. With hopelessness, one may deny or ignore one's own agency, deny or ignore collective agency and the freedom and capacity of the collective to make large shifts, averting the need to work with others, and avoid issues of responsibility with its attendant anxiety. Hopelessness can be used to avoid dealing with uncertainty and can be seen as a form of negative therapeutic reaction, collapsing onto familiar dysfunction rather than sustaining tentative success. Neither optimism nor nihilism is fully possible, nor helpful, in working with climate change anxiety. At every level of human participation, positive actions can affect positive, even potentially transformative, change. At the same time, there is much that is hopeless: There is and will be much death and suffering. The experience of impossibility, and accompanying hopelessness, can pull one out of the paranoid schizoid position more firmly onto the shores of reality and real possibilities.

The process of reflective rumination that leads to post-traumatic growth (Tedeschi & Calhoun, 2004) involves the right kind of "positive" rumination—deep reflection on the meaning of the event and possible new responses based on identification of one's core values. Such

renewal typically emerges from within a radical acceptance of deep grief and loss. A similar process is being described in the "Deep Adaptation" movement (Bendell, 2018).

In the generative space between hope and hopelessness, two important varieties of hope have emerged: "Reasonable Hope" and "Radical Hope." Weingarten (2010) describes "Reasonable Hope" where hope is used *as a verb, a process*. It involves agency and pathway thinking; hope seeks goals and pathways to those goals. As she describes it, hope then adjusts goals and pathways when some things don't work. Sometimes the abandoning of a particular goal is heartbreaking, but hope is not connected to outcome in this way of thinking. Rather one continues with doing hope, that is, actively adjusting goals and pathways, whether the outcome is hopeful or less hopeful in an outcome sense. Reasonable hope maintains that the future is "Open, Uncertain, and Influenceable" and that others can help one to "do reasonable hope."

Reasonable Hope as an active process fits with developing understanding of continuous traumatic stress (CTS) (Eagle & Kaminer, 2013) that derives from contexts similar to ongoing climate disruption, such as protracted civil conflict or pervasive community violence. Whereas traditional conceptualizations of traumatic events regard them as existing in the past with maladaptive intrusion into the present, CTS involves more continuous trauma that is both current and to be reasonably anticipated in the future. It exists in contexts where "danger and threat are largely faceless and unpredictable, yet pervasive and substantial" (p. 89), and where there is an absence of protections from the threats. Those dealing with CTS can experience arousal and avoidance, but their preoccupation is typically with current and future safety rather than past events. The task in therapeutic work is "to prepare for future traumatization, and to develop the ability to discriminate between stimuli that might pose a real, immediate and substantial threat from other everyday stimuli" (p. 91). Work within this model, like work with other climate distress, requires that anxiety be validated rather than treated as a psychological symptom to be reduced. As emphasized by Eagle and Kaminer, doing work with CTS requires that the therapist fully appreciate the actual threats.

Another form of hope emerging within this dialectic is "Radical Hope." Hopelessness about climate can arise as we are left without words for what we might imagine a positive future to look like. This is because we are unable to bring our current language for what is meaningful forward. Jonathan Lear has written poignantly about this psychic dilemma (2006). He describes how Crowe Indian Chief Plenty Coups faced a situation similar to ours, in which his existing values had lost meaning. The chief's faith in the validity of his spirituality and in the larger cycles of nature allowed him to accept the treaty offered by

colonizers, "knowing" there would be a future for his people, even if he could not imagine or verbalize it because his existing language did not contain the terms through which he and his people would understand themselves.

Reasonable Hope and Radical Hope provide ways of maintaining a hopeful stance in the face of many seemingly hopeless circumstances. The therapist who becomes aware that one's ways of practice are overwhelmed by the rapidity of climate change, and human and planetary need, also requires these varieties of hope, a willingness to step forward, to adapt the structure and content of our existing interventions, and to repeatedly reexamine our underlying values.

Vignettes – Multiple Disasters: Therapist's Response. The patient can be served by holding open the Hope–Hopelessness dialectic, reflecting on reasons for both hope and hopelessness, allowing the potential generative space between them to be used. In applying CTS principles, the therapist might assist in assessment of the actual threat of mold to the grandchildren and in thinking through with the patient how best to protect them. He might join with her in helping to find out the known risk of future flooding in the region and to assess options for protection and/or relocation.

Psychoeducation in "Reasonable Hope" and "Radical Hope" could be useful to the patient. By holding open the dialectic, the patient may make better decisions about how to rebuild or where to live, and may also come to a more resilient self-reliance, not dependent on the pretense that everything is going well or that there can be triumph over hard realities.

4. Certainty and Uncertainty

While climate science provides us with a remarkable degree of certainty about what is happening, the complexity and chaos of natural and social systems create uncertainty. The most common dysfunctional operation of this dialectic, disavowal, involves the refusal to work at any full exploration of these poles. In disavowal, a form of relative dissociation, climate change is understood to be real, but there is a simultaneous knowing and not knowing. The cognitive dissonances described in this article, are not confronted, so the implications of climate change for one's own life are not considered in any actionable way (Weintrobe, 2013).

The particular cognitive dissonance of the Certainty–Uncertainty dialectic arises in several forms. For those who seriously consider the implications of climate, concepts that were clear and certain have been

made uncertain. The actions associated with the modern way of life that we have considered generative, such as home, a large family, and wealth, can now carry a new emotional valence and new moral assessment, feeling like the purview of climate degenerates. Our value system, which had been intertwined with the modern way of life, can itself feel valueless. Children or grandchildren who are not even born can be dead in one's mind. Uncertainty can easily motivate a flight into the certitude of some form of moral superiority, a particular countertransference danger in this work. Therapists should remember that we are all in degrees of emergence from disavowal, an understanding that promotes an empathic appreciation for any patient's lack of engagement with this shared human dilemma.

Vignette – The Climate Dismissive. A patient, annoyed by a bumper sticker on the therapist's car, expresses a lack of belief in climate change and talks with conviction about conspiracy theories related to climate change, such as the assertion that "Al Gore is only doing this to get rich" and "liberals want to destroy the American way of life that emerges from capitalism." The therapist understands these as subcultural beliefs, and also recognizes the containing defensive function of the "us against them" embattled perspective. Simultaneously, the therapist is aware of several kinds of countertransference. One is a desire to assertively correct the patient and educate them about the certainty of climate change. The second is a desire to be dismissive herself, considering the patient unreachable. The third, as it is a bumper sticker on her own car, is to hide from the patient's anger behind a veil of therapeutic abstinence. Instead, the therapist comments that the patient has a strong view and explores respectfully the likely underlying political dialectic, asking if the patient is concerned about excessive government regulation, sharing her own sense of uncertainty about how to proceed in relation to climate change, but making the scientific consensus and the therapist's wish to protect the planet for the patient as well as for herself explicit.

Vignette – The Climate Dismissive: Therapist's Response. In this vignette, the conflict about climate should be addressed, as it threatens the therapeutic alliance. Cognitive tensions and dysfunctions around climate change arise because one must make decisions about how to act and think in a situation which is both certain and uncertain, definitely changing, and with a multitude of factors that will influence how change occurs. Views on climate are influenced by values and morals. "Climate dismissives" often experience arguments for the certainty of climate change as a threat to their individualism (Leiserowitz et. al., 2019) and the principle of liberty itself (McIntosh, 2016) because they

anticipate further social consensus will lead to governmental overregulation (Campbell & Kay, 2014). The therapist can be empathic with such a patient in this dialectic of underlying values and maintain this dialectic's openness. Liberty is important *and* we also stop at traffic lights for the sake of collective order and safety. One should provide for one's own family *and* ensure that the sources of resources are tended to. Both liberty and social and natural good can be explored with curiosity and humility. Who can know for sure what the "right" balance of these principles is at any given point in time? Our navigation of the seemingly opposed values has to be informed by realities like the real dangers of climate change or the dangers of motor vehicle accidents. The realities don't negate the values. The therapist can affirm the importance of the value of liberty even while not colluding with a denial of science. Realities such as climate change are grist for the psychological mill of understanding the patient's core motivations.

The poles of climate certainty and uncertainty, like any other unquestioned, rigid, or seemingly obvious position taken by a patient, can be a point of departure for therapeutic activity. Just as we might comment that it seems obvious that a patient's lateness was the result of crowded subways, it may also reflect a slightly late departure based on ambivalence. The therapeutic goal of attending to Certainty–Uncertainty in a patient's thoughts about climate is to understand more about the emotional motivations for their position. In the model of post-traumatic growth, certainty in climate positions is often a honeymoon phase of response, just as uncertainty is a phase of negative rumination. By interpreting over-certainty or over-uncertainty, the therapist creates space for reflection on what is personally meaningful in that certainty or uncertainty, which can be sustaining under duress and a source of leadership and courage. As in any exploratory therapy, uncovering emotional motivations can build the ability to articulate emotional values, useful to facilitating transformative growth.

While the dismissive preserves current self and values by focusing on the uncertainty of the climate future, an individual who collapses to the pole of certainty, a certainty of imminent civilizational and/or ecological collapse, can also be shoring up personal efficacy. A full embrace of imminent collapse can motivate action in many people. This action can be over-certain, based on the belief that chaotic interactions of codependent systems are so terrifyingly uncertain that we must take radical imminent action. The challenge therapeutically is to add back what is uncertain as a source of hope, recognizing further possibilities for what can be preserved and developed. The therapeutic challenge for working with the dismissive is to add back enough climate science certainty to provoke a self-protective climate adaptation.

5. Nature as Comfort and Nature as Threat—
(Safety and Lack of Safety)

Vignette – Avoidance of Grief Confronts Solastalgia. Susan, who lives in the Southwest, begins to hesitantly discuss with her therapist the sadness she feels about tree die-off due to combined drought, heat waves, and bark beetle infestation. She notices large swaths of browning or dead trees during her commute to and from work over a mountain pass. She says that it doesn't make sense it would be making her so sad, as she hasn't visited these forest areas and doesn't "really get the whole outdoors thing." Her sadness occasionally alternates with spikes of "full-body fear," as she contemplates the increased fire hazard and worries that one day when she leaves her retired, chronically ill husband at home, he and her small exurban community will suddenly go up in flames. She reports that these moments of fear are accompanied by "a lump in my throat so big that it feels like I might pass out." In spite of her best efforts to "continue to advance on the road," she has found herself needing to pull her car over to step out for fresh air, whereupon when she is up close to "these dead and dying trees," the fear dissipates and is replaced by numbness and fatigue. She quickly changes the topic of conversation to the burdensome nature of her commute, her job, and her husband's health problems. When redirected to her fear and sadness relating to the forest blight, she states, "There's nothing more to say on that, it is what it is." The therapist notes a temptation in herself not to explore the extent of overlapping grief and fear, as contemplating a faltering landscape can put the therapist into a point of view that feels dim and wordless and challenges her usual feelings of confidence in the therapy room. Nevertheless, recognizing the environmental loss as real, she validates Susan's sadness; asks about any important memories connected to forests or other natural landscapes; explores the grief-related memories—which are new to the therapy—of accompanying her now-deceased father to cut down a Christmas tree in a forest similar to the one on her commute drive; and educates her about attachment systems relating to person and to place.

It has long been recognized in psychodynamic work that an experience of wordlessness can signal defensive avoidance of a topic by patient and/or therapist. Our attachment to the natural world can elicit wordlessness in overdetermined ways.

In our attachment to the natural world, wordlessness tacitly acknowledges the reality of an "Other" that interacts with us without words. Wordlessness marks moments when communication—what some might even refer to as communion—is occurring in nonverbal

modes. Experiences outdoors, in green spaces or wilderness, as well as with immersion in creative arts, mind-body practices, and non-ordinary states of consciousness can create ineffability, a form of word-lessness often associated with moments of profound insight or connection. These same moments can either activate awe, or its threat-based variant, dread, wherein "one encounters something perceived as so vast and novel that he or she has to change the way he or she views reality" (Hendricks, 2018). Research on awe has demonstrated that the accommodation to newly recognized vastness of reality can take positive forms in the ability to more deeply process information but may also lead to a foreclosing of uncertainty with the adoption of false certainties (Rudd, Vohs, & Aaker, 2012; Valdesolo & Graham, 2014). The therapist's efforts to put these experiences into language functions importantly to establish a consensual reality that can be thought about and therefore not foreclosed, even as the legitimacy and transformative aspects of wordless experiences in nature are deeply appreciated and explored.

Further, shocking new information about reality, as we now experience with climate change, recasts the past, present, and future. One can be without language to bring meanings forward in the face of overwhelming change. Wordlessness can reflect and testify to such a shattering of experience in the overwhelmed self.

Our relationship with nature can also resonate with primitive experience. Our emotional need to take for granted a sustaining physical environment, rather than recognize its precariousness, is developmentally preverbal. Attachment with the threatened natural world can easily evoke the *autistic-contiguous position* described by Ogden (1989). This position is earlier and more primitive than the *paranoid-schizoid* and *depressive* positions described by Melanie Klein and remains in dialectical relationship with them, with one moving in and out of the *autistic-contiguous position*, even in adulthood. It is the beginning of our experience of place, involving the pre-symbolic, largely sensory experience of physical boundedness, of adequate cohesion of self and surroundings. "Anxiety in this mode consists of an unspeakable terror of the dissolution of boundedness resulting in feelings of leaking, falling or dissolving into endless, shapeless space" (Ogden, p. 81). As the stage is preverbal, its experience is difficult to put into words, but we can imagine within it a somatic proto-concern over whether one is encountering a gap or a hole. Whereas one might fall off an edge into a hole, a gap has the potential to be bridged, thereby maintaining an adequate sense of physical continuity. Climate change, with its demand that we better appreciate our actual relationship with the natural world, challenges us, like the newborn, to experience wholeness within vastness,

easily eliciting the *autistic-contiguous position*. Assertion of the whole-ness of Earth's systems and an embodied wholeness of our own selves that is undiminished by our interdependence with surroundings is an important ongoing therapeutic intervention.

Another origin of wordlessness is grief, wherein there is the seem-ingly somatic experience of a ripping. If our lost object is the natural world, this wordlessness in grief is further determined. With the nat-ural world as our lost object, in identifying with the lost object, we, like the natural world, are now wordless, in a manner that is not only regressive but is rather potentially maturely appreciative of the realities of the Other and the relationship.

We can be prone to project into the environmental crisis our issues with mortality itself, which can feel too fundamental and too taboo for words. Fears of mortality can lead a patient to minimize the dialec-tic pole of nature as threat, and to retreat into idealization of nature as perfect and separate from the dramas of humanity. Existential psy-chotherapy's emphasis on the four "ultimate concerns" of human exis-tence (death, freedom, isolation, and meaning) can help move beyond a denial of death. As Yalom (1990) described, avoidance of the threat of death is "a denial of one's basic nature" that "begets an increasingly pervasive restriction of awareness and experience. The integration of the idea of death saves us; rather than sentence us to existences of terror or bleak pessimism, it acts as a catalyst to plunge us into more authentic life modes, and it enhances our pleasure in the living of life" (pp. 32-33). Accepting nature-based processes as both sources of threat and sources of solace is no different than accepting that life itself—for all life forms not just humans—is a space where both threats and possibilities coex-ist. Moreover, we can only grow through the process of awe, if we also accept how awful, how dreadful, life can be; both of these realizations, together, trigger a newfound accommodation of the self to the vastness of our surroundings.

As the Nature as Comfort–Nature as Threat dialectic brings up fun-damental experiences of safety or lack of safety, a special characteris-tic of this dialectic must be appreciated. Any individual must feel safe enough to usefully reflect and function. Therefore, all means of con-tainment should be brought to bear as the threat pole is considered or explored. The fact that the patient's existential situation is shared with the therapist and all living things provides some relational as well as cognitive containment. Ultimately, a dialectic involving lack of safety, in addition to being recognized as a dialectic, can also undergo what the physicist and philosopher-of-mind David Bohm (1980) termed *enfold-ment*. In this case, lack of safety, in addition to being in dialectic tension with safety, must also in practice be enfolded within safety, always.

Vignette – Grief Avoidance Confronts Solastalgia: Therapist's Response. In the process of therapy, we apply words where we can, while understanding the multiple processes at play in the production of wordlessness. In the above vignette, the therapist's first step is to name the experience of wordlessness for herself. Susan's therapist both noticed an uncomfortable wordlessness and remembered an opposing form of exhilarating and rejuvenating wordlessness that arose when she visited and hiked in the same mountain pass forest area that the patient described.

The next step, with the patient, is a two-pronged process. First, the therapist can explore and apply verbal understandings of aspects of our relationship with the natural world by touching upon experiences of attachment, comfort, grief, and threat. Simultaneously, therapy should recognize this relationship with a larger, living, multifaceted Other who does not use words but speaks in a myriad of embodied experiences—like Susan's walk through the forest with her father to procure a Christmas tree. Whereas therapists are accustomed to using words to stand in for experience, in exploring relationship with the natural world, we may need to, especially, use experiences to stand in for words, allowing experience itself to be imbued with further life and embodied meaning. The therapist may suggest nonverbal modes of exploring the relationship with nature by, if feasible, offering a nature-based therapy session with the patient, such as a walk in a natural locale or a visit to a garden or other green space. Alternatively, office-based experiences of embodied mind-body practices or shared enjoyment in a piece of music, cinema, or art that the patient finds moving and relevant to their climate-related distress should also be considered.

In the above vignette, seeing the disconnect between the patient's stated sadness and her disavowal of an "outdoors" lifestyle, the therapist stops to ask and add components of place and nature attachment to her already substantial social history of the patient. This larger scope of attachment can be used to focus on personal issues, such as feelings about aging, relationship with her husband and his illness, satisfaction at work, and relationship with family members living and dead, that might be getting projected onto ecological processes and vice versa. In the growing literature on place attachment, the concept of place itself delineates "subjective experience of embodied human existence in the material world," (Morgan, 2010, p. 11) and place attachment refers to the "long-term affective bond to a particular geographic area and the meaning attributed to that bond" (ibid., p. 11). As with forms of interpersonal attachment, the quality and nature of one's perception of safety, comfort, dependability, and constancy in places one comes to know can also lead to varying forms of attachment. Because place, whether natural or man-made, stems from an embodiment in a material world, ruptures or

strains in one's sense of attachment to place, that is, solastalgia, can harken back to our most basic, preverbal vulnerabilities based on distressing body-states and their relationship to hunger, pain, and separation from vital sources of life. They may also prefigure future states of physical disability, decline, and encounters with mortality. Nature in its sum total on planet Earth might just as easily be labeled as interacting processes of life and death, and therefore keeping open the dialectical poles of nature's life-giving solace and death-connoting threats may reduce need for this splitting, leading to a sense of integration, reminiscent of Klein's "depressive position." To remain fully engaged, we all must be able to connect emotionally with both poles of the Nature as Comfort–Nature as Threat dialectic, and to imagine receiving from and using its caregiving powers within the human reality of our humble interactive dependency.

CONCLUSION

The addressing of climate anxiety illuminates our capacity to move forward in situations that we do not fully know, but within which we nevertheless can feel supported and contained. Climate change allows for reparation and greater understandings of our humanity, of mortality, and of our relationships with each other and with the natural world.

In the face of these opportunities, though, many are overwhelmed by, shut down, or shut off from their fears about climate to an extent that is paralyzing, and even those who are not paralyzed struggle with effective psychological adaptation. The problem of climate change is too big and complicated; no one individual can know enough to feel mastery and control over impacts that are dependent on large planetary forces and global sociopolitical systems. Hence, climate anxiety gets split into a myriad of dialectics, the management and use of which are crucial to therapeutic work with climate material. We advocate both the gritty exploration of these dialectics, often necessary in the making of adaptive decisions, and their transcendence, the appreciation of the dialectic as a whole, which affords a containing sense of completeness. We caution strongly against closing them, against allowing their collapse into either pole. While clinical work with anxiety typically involves a focus on its reduction, work with climate change material calls for these techniques to be modified, with a goal of transforming the anxiety into relational, agentic, cognitive, and spiritual forms of adaptation to climate threats.

This article has focused on the psychotherapeutic applications of an understanding of climate dialectics; however, these dialectical concepts may be of additional wider application in the addressing of climate change and the transition into sustainable forms of ongoing development.

REFERENCES

Albrecht, G. (2005). Solastalgia: A new concept in human health and identity. *PAN (Philosophy, Activism, Nature), 3*, 41–55. http://researchrepository.murdoch.edu.au/id/eprint/3624

Albrecht, G., Sartore, G., Connor, L., Higginbotham, N., Freeman, S., Kelly, B., Stain, H., Tonna, A., & Pollard, G. (2007). Solastalgia: The distress caused by environmental change. *Australasian Psychiatry, 15*(suppl. 1), S95–S98. https://doi.org/10.1080/10398560701701288

Angus, L., Watson, J. C., Elliott, R., Schneider, K., & Timulak, L. (2014). Humanistic psychotherapy research 1990–2015: From methodological innovation to evidence-supported treatment outcomes and beyond. *Psychotherapy Research, 25*, 330–347. https://doi.org/10.1080/10503307.2014.989290

Bandura, A. (2000). Exercise of human agency through collective efficacy. Current Directions in Psychological Science, 9(3), 75-78

Bendell, J. (2018). Deep adaptation: A map for navigating climate tragedy. Institute of Leadership and Sustainability, University of Cumbria UK, IFLAS Occasional Paper 2; accessed 1/4/2020 at www.iflas.info

Berntsen, D., & Rubin, D. C. (2015). Pretraumatic stress reactions in soldiers deployed to Afghanistan. *Clinical Psychological Science, 3*(5), 663–674. https://doi.org/10.1177/2167702614551766

Bion, W. R. (1962; reprinted 1984). *Learning from experience*. London: Karnac.

Bion, W. R. (1990). *Brazilian lectures*. London and New York: Karnac.

Bland, A. M., & DeRobertis, E. M. (2017). The humanistic perspective. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of personality and individual differences*. Advance online publication. https://www.researchgate.net/publication/315602202_Humanistic_Perspective

Bohm, D. (1980). *Wholeness and the implicate order.* New York: Routledge.

Borucke, M., Moore, D., Cranston, G., Gracey, K., Iha, K., Larson, J., Lazarus, E., Morales, J. C., Wackernagel, M., & Galli, A. (2013) Accounting for demand and supply of the biosphere's regenerative capacity: The National Footprint Accounts' underlying methodology and framework. *Ecological Indicators 24,* 518-533. https://doi.org/10.1016/j.ecolind.2012.08.005

Büchs, M., Bahaj, A. S., Blunden, L., Bourikas, L., Falkingham, J., James, P., et al. (2018). Promoting low carbon behaviours through personalised information? Long-term evaluation of a carbon calculator interview. *Energy policy* 120, 284–293. https://doi.org/10.1016/j.enpol.2018.05.030

Campbell, T. H., & Kay, A. C. (2014). Solution aversion: On the relation between ideology and motivated disbelief. *Journal of Personality and Social Psychology, 107* (5), 809–824. https://doi.org/10.1037/a0037963

Cilliers, P. (Ed.). (2007). *Thinking complexity: Complexity & philosophy, volume 1*. Marblehead, MA: ISCE Publishing.

Cunsolo, A., & Ellis, N. R. (2018). Ecological grief as a mental health response to climate change-related loss. *Nature Climate Change, 8*(4), 275.

Defries, R., & Nagendra, H. (2017). Ecosystem management as a wicked problem, *Science, 21*, 265-270. https://doi.org/10.1126/science.aal1950

Eagle, G., & Kaminer, D. (2013). Continuous traumatic stress: Expanding the lexicon of traumatic stress. *Peace and Conflicts: Journal of Peace Psychology, 19*(2), 85–99.

Earth Overshoot Day. (n.d.). https://www.overshootday.org/

Frey, L. L., (2013). Relational-cultural therapy: Theory, research, and application to counseling competencies. *Professional Psychology Research and Practice 44*(3), 177. https://doi.org/10.1037/a0033121

Gilligan, C. (1982). *In a different voice*. Boston: Harvard University Press.

Gilligan, C. (1991). Women's psychological development: Implications for psychotherapy. In C. Gilligan, A. G. Rogers, & D. L. Tolman (Eds.), *Women, girls, & psychotherapy: Reframing resistance* (pp. 5-31). New York: Harrington Park Press.

Gilligan, C., Lyons, N. P., & Hanmer, T. J. (Eds.). (1990). *Making connections: The relational worlds of adolescent girls at Emma Willard School.* Cambridge: Harvard University Press.

Gillon, B., (2016). Logic in classical Indian philosophy. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Fall ed.). https://plato.stanford.edu/archives/fall2016/entries/logic-india/. Stanford CA: Center for the Study of Language and Information (CSLI), Stanford University.

Gorman, S. E., & Gorman, J. M., (2017). *Denying to the grave: Why we ignore the facts that will save us.* New York: Oxford University Press.

Hayes, J. A., Gelso, C. J., & Hummel, A. M. (2011). Managing countertransference. Psychotherapy (Chic), *48*(1), 88-97. https://doi.org/10.1037/a0022182

Hendricks, P. S. (2018). Awe: A putative mechanism underlying the effects of classic psychedelic-assisted psychotherapy. *International Review of Psychiatry, 30*(4), 331-342. https://doi.org/10.1080/09540261.2018.1474185

Jordan, J. V. (2010). *Relational-cultural therapy.* Washington, DC: American Psychological Association.

Jugert, P., Greenaway, K. H., Barth, M., Büchner, R., Eisentraut, S., & Fritsche, I. (2016). Collective efficacy increases pro-environmental intentions through increasing self-efficacy. *Journal of Enviromental Psychology, 48*, 12–23. https://doi.org/10.1016/j.jenvp.2016.08.003

Klein, M. (1940). Mourning and its relation to manic-depressive states. *International Journal of Psychoanalysis, 21*, 125–153.

Lear, J. (2006). *Radical hope: Ethics in the face of cultural devastation*. Cambridge*:* Harvard University Press.

Ledoux, J. E., & Gorman, J. M. (2001). A call to action: Overcoming anxiety through active coping. *American Journal of Psychiatry, 158*, 1953-1955.

Leiserowitz, A., Maibach, E., Rosenthal, S., Kotcher, J., Ballew, M., Goldberg, M., Gustafson, A., & Bergquist, P. (2019). *Politics & global warming, April 2019. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication.* https://doi.org/10.17605/OSF.IO/NBJGS

Maybee, J. E. (2019). Hegel's dialectics. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Winter ed.). https://plato.stanford.edu/archives/win2019/entries/hegel-dialectics/. Stanford CA: Center for the Study of Language and Information (CSLI), Stanford University.

McIntosh S. (2016). *Overcoming polarization by evolving both right and left: How polarity theory provides a path to political progress.* Boulder: Institute for Cultural Evolution. https://www.culturalevolution.org/docs/ICE-Evolving-Right-and-Left.pdf

Miller, J. B., & Stiver, I. P. (1997). *The healing connection: How women form relationships in therapy and in life.* Boston: Beacon Press.

Morgan, P., (2010). Towards a developmental theory of place attachment, *Journal of Environmental Psychology, 30*(1), 11–22. https://doi.org/10.1016/j.jenvp.2009.07.001

Morton, T. (2013). *Hyperobjects: Philosophy and ecology after the end of the world*. Minneapolis: University of Minnesota Press.

Ogden, T. H. (1989). *The primitive edge of experience*. London: Aronson.

Rudd, M., Vohs, K. D., & Aaker, J. (2012). Awe expands people's perception of time, alters decision making, and enhances well-being. *Psychological Science, 23*, 1130–1136. https://doi.org/10.1177/0956797612438731

Soga, M., & Gaston, K. (2018). Shifting baseline syndrome: Causes, consequences, and implications. *Frontiers in Ecology and the Environment 16*(4), 222–230. https://doi.org/10.1002/fee.1794

Soliman, M., Alisat, S., Bashir, N. Y., & Wilson, A.E., (2018). Wrinkles in time and drops in the bucket: Circumventing temporal and social barriers to pro-environmental behavior. *SAGE Open 8*(2), 1–10. https://doi.org/10.1177/2158244018774826

Tart, C. T. (1986). *Waking up: Overcoming the obstacles to human potential*. Lincoln, NE: iUniverse.com.

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01

Valdesolo, P., & Graham, J. (2014). Awe, uncertainty, and agency detection. *Psychological Science, 25*, 170–178. https://doi.org/10.1177/0956797613501884

Weingarten, K. (2010). Reasonable hope: Construct, clinical applications, and supports. *Family Process. 49*(1), 5–25. https://doi.og/10.1111/j.1545-5300.2010.01305.x

Weintrobe, S. (2013). The difficult problem of anxiety in thinking about climate change. In S. Weintrobe (Ed.), *Engaging with climate change: Psychoanalytic and interdisciplinary perspectives* (pp. 33-47). London and New York: Routledge.

Yalom, I. D. (1980). *Existential psychotherapy*. New York: Basic Books.

Zhao, R., & Cao, L. (2010). Social change and anomie: A cross-national study. *Social Forces, 88* (3),1209–1229. https://doi.org/10.1353/sof.0.0312

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