Climate emotions and emotional climates: The emotional map of ecological crises and the blind spots on our sociological landscapes

Sighard Neckel
University of Hamburg, Germany

Martina Hasenfratz
University of Hamburg, Germany

Abstract
The public debate on climate change and environmental destruction belongs to those social conflicts that are carried out with an especially great emotional intension. In these disputes, the facet of emotions ranges from negative feelings such as shame, guilt and grief, to positive ones such as hope and compassion. In our paper, we put a focus on these feelings, drawing a conceptual map of emotions triggered by ecological crises. In doing so, our aim is to highlight the ambivalences of the intense emotionality of climate change and its societal effects. The great attention and the reflexivity accorded to ‘climate emotions’, however, should not obscure the view towards those emotional dynamics that are responsible for concealing and denying ecological problems. Based on ethnographic and other empirical studies from social sciences we outline that it is precisely these little-illuminated aspects of emotional re-framing and public emotional silence, which often turn out to be particularly consequential moments in politics. Hence, the emotional motives behind the scene should not go unnoticed in sociological research on emotions within the ecological crises.

Keywords
anxiety, climate change, climate denial, ecological crises, emotional practices, emotional reflexivity, emotions, environmental movement, grief, shame

Corresponding author:
Martina Hasenfratz, University of Hamburg, Faculty of Economic and Social Sciences, Gorch-Fock-Wall 5-7 Hamburg 20354, Germany.
Email: martina.hasenfratz@uni-hamburg.de
Résumé
Le débat public sur le changement climatique et sur la destruction de l’environnement fait partie de ces conflits sociétaux sur lesquels pèse une charge émotionnelle particulièrement intense. Au sein de ces controverses, le registre émotionnel inclut aussi bien des sentiments négatifs tels que la honte, la culpabilité et le chagrin, que des sentiments positifs comme l’espoir et la compassion. Dans notre article, nous nous concentrerons sur ces sentiments en construisant une carte conceptuelle des émotions engendrées par les crises écologiques. De cette façon, notre but est de mettre en avant les ambivalences de l’émotivité intense produite par le changement climatique et ses effets sociétaux. L’attention particulière portée aux « émotions climatiques » et la réflexivité dont elles bénéficient ne doivent pas pour autant occulter les dynamiques émotionnelles qui sont responsables de la dissimulation et du déni des problèmes écologiques. À partir d’études ethnographiques et d’autres enquêtes empiriques provenant des sciences sociales, nous montrons que c’est précisément la partie peu mise en avant de cette re-modélisation émotionnelle et le silence émotionnel public qui s’avèrent en réalité constituer des moments particulièrement critiques pour la vie politique. C’est pourquoi les motivations émotionnelles se trouvant à l’arrière-plan ne doivent pas passer inaperçues dans la recherche sociologique sur les émotions générées par les crises écologiques.

Mots-clés
anxiété, chagrin, changement climatique, crises écologiques, déni climatique, émotions, honte, mouvement écologiste, pratiques émotionnelles, réflexivité émotionnelle

Introduction
The public debate on climate change and environmental destruction belongs to those social conflicts that are carried out with an especially great emotional intension. The emotional aspects that play a role here range from positive emotions like love, hope and compassion, to negative and problem-related feelings like shame and guilt, fear, anger, resignation and melancholy. Just as the imaginary worlds of the ecological pathologies of our time oscillate between catastrophe, crisis and normalization (see Adloff et al., 2020), so do the corresponding emotions, which constitute an important expressive element of future imaginations as hopes, indifference or fears (Adloff and Neckel, 2019: 1017). It is striking that the high emotional intensity in the perception of the ecological crises itself has become in many cases a controversial topic in debates such as those on climate change. For some, the strong emotionality is seen as an expression of their fundamental significance; for others, it is rather an indication of the irrationality of the environmental movement as a whole.

In fact, the emotionalization of the ecological crises as a public issue is ambivalent. For example, actors of the environmental movement such as Extinction Rebellion and numerous scientific contributions especially from psychology and communication sciences, but also from social movement studies and human geography, have concluded that the emotionalization of modern ecopathologies is highly important when it comes to
recognizing the climate crisis as a crisis of humanity and acting accordingly. Emotions then enable personal access to the realization of the ecological emergency in which we find ourselves (Du Bray et al., 2019; Gonzáles-Hidalgo and Zogafros, 2020; Fuchs, 2010; Roeser, 2012; Wright and Nyberg, 2012). This paper does not intend to dispute this in principle, or for that matter to support the assumption that emotionality and irrationality coincide – which has been repeatedly floated in public. Nevertheless, we would like to show that the manifold emotionalization of the ecological crises is associated with opposing processes that can both serve to raise awareness of the crisis and counteract it.

Accordingly, the main question we want to address is how the controversial debate about the emotionalization of the ecological crises can be assessed from an emotion-sociological perspective. While in the field of psychology and communication sciences many recent studies have focused on the link between emotions and ecological crises, sociological perspectives are still underrepresented. Hence, what we want to do in this article is a sociological reflection on different emotions playing a central role in the context of the environmental debates whose analytical aspects we derive from the objects we study, and thus from climate emotions themselves. In this sense, our aim is not to prove certain sociological theories on emotions, but to follow the systematics of a material sociology. Ethnographic studies (Hochschild, 2016; Norgaard, 2010) and other empirical research (e.g. Cunsolo and Ellis, 2018; De Massol de Rebetz, 2020; O’Neill and Nicholson-Cole, 2009; Wolrath et al., 2019) will form the basis of our arguments.

Our initial observation is that so far little attention has been paid to the high degree of reflexivity with which ‘climate emotions’ are dealt with in public and in science. We consider this reflexivity as one of the main characteristics of the emotionalization of climate change and other ecological crises. It ties in with a culture of emotions in the present, which increasingly makes feelings the object of reflexive processes and conscious self-thematization (Neckel, 2014). No matter how the high affectivity of the climate discourse may be judged, all the parties involved in it often adopt a meta-perspective in their own perception. Here, feelings are not only experienced and articulated, but at the same time listed, classified and evaluated. Thus, in the thematic field of climate change, environmental movements and the ecological crisis, all those ‘emotional practices’ can be found, which the practice theory of emotions distinguishes in an ideal-typical way: ‘naming’ emotional practices to articulate feelings clearly; ‘communicating’ emotional practices to mutually exchange them; ‘regulating’ emotional practices to direct emotions; and, finally, ‘mobilizing’ emotional practices to activate people (Scheer, 2019).

Due to the high degree of reflexivity of these emotional practices, climate emotions are often understood in social discourse as primarily intentional acts: ‘I want you to panic!’ (Greta Thunberg). However, what we will show is that besides all those reflexive emotions, which are at the core of the public debates, there are unseen and often overlooked emotional dynamics, namely wherever climate emotions appear as affective tensions that elude conscious perception. Fear, for example, not only plays a role as a shared emotion among climate movement activists, but is also present in society as an unacknowledged fear of the truth about ecological threats. The fear of having to admit the possibility of an ecological collapse has a tendency to conceal and occasionally suppress reality.
Hence, our paper is divided into two parts: first, we will draw a conceptual map of the most publicly significant emotions associated with the ecological crises. In this ‘mapping’, which deals with the feelings of shame, guilt and anger, fear and hope, grief, compassion and melancholy (I), we want to work out the ambiguous effects that arise from the emotionalization of the social debates about the ecological crises such as climate change. Secondly, we will take a look at the emotional dynamics which – underneath their public presentation – are responsible for the fact that the dangers of the climate crisis and ecological emergencies are socially concealed (II). Here we argue that the emotional facet of the climate crises, which is not least of all politically significant, may appear precisely where it is not perceived as such or is denied. Thirdly, in our concluding section we highlight the importance of a sociological perspective on the link between emotions and ecological crises (III).

**Mapping climate emotions**

*Feeling shame, guilt and anger*

In the following we will demonstrate that the ecological crises and the controversial public debates about the necessity of a ‘sustainable’ lifestyle have led to the social production of feelings of shame and guilt in a wide variety of ways. It almost seems as if the Anthropocene, which regards man as a dominant geological factor, has placed the *anthropos* at the center of social attention, above all because of its guilt as a subject (Neckel, 2021; Jensen, 2019). Ever since the 1992 World Climate Summit in Rio de Janeiro first formulated concrete goals for a sustainable transformation of everyday practices in the areas of energy, water, mobility, consumption, nutrition and clothing, a discourse has been established worldwide that forms the basis for numerous attributions of personal responsibility. This ‘responsibilization’, as social science research now conceptualizes that process (Henkel et al., 2018), refers in particular to the scale of the ‘ecological footprint’, a concept developed in the 1990s by Mathis Wackernagel and William Rees (1996) that became a powerful instrument for determining the resource consumption of individuals, households, communities, regions and states. Since the ecological footprint is also used to compare the load limits of the earth system, sustainability takes the form of a moral imperative that serves to protect the planet and thus the basis of life overall, as Sighard Neckel et al. (2018) have pointed out. Consequently, practices, lifestyles and economic activities are classified as environmentally friendly and responsible or environmentally harmful and irresponsible (Neckel, 2017).

Responsibilization has a strong moral undertone through its connection to questions of justice. The definition of the Brundtland Report of ‘sustainable development’, for instance, formulated the normative model of organizing societies in such a way that current actions do not have a restrictive effect on the ability of future generations to meet their needs. Over the last decade, the intergenerational justice called for here has been increasingly linked with the demand for global and climate justice (Kallhoff, 2015; Shue, 2014). Against this background, climate-damaging behavior and consumer practices are regarded as an expression of an ‘imperial mode of living’ (Brand and Wissen, 2018), which contains a variety of points of reference for shame and blame that have been
addressed to entire population groups such as the middle classes of the Global North, particularly in sociological literature (Lessenich, 2019; Blühdorn and Deflorian, 2019). In a word, they are accused of leading a good life at the expense of others.

Shame as a social phenomenon regularly occurs when actors fear that breaches of norms will become known to relevant others to whom they would like to appear as compliant (Neckel, 2020, 1991). By undercutting the expectations that others place on you, ‘the fear of being shamed’ (Riesman, 1961: 24) emerges as an affective warning signal that indicates the danger of losing personal respect and social ties with others (Scheff, 1988). Shame as a feeling of exposure is often associated with the fear of losing respect in the eyes of others. The fear of being shamed still acts as a safeguard for social conformity, even though the normative standards of shame today differ widely in different milieus. In each of them, however, shame functions as a particularly effective means of informal social control (Neckel, 1991: 178ff., 212ff.).

Hence, feelings of shame arise under the gaze of real or imagined third parties who might notice something about me that I would like to hide or in reference to which they might form a negative impression of me. Ideal and real self-image noticeably diverge. Thus, it is not the norm violation itself that mobilizes feelings of shame within us, but rather the idea that others might know about it. Moral standards are not the only candidates for shame, however. Similarly, conventional norms and societal expectations can mobilize a ‘social shame’ through which actors document the admission of personal failure, deficiency or inadequacy (Neckel, 2020: 44ff.). This is what distinguishes shame from guilt, although both feelings can occur simultaneously. Following Sigmund Freud (2002), guilt is much more to be understood as an intrinsic ‘dread of conscience’ (Gewissensangst) with which personal misconduct urges affective self-punishment.4

Shameful practices and lifestyles which are now associated in the ‘emotional climate’ of ecological crises with the risk of a loss of respect, include (excessive) consumption of meat, disposable consumption, all-inclusive tourism, cruises and air travel. These are contrasted with vegetarian or vegan diets, low consumption, regional travel and low-emission mobility. In their study on the phenomenon of ‘flight shame’, which has received a great deal of media attention, the Swedish sociologists Maria Wolrath Söderberg and Nina Wormbs (2019) show the various repercussions of feelings of shame and guilt in this context. Based on interviews with people who stated that they had voluntarily stopped flying, the study concluded that although the change in behavior was mainly triggered by greater knowledge and insight, it was accompanied by strong feelings of shame, guilt and fear. Numerous subjects implicitly referred to the fact that the consequences of their air travel for third parties mobilized strong personal feelings of shame: ‘I met people there [Bangladesh] who will most likely be hit by climate change, much harder than I. Yet I am the one causing these emissions. I felt there and then that I did not have any right to fly’ (ibid.: 22).

In reports like these, Wolrath Söderberg and Wormbs find support for their view that ‘flight shame’ is evidence of ‘how the social conversations and norms spreading among peers impact the reasoning about flying and the choice to stay on the ground’ (ibid.: 25). Their interview partners articulated this above all in the desire to have their personal behavior be consistent with their own demands. This coincides with the assumptions of the psychology of sustainable development that certain emotions and above all ‘moral
emotions’ such as shame and guilt motivated people to change their own behavior in the long term (Kals and Maes, 2002). Also playing a role here were deliberate strategies for shaming ecological misconduct. As one subject in the study by Wolrath Söderberg and Wormbs (2019: 26) remarked: ‘My New Year resolution 2018 was to help making flying uncool. Some call it shaming and bad, but I believe it is good to be ashamed if you intentionally harm others.’ Nevertheless, it is not just explicit shaming that triggers emotional resistance. The mere communication of a change in behavior causes agitation and annoyance among those who cannot or do not want to give up flying: ‘People get really upset when I tell them I have stopped flying, because they feel guilty’ (ibid.: 40).

In conclusion, it can be noted that such reactions document the ambivalent repercussions that can occur when shame and guilt are used to bring environmentally harmful behavior into disrepute. Insofar as different lifestyles and controversial value orientations (such as the liberal idea of free movement) are measured against a uniform standard, ecologically acceptable behavior takes on an exemplary function, which can also serve as a basis for ‘ecological distinction’ (Neckel, 2018) of one’s own moral superiority. In this sense, what one prefers and is able to practice for ecological reasons, others can and must do as well, regardless of the realities of their life or values – assuming they do not want to be socially tainted. Not least, this is met with emotional resistance, which is often manifested as criticism of moralizations and ‘prohibitionist policies’. Right-wing populist movements, parties and governments, among others, seize on this politically to pass off climate-damaging policies as the preservation of civil rights and to permit sustainability, at best, only to the extent that it is based on voluntariness, personal responsibility and economic incentives.

**Feeling anxiety, fear and hope**

Besides guilt and shame – feelings correlating with anger – anxiety and fear and their counterpart hope are other visible emotions in response to the ecological crises. Anxiety and fear as widely shared emotions not only play an important role among those who are active in the ecological movement; they also arise among the public as climate emotions, especially if the experience of environmental events such as heat waves, droughts or large-scale fire disasters gives actors a feeling that the ecological threats and climate change are real. In numerous studies and reports on the ecological crises (Jones et al., 2017; Kaplan, 2016; Wolrath Söderberg and Wormbs, 2019) people tell that the repeated hot summers, the seemingly never-ending bushfires or the recurring hurricanes of the last decade in particular have triggered feelings of fear and panic. Climate change, which is often perceived as a temporally and spatially more distant danger that does not directly affect us personally, then enters the consciousness of the present. In this context, fear can trigger an inner compulsion to realize the dangers of climate change. This affective mechanism can create an emotional climate in the public, which favors a conscious attention to the problems of global warming and ecological crises. Scholars from climate research speak here of the ‘angst-ridden framing’ of the predicament (Weisser and Müller-Mahn, 2016: 804), which is capable of creating a greater consensus that climate change is a major threat and that combating it is an absolute necessity.
Anxiety is characterized by the expectation of an impending disaster, by the anticipation of dangers to which actors feel helpless against (Rackow et al., 2012: 394). In contrast to fear, which always has an ‘imaginative object reference’, it is precisely the ‘ignorance of the frightening thing’ that triggers anxiety and ‘a priori prevents an escape from it’ (Bähr, 2019: 155ff.). The ‘communication of anxiety’, as Niklas Luhmann (1989: 128) has pointed it out in his book *Ecological Communication*, and for which the environmental movement has been reproached since the start as a sign of irrationality, can thereby actually have an angst-limiting and ‘rationalizing’ effect insofar as it counters the ‘ignorance of the frightening thing’. With climate change, already evident in increasing droughts, hurricanes or flooding, the impending disaster takes on a tangible form. Contrary to its systems-theoretical condemnation, the communication of anxiety can therefore lead to rational insights into the actual dangers of global warming. Non-specific angst is transformed into concrete fears; undirected existential anxieties are replaced by ‘real fears’, which are related to certain threatening circumstances (Wolrath Söderberg and Wormbs 2019: 69). Accordingly anxieties, which can be understood as affective warning systems (ibid.: 63), become a reducible factor in the collective emotional budget by means of taking practical action.

The countless public accusations that actors of the environmental movement, such as Fridays for Future or Extinction Rebellion, are only spreading end-time hysteria in communicating their anxieties and fears must therefore be met with justified skepticism. In fact, these movements tie up with collective fears in order to underline the urgency of their concerns and to mobilize supporters: ‘I want you to feel the fear I feel every day and then I want you to act!’ (Greta Thunberg). Psychoanalyst Sally Weintrobe (2013: 33) puts it as follows: ‘Anthropogenic global warming is anxiety-provoking. Being able to bear anxiety is a vital part of being able to face reality.’ Irrespective of such deliberate appeals, however, the concerns of the environmental movements are already connoted by fear. By addressing the looming future of a global climate collapse, the activists address the expectation of a negative development, through which fear itself is always an emotion related to the future.

Anxiety and fear – in the sociological sense, the emotional counterparts to a relative inability to prevent a negative outcome (Kemper, 2006) – is therefore for good reason the emotional catalysts of movements that counteract negative developments such as a global climate collapse. For example, the activists of Extinction Rebellion (2019: 44f.) understand anxiety as a necessary and motivating stimulus for action, without which people would be much less willing to actually get involved. Extinction Rebellion thus concretizes a political program of emotions that is characterized by the slogan: ‘We must feel the catastrophe!’ (ibid.: 19).

This form of public discussion of emotions, also described in communication sciences as ‘persuasive communication’ (Bleicher, 2012; Nabi et al., 2018; Reser and Bradley, 2017), is based on the belief that active change through human action first requires an awareness of the need for change, which is demonstrated by feelings such as anxieties and fears. In this connection, angst generation is considered a ‘traditional effective dimension that is closely linked to moral implications’ and is therefore particularly suitable for the concerns of the climate movement (Bleicher, 2012: 197ff.).
Another interpretation of ‘communication of anxiety’ as found in the environmental movements can be suggested in the interpretative framework of a modernity, which Günther Anders (1994: 276) has brought to the concept of ‘apocalyptic blindness’ (see Hörl, 2013). Anxiety is here attributed a rescuing function, while the ‘inability to anxiety’ (ibid.: 264) inhibits an appreciation of the exterminating character of dangers such as the nuclear threat. Nevertheless, the question arises as to whether there are not also limits to the enlightening function which Anders expected of a ‘reasonable anxiety’ (ibid.: 266). The philosophical discussion often highlights that anxiety can be a motivating emotional force for change when it is linked to its counterpart of hope. Just like anxiety, hope is characterized by uncertainty in the realization of one’s own situation. But hope can transform the negative expectation of a future filled with anxiety into an ‘inconstant pleasure’ (Baruch Spinoza) in positive imaginations (Demmerling and Landweer, 2007: 79). In this context, the environmental movement would also have the task of banishing fear of its own inaction and spreading anxiety-alleviating hope of possibly averting impending disasters (Kleres and Wettergren, 2017: 510; see also Chu and Yang, 2019).

Empirical studies on angst generation in the political communication of the climate movements have shown, however, that it can lead to numerous undesirable side effects and opposing consequences. Accordingly, the climate theme would lose its special meaning when its linguistic expression falls into the ‘tradition of apocalyptic semantics’, whereby the ecological threats are blended indiscriminately into the long history of esoteric end-time communications. This would stand in stark contrast to positive visions of the future, as climate change would then appear to be an incomprehensible event that only reveals itself to the exclusive circle of the climate movements (Lickhardt and Werber, 2013: 367ff.). A targeted discussion of fear of the future can also lead to unintended consequences that conflict with the goals of the environmental movements. One example is the topos of ‘climate refugees’, which is often introduced as a threat scenario when describing the consequences of global warming. Public debates are then much more oriented towards discussing measures to fend off the ‘millions of climate refugees’ at the borders of the Global North, than towards combating global warming. Consequently, climate change appears as a threat to one’s own security (Oels and Carvalho, 2012).

Findings from social science and psychology prove that angst generation can also favor the suppression or avoidance of ecological threats (Weintrobe, 2013; Ojala, 2018; O’Neill and Nicholson-Cole, 2009). For example, Saffron O’Neill and Sophie Nicholson-Cole (2009) have shown in their study on the use of visual and iconic representations of climate change that although fear draws attention to the issue of global warming it has a detrimental effect on public engagement: ‘The constant use of fear appeals may act to decrease issue salience and increase individual feelings of invulnerability, if the narratives of disaster and destruction do not ring true or are not ‘proven’ within an imaginable period.’ (ibid.: 362) As a psychological consequence, people’s attention shifts from external threats to controlling their internal fears: ‘The continued use of fear messages can lead to one of two psychological functions. The first is to control the external danger, the second to control the internal fear [. . .]. If the external danger – in this case, the impacts of climate change – cannot be controlled (or is not perceived to be controllable), then individuals will attempt to control the internal fear.
These internal fear controls, such as issue denial and apathy, can represent barriers to meaningful engagement.’ (ibid.: 363)

Hence, if people control their internal fears by no longer dealing with the issue of climate change, angst generation loses that enlightening power that could transform feelings of threat into hopeful engagement. Anxiety itself becomes a risk for combating ecological dangers and climate fear becomes a serial element of a ‘culture of fear’. In this ‘culture of fear’ late modern society has emotionalized its risks, distortions and imponderables as a general epochal mood (Furedi, 2018; Bude, 2017; Hörl, 2013).

**Feeling grief, compassion and melancholia**

In response to the disappearance of the glacier Okjökull on Iceland (Johnson, 2019), an article in *The New Yorker* magazine from October 2019 asked: ‘How to Mourn a Glacier?’ In a memorial service environmental activists, Icelandic government representatives and others mourned the first melted glacier in the extreme northwest of Europe. Okjökull is now commemorated by a plaque with the inscription ‘A letter to the future’, which draws attention to man-made ecological catastrophes as a warning to future generations. The situation was similar in response to the large-scale fires in the Brazilian Amazon region in August 2019, which sparked worldwide expressions of sorrow for the rainforest, for example, in the form of funeral marches or obituaries on social media platforms and in print media.

These two examples vividly illustrate that grief and mourning are other important emotions in the public reaction to the ecological crises. Grief as a climate emotion is not only directed at the loss of loved ones – which is still widely regarded as the essence of mourning – but also at the loss of our natural habitat such as glaciers, forests, lakes, animals or plants. Moreover, the loss of cultural life and landscapes can be accompanied by grief (see Cunsolo and Landman, 2017). For instance, in a multi-year research program around climate change-driven emotional and grief responses in Northern Canada and the Australian Wheatbelt (Cunsolo and Ellis, 2018: 277) Inuits from Nunatsiavut (Canada) report on an imminent loss of identity: ‘Inuit are people of the sea ice. If there is no more sea ice, how can we be people of the sea ice?’ Similarly, the farmers from the Australian Wheatbelt realize that ‘losing the farm’ because of climate change ‘would be like a death’ for them, ‘because the farm embodies everything that the family farm is’. Similarly, Kari Marie Norgaard (2010) reports on how climate change in certain regions of Norway painfully impacts the country’s traditional self-image as a nation of skiers. Such ‘grief associated with physical ecological losses’ (Cunsolo and Ellis, 2018: 276) has long been ignored in research and has often been described as ‘outside the realm of the grievable’ (Craps, 2020: 3). However, events such as disappearing glaciers, heat weaves or burning rainforests document that grieving in the course of ecological crises increasingly involves more-than-human losses.

The feeling of grief as a pain of loss in the face of the irreplaceable (Jakoby, 2012) always reflects the persons, living beings, natural phenomena or human artifacts to whom or which we ascribe value and cultural significance (Cunsolo and Ellis, 2018: 276). Even more, grief goes hand in hand with the human capacity for love and compassion, which are also central feelings for empathy towards nature (Berenguer, 2007). Love
and compassion as emotional expressions of empathy are always object-related and intentional and can be directed in a positive way towards people, animals and natural objects (Schloßberger, 2019). As binding emotions, they establish relationships and responsibilities. At the same time, however, this bears the danger that ‘in the mode of empathy an unequal and hierarchical relationship between the compassionate and the suffering is manifested’ (Bargetz, 2019: 368), in which the feelings of the compassionate person are the focus and suffering is only their object. Compassion then can also act as an emotional substitute for longer-term commitment (Wagner, 2019). The depiction of a dead baby kangaroo as a victim of Australian bushfires may trigger spontaneous feelings of sadness and anger and possibly lead to the donation of a sum of money to environmental protection organizations, but it can also be a substitute for lasting conservation activities.

Grief, as it turns out, is not a purely individual feeling. It arises from the affective bonds that people share with each other and appears as a collective duty and ritual act imposed by the group, as it has already been suggested by Émile Durkheim (2008). For instance, every 30th November, environmental activists and artists all over the world celebrate the so-called Remembrance Day for Lost Species. In a recent study based on field notes and interviews of this day in Brighton (De Massol de Rebetz, 2020: 884) it is observed that ‘mourning ecological loss in the Anthropocene is collectively recognizing the advent of a new era of biodiversity loss and multispecies entanglement’. This is also where the ritual acts of mourning of the environmental movement Extinction Rebellion come in. Based on affective ties with more-than-humans (Hasenfratz, 2018) they consciously employ mourning as a part of their political performance: funeral marches, in which the earth is buried; flash mobs, in which everyone suddenly plays dead. Their aim is to symbolize the painful loss of natural habitats and the mourning over the extinction of animals and plants, but also to express emotional resolve: ‘Mourning does not expect to be compensated any more. It doesn’t cost anything. Mourning is a resilient emotion’ (Extinction Rebellion, 2019: 23).

The distinctive characteristic of such depictions of mourning and grief is that, in contrast to the death of loved ones, they refer to losses that will probably only occur in the future. In grief for deceased persons, the mental representation of the deceased is an essential prerequisite. In ‘grief associated with anticipated future ecological losses’ (Cunsolo and Ellis, 2018: 276) a bridge must be built between the often still-impending losses and the emotional pain of the destruction of the irreplaceable. Political actions of the environmental movement such as funeral marches or art projects as part of the Remembrance Day for Lost Species can function as such a bridge.

Another important characteristic of grief and mourning as climate emotions is their special temporality. While grief for a loved one has a concrete beginning, goes through different phases and finally finds an end in the form of a life after the loss (Demmerling and Landweer, 2007: 263ff.; Jakoby, 2012) – or as Freud expresses it terminates in the ego’s becoming ‘free and uninhibited again’ (Freud, 1957: 245) –, grief for the loss of the ecosystem seems to have no ending. It can have its beginning in the ‘deep past and extend to the deep future’ (Saint-Amour, 2020: 139). Hence, it accompanies people for an indefinite period of time, without putting an end to the mourning and coping with the loss by separating from the mourned.
As all these different facets of ecological grief and mourning show, it is an open question whether they have a motivating impact on action or rather induce resignation and assume depressive traits. Freud (1957) already distinguished between mourning and melancholy and understood the difference between them as the subjective ability to finally free oneself from the lost object. In the case of melancholy as a ‘pathological’ form of mourning, detachment is thus inhibited in particular by the ‘lowering of the self-regarding feelings’, ‘that finds utterance in self-reproaches and self-revilings, and culminates in a delusional expectation of punishment’ (ibid.: 244). Mourning and grief as climate emotions thus alternate between different variations. As a reaction to powerlessness in the face of loss, grieving can blend with aggressive feelings such as anger and rage (Demmerling and Landweer, 2007: 266) and consequently increase the willingness to act. In the movement-oriented environmental philosophy this is formulated as an explicit goal: ‘When extinction occurs, grief for what has gone is appropriate. After grief can come ‘terrafurie’ or Earth anger, which transforms unresolved grief into anger about the causes of Earth distress’ (Albrecht, 2020: 15). However, the problem is that grieving for ecological losses can lead to an interminable emotional burden. For activists in the climate and environmental movement, it cannot be about recognizing the destruction of ecosystems and the extinction of species as a reality with all its losses and learning to live with them. First of all, such a detachment from the mourned would imply a turning away from protest. Moreover, the losses of ecosystems do not actually have a foreseeable temporal end that might allow for a release from mourning. Ecological grief can therefore also tend towards prolonged melancholy. Typically, it coincides with the ‘loss of interest in the outside world’ (Freud, 1957: 244) and inhibits a willingness to act – especially when it is coupled with the ‘self-reproach’ mentioned by Freud because of a supposed lifestyle-related complicity in the ecological catastrophe.

**Blind spots on our sociological landscapes**

With the mapping of feelings that play a prominent role in the climate discourse, we have shown that there are no unequivocal findings for the positive effects of emotionalizing the public debate on ecological crises. Our findings suggest that shame, fear, and grief as relevant climate emotions turn out to be ambivalent feelings, depending on the social context and its connection with corresponding emotions such like anger, hope or compassion. Hence, climate emotions can be conducive to anchoring abstract insights into the effects of climate change, environmental degradation and species extinction in one’s consciousness. Moreover, they can be an affective impulse for social commitment. At the same time, due to counteracting effects, suppressive reactions or melancholic escapism, they can also stand in the way of developing awareness or finding motivation to get involved. Actors of the climate movement, environmental experts, scientists or politicians of green parties should ponder these ambivalences if they want to address the public through emotional messages and specific ‘emotional practices’.

The fact that climate emotions can be reconstructed in so many different ways in their ambivalent effects is, however, an expression of how present these feelings are in the public consciousness today. It is characteristic of climate emotions that they avail themselves to numerous forms of public thematization. However, research that has examined
the emotional processing of climate change and environmental destruction from an ethnographic perspective (Norgaard, 2010; Hochschild, 2016) points out that feelings play an important role in reactions to ecological crises, even when they are not an open issue in local conflicts and political disputes. Especially in the context of increasingly skepticism and denial of the manifold facets of the ecological crises, emotions seems to be crucial, but mostly underestimated both in public discourse and in science. While there is plenty of current research on climate change denial and political orientation (Hultman et al., 2020; Jylhä and Hellmer, 2020; Krange et al., 2019; McCright and Dunlap, 2011), so far little attention has been paid to the role emotions play concerning these social dynamics, especially in sociology (Haltinner and Sarathchandra, 2018). One insightful study on denial and emotions is Kari Marie Norgaard’s (2010) ethnography Living in Denial of a rural community in western Norway. She explores how the desire to avoid unpleasant emotions prompted local emotion management to keep the distinctly felt issue of global warming at bay in the community: ‘Emotions play a key role in denial, providing much of the reason why people prefer not to think about global warming’ (ibid.: 213). The emotional practices used here consisted of shifting affective attention to positive self-portrayals, ironizing dangers (‘Well, maybe then we can grow oranges in Norway at least’), searching for emotional anchoring points in nature-related local traditions, and reinterpreting disturbing facts as marginal phenomena in order to restore the feeling of an ordered and unspoiled reality (ibid.: 132). From research on therapeutic emotion programs these are all known as techniques of autosuggestion and ‘re-framing’ (Neckel, 2009: 189 ff.).

Arlie Russel Hochschild’s (2016) ethnography Strangers in Their Own Land – another important work in understanding the role of emotions within denial – reports on a paradoxical relationship between the actual destruction of the environment and a massive rejection of any environmental policy by the supporters of the republicans in the US-American state of Louisiana. Conservatives and republicans tended to dismiss blatant environmental problems, suffer their consequences, and live with greater pollution, even though the ecological damage, especially from the local oil industry, affected them personally. It looks like demands for more environmental protection would be seen as an overreaction the more devastating the ecological crisis profile of the respective counties was (ibid.: 56ff., 252ff.).

According to Hochschild, this paradox does not arise from ignorance of ecological dangers. Rather, conservatives and republicans in Louisiana would have no different views on environmental protection than republicans anywhere else in the US, so that basic political attitudes and party preferences would be responsible for the paradox. The question, however, is whether this is actually a sufficient explanation. Why does the high level of environmental pollution in Louisiana not lead to a revision of the general rejection of environmental policy, a rejection which is common among republicans (Dunlap and McCright, 2015), who by and large do not live in such pronounced ecological crises areas like those in Louisiana?

In our view, cognitive factors alone, such as political attitudes, do not provide any further guidance here. Rather, the admission that there are ecological threats seems to undermine the self-evident consensus on the political and social reality of the USA that characterizes the political attitudes of US conservatives and republicans in general. In
US-American states where this wider agreement is not subject to any particular challenges in everyday life, this political attitude may seem to be consistent with social reality. Yet in a state like Louisiana, with its extremely high environmental impact and one of the highest cancer rates in the United States, this hardly seems possible.

However, suppression and palliation are not purely rational-cognitive processes, especially as the cognitively easily graspable conditions of ecological devastation are concealed in the construction of reality. They can therefore only be explained in terms of their affective-emotional motives, for which Hochschild’s study also provides specific illustrative material. For example, it is reported that local actors, although they knew about the dangers, removed warning signs from contaminated river courses and coastal strips in order to not confront reality (2016: 49); that a ‘structural amnesia’ (ibid.: 51) prevails in the face of environmental destruction; and that the 2010 oil spill off the coast of Louisiana caused grief and depression in the affected regions, but that the temporary moratorium on oil drilling provoked angry reactions (ibid.: 66). ‘Maybe, I thought, the coastal Louisianans who opposed the ban were expressing loyalty to the oil industry and private sector [...]. But given their vulnerability to loss and contamination, maybe they were managing strong feelings of anxiety, fear, and anger about what they already knew.’ Hochschild thus concludes that all thoughts of contamination of soil, air and water were pushed aside out of concern for one’s job and standard of living and to get a grip on one’s own fears. The residents, however, were unable to admit these fears among themselves.

The ‘psychological program’ (ibid.: 72) in Louisiana is thus strikingly similar to the kind of local emotion management that Norgaard reported from Norway. In both cases, the real ecological dangers are much more serious than the people are able to admit in their own emotional world. Grief, feelings of loss, anger and pain over the destruction of the environment give way to a longing for the continuation of an undamaged normality, which is in fact already clearly recognizably in decline.

In his studies on mass culture during the Weimar Republic, Siegfried Kracauer (1998: 92) used the term ‘simulated realities’ (vorgetäuschte Wirklichkeiten) to describe the popular tendency to superimpose wishful thinking onto a given social situation. This was intended to express the fact that the modern cultural industry does not simply hide reality, but rather creates a separate illusionary world. The social organization of ‘simulated realities’ can also be identified in communities that experience a kind of emotional escapism from the reality of ecological destruction. Out of an unacknowledged fear of the threatening truth they make an illusionary reinterpretation of their reality and work collectively on the emotional management of denial.

**Conclusion**

In our mapping, we have shown the way in which climate crisis and environmental destruction are conveyed through emotions, the important role that certain emotions play in the debate about ecological crises and the ambivalent effects associated with the emotionalization of environmental and climate issues. The emotionality of conflicts over climate and environmental protection is not an indication of the irrationality of the dispute over ecology and sustainability. Instead, it reflects the internal significance that the problem of the destruction of nature has in the subjective self-image of many actors in
contemporary society. Just as their imaginations of the future are often characterized by disaster scenarios, appeals to normality, and accusatory forms of pessimism (see Adloff et al., 2020), so do the climate emotions of shame, fear, and grief, which govern wide areas of the emotional worlds that are directed towards the ecological crises. This corresponds to the frequent discussion of climate emotions in today’s society, which increasingly become the subject of reflexive debates as the climate movements make more intensive use of certain intentional emotional practices. The great attention and reflexivity accorded to emotions in the context of global warming, however, should not obscure the view towards those emotional dynamics that are responsible for concealing ecological problems and their emotional worlds. The escape into simulated realities of a continuing normality has its own emotional components. On our conceptual map of climate emotions, they represent the blind spots. But it is precisely these little-illuminated aspects of emotional re-framing and public emotional silence that often turn out to be particularly consequential moments in politics.

The not insignificant group of ‘climate deniers’, as organized by right-wing populism in particular, has its own emotional practices, which are essentially based on palliation, suppression and the masking of climate emotions. Scientific facts are denied credibility and the climate movements are made the enemy. The emotional motives behind all this are largely concealed and should therefore not go unnoticed in sociological research.

**Funding**
The author(s) received no financial support for the research, authorship, and/or publication of this article.

**ORCID iDs**
Sighard Neckel [https://orcid.org/0000-0002-2622-290X](https://orcid.org/0000-0002-2622-290X)
Martina Hasenfratz [https://orcid.org/0000-0002-7661-3327](https://orcid.org/0000-0002-7661-3327)

**Notes**
1. With ‘climate emotions’ we are taking up a term that BBC Future has been using since September 2019 to describe a series of programs on future issues (see: [https://www.bbc.com/future/columns/climate-emotions](https://www.bbc.com/future/columns/climate-emotions)). In this way, we summarize with descriptive intent those emotions that are often publicly addressed in the debates on ecological crises.
2. Speech to the World Economic Forum in Davos on 25 January 2019.
3. Blind spots are something ‘emotional maps’ share with other forms of ‘mapping’, be it cognitive maps or geographical mapping – in order to be able to show certain things, ‘maps’ must always leave others undetermined (Kitchin, 1994). And it is precisely those circumstances that prove ambiguities that tend to be excluded from a ‘mapping’.
4. On the distinction between shame and guilt, see also Neckel, 1991: 41 ff.; Teroni and Deonna, 2008.
5. Speech to the World Economic Forum in Davos on 25 January 2019.
6. ‘In addition to the fears directed at specific objects or facts, there is also a type of anxiety that is probably only common among humans, but not animals: The anxiety connected with the fact that man is a creature focused on his future and worried about his life. In addition to specific fears related to the immediate present, anxieties of anticipated dangers, of something
that at least could happen in the future, are also widespread among people.’ (Demmerling and Landweer, 2007: 68)

7. The main website of Extinction Rebellion Deutschland states in this context: ‘We feel our unity, we accept each other with our love, our mourning, our desperation and our anger. All our feelings belong to us and flow into our collective actions. This is precisely why the rebellion is growing: because our feelings have found a home in it and the rebellion gives expression to them. Our willingness to perceive and acknowledge our emotions in the face of impending disaster is a crucial aspect of Extinction Rebellion.’ (https://extinctionrebellion.de/wer-wir-sind/ [1 August 2020])

8. To support this, Haoran Chu and Janet Z. Yang (2019: 783) conclude in their paper Emotion and the Psychological Distance of Climate Change that abstract emotions such as anxiety and hope contribute to policy support and mitigation action, while concrete emotions such as fear ‘were not conducive to climate change management’.

9. Apart from Norgaard’s study Living in Denial, there are other studies dealing with the suppression of denial of climate change. In this regard, there is also an ethnographic study of a village in Alaska (Shearer, 2011) and analyses from the environmental studies (Washington and Cook, 2011; Orr, 2016: 35ff.). However, these studies focus on the strategies of political and economic actors to make anthropogenic climate change appear as a deception or invention. Social processes and especially emotional dynamics do not play a role in these works, which is why we do not consider these studies here.

10. In their study ‘Planning for the past: Local temporality and the construction of denial in climate change adaptation’, Vanessa Bowden et al. (2019) approve our estimation. Based on qualitative interview data of a highly vulnerable coastal region of Australia they highlight cognitive processes, e.g. economic benefits or local knowledge, to explain the social organization of climate denial in this community. It comes out that an overcoming of cultural routines depends on experiencing concrete events, such as an observable rising sea level. These events give climate change a visible shape, which in turn can trigger feelings. Hence, reaching the emotional world represents a threshold to change established routines around climate denial.

11. In his posthumously published studies on Mass and Propaganda Kracauer (2012) related the meaning of ‘simulated realities’ to the making of fascist propaganda as an ‘end in itself’ and thus laid an analytical trail that is particularly revealing today for the propagandistic modes of operation of political authoritarianism.

References

Adloff F, Fladvad B, Hasenfratz M, et al. (eds) (2020) Imaginationen von Nachhaltigkeit. Katastrophe. Krise. Normalisierung. Frankfurt and New York: Campus.

Adloff F, Neckel S (2019) Futures of sustainability as modernization, transformation, and control: A conceptual framework. Sustainability Science 14(4): 1015–1025.

Albrecht GA (2020) Negating solastalgia: An emotional revolution from the Anthropocene to the Symbiocene. American Imago 77(1): 9–30.

Anders G (1994) Die Antiquiertheit des Menschen. Bd. 1: Über die Seele im Zeitalter der zweiten industriellen Revolution. München: Beck.

Bähr A (2019) Zu den kulturellen Funktionen von Furcht und Angst. In: Kappelhoff H, Bakels JH, Lehmann H, et al. (eds) Emotionen. Ein interdisziplinäres Handbuch. Berlin: Metzler, pp. 155–159.

Bargetz B (2019) Die affektive Vermessung der Welt. Affektive Politiken. In: Kappelhoff H, Bakels JH, Lehmann H, et al. (eds) Emotionen. Ein interdisziplinäres Handbuch. Berlin: Metzler, 365–374.
Berenguer J (2007) The effect of empathy in pro-environmental attitudes and behaviors. 
*Environment and Behaviour* 39: 269–283.

Bleicher JC (2012) Klimawandel als Apokalypse. Ein Streifzug durch populäre Kinofilme und TV-Movies. In: Neverla I, Schäfer MS (eds) *Das Medien-Klima. Fragen und Befunde der Kommunikationswissenschaftlichen Klimaforschung*. Wiesbaden: Springer, 197–214.

Blühdorn I, Deflorian M (2019) The collaborative management of sustained unsustainability: On the performance of participatory forms of environmental governance. *Sustainability* 11(4): 1189.

Bowden V, Nyberg D, Wright C (2019) Planning for the past: Local temporality and the construction of denial in climate change adaptation. *Global Environmental Change* 57.

Brand U, Wissen M (2018) *The Limits to Capitalist Nature: Theorizing and Overcoming the Imperial Mode of Living*. London: Rowman & Littlefield.

Bude H (2017) *Society of Fear*. Cambridge: Polity Press.

Chu H, Yang JZ (2019) Emotion and the psychological distance of climate change. *Science Communication* 41(6): 761–789.

Craps S (2020) Introduction: Ecological grief. *American Imago* 77(1): 1–7.

Cunsolo A, Ellis NR (2018) Ecological grief as a mental health response to climate change-related loss. *Nature Climate Change* 8: 275–281.

Cunsolo A, Landman K (eds) (2017) *Mourning Nature: Hope at the Heart of Ecological Loss and Grief*. Montreal: McGill-Queen’s University Press.

De Massol de Rebetz C (2020) Remembrance Day for Lost Species: Remembering and mourning extinction in the Anthropocene. *Memory Studies* 13(5): 875–888.

Demmerling C, Landweer H (2007) *Philosophie der Gefühle. Von Achtung bis Zorn*. Stuttgart and Weimar: Metzler.

Du Bray M, Wutich A, Larson KL, et al. (2019) Anger and sadness: Gendered emotional responses to climate threats in four island nations. *Cross-Cultural Research* 53(1): 58–86.

Dunlap RE, McCright AM (2015) Challenging climate change. The denial countermovement. In: Dunlap RE, Brulle RJ (eds) *Climate Change and Society. Sociological Perspectives*. New York: Oxford University Press, 300–332.

Durkheim É (2008) *The Elementary Forms of Religious Life*. New York: Oxford University Press.

Extinction Rebellion (2019) ‘Hope dies – Action begins’: Stimmen einer neuen Bewegung. Bielefeld: Transcript.

Freud S (1957) Mourning and melancholia. In: Strachey J (ed.) *The Standard Edition of the Complete Psychological Works of Sigmund Freud. Volume XIV (1914–1916): On the History of the Psycho-Analytic Movement. Papers on Metapsychology and Other Works*. London: The Hogarth Press and the Institute of Psycho-Analysis, 243–258.

Freud S (2002) *Civilization and Its Discontents*. London: Penguin.

Fuchs A (2010) Klima und Gesellschaft. In: Voss M (ed.) *Der Klimawandel, Sozialwissenschaftliche Perspektiven*. Wiesbaden: Springer, 51–73.

Furedi F (2018) *How Fear Works: Culture of Fear in the 21st Century*. London: Bloomsbury Academic.

González-Hidalgo M, Zografos C (2020) Emotions, power, and environmental conflict: Expanding the ‘emotional turn’ in political ecology. *Progress in Human Geography* 44(2): 235–255.

Haltinner K, Sarathchandra D (2018) Climate change skepticism as a psychological coping strategy. *Sociology Compass* 12: 1–10.

Hasenfratz M (2018) Die Nachhaltigkeit der Dinge. Praktiken, Artefakte, Affekte. In: Neckel S, et al. (eds) *Die Gesellschaft der Nachhaltigkeit. Umrisse eines Forschungsprogramms*. Bielefeld: Transcript, 101–121.
Henkel A, Lüdtke N, Buschmann N, et al. (eds) (2018) *Reflexive Responsibilisierung. Verantwortung für nachhaltige Entwicklung*. Bielefeld: Transcript.

Hochschild AR (2016) *Strangers in Their Own Land. Anger and Mourning on the American Right*. New York and London: The New Press.

Hörl E (2013) Ökologie der Angst. In: Koch L (ed.) *Angst. Ein interdisziplinäres Handbuch.* Stuttgart and Weimar: Metzler, 104–115.

Hultman M, Björk A, Viinikka T (2020) The far right and climate change denial. In: Forchtner B (ed.) *The Far Right and Environment: Politics, Discourse and Communication*. Oxon and New York: Routledge, 121–135.

Jakoby N (2012) Trauer als Forschungsgegenstand der Emotionsoziologie. In: Schnabel A, Schützeichel R (eds) *Emotionen, Sozialstruktur und Moderne*. Wiesbaden: Springer VS, 407–424.

Jensen T (2019) *Ecologies of Guilt in Environmental Rhetorics*. Berlin: Springer Nature.

Johnson LM (2019) How to mourn a glacier. In Iceland, a memorial ceremony suggests new ways to think about climate change. *The New Yorker*, October 20. Available at: https://www.new-yorker.com/news/dispatch/how-to-mourn-a-glacier (accessed 22 July 2020).

Jones C, Hine DW, Marks ADG (2017) The future is now: Reducing psychological distance to increase public engagement with climate change. *Risk Analysis* 37(2): 331–341.

Jylhä KM, Hellmer K (2020) Right-wing populism and climate change denial: The roles of exclusionary and anti-egalitarian preferences, conservative ideology, and antiestablishment attitudes. *Analysis of Social Issues and Public Policy* 20(1): 315–335.

Kallhoff A (ed.) (2015) *Klimagerechtigkeit und Klimaethik*. Berlin and Boston: De Gruyter.

Kals E, Maes J (2002) Sustainable development and emotions. In: Schmuck P, Schultz WP (eds) *Psychology of Sustainable Development*. Wiesbaden: Springer, 97–122.

Kaplan EA (2016) *Climate Trauma: Foreseeing the Future in Dystopian Film and Fiction*. New Brunswick and London: Rutgers University Press.

Kemper TD (2006) Power and status and the power-status theory of emotions. In: Stets JE, Turner JH (eds) *Handbook of the Sociology of Emotions*. New York: Springer, 87–113.

Kitchin RM (1994) Cognitive maps: What are they and why study them? *Journal of Environmental Psychology* 14(1): 1–19.

Kleres J, Wettergren Å (2017) Fear, hope, anger, and guilt in climate activism. *Social Movement Studies* 16(5): 507–519.

Kracauer S (1998) *The Salaried Masses: Duty and Distraction in Weimar Germany*. London: Verso.

Kracauer S (2012) Exposé. Masse und Propaganda. Eine Untersuchung über die fascistische Propaganda. In: Fleck C, Stiegler B (eds) *Siegfried Kracauer, Werke, Band 2.2: Studien zu Massenmedien und Propaganda*. Berlin: Suhrkamp, 9–16.

Krange O, Kaltenborn BP, Hultman M (2019) Cool dudes in Norway: Climate change denial among conservative Norwegian men. *Environmental Sociology* 5(1): 1–11.

Lessenich S (2019) *Living Well At Others’ Expense. The Hidden Costs of Western Prosperity*. Cambridge, UK: Polity Press.

Lickhardt M, Werber N (2013) Klimawandel. In: Koch L (ed.) *Angst. Ein interdisziplinäres Handbuch*. Stuttgart and Weimar: Metzler, 366–374.

Luhmann N (1989) *Ecological Communication*. Chicago: University of Chicago Press.

McCright AM, Dunlap RE (2011) Cool dudes: The denial of climate change among conservatives white males in the United States. *Global Environmental Change* 21(4): 1163–1172.

Nabi RL, Gustafson A, Jensen R (2018) Framing climate change: Exploring the role of emotion in generating advocacy behaviour, *Science Communication* 40(4): 442–468.
Neckel S (1991) *Status und Scham. Zur symbolischen Reproduktion sozialer Ungleichheit*. Frankfurt and New York: Campus.

Neckel S (2009) Emotion by design: Self-management of feelings as a cultural program. In: Röttger-Rössler B, Markowitsch HJ (eds) *Emotions as Bio-Cultural Processes*. New York: Springer, 181–198.

Neckel S (2014) Emotionale Reflexivität – Paradoxien der Emotionalisierung. In: Fehmel T, Lessenich S, Preunkert J (eds) *Systemzwang und Akteurswissen. Theorie und Empirie von Autonomiegewinnen*. Frankfurt and New York: Campus, 117–129.

Neckel S (2017) The sustainability society: A sociological perspective. *Culture, Practice & Europeanization* 2(2): 46–52.

Neckel S (2018) Ökologische Distinktion. Soziale Grenzziehung im Zeichen von Nachhaltigkeit. In: Neckel S, et al. (eds) *Die Gesellschaft der Nachhaltigkeit. Umrisse eines Forschungsprogramms*. Bielefeld: Transcript, 59–76.

Neckel S (2020) Sociology of shame: Basic theoretical considerations. In: Frost L, Magyar-Haas V, Schonevile H, et al. (eds) *Shame and Social Work: Theory, Reflexivity and Practice*. Bristol: Policy Press, 39–54.

Neckel S (2021) Scholastic fallacies? Questioning the anthropocene. *Thesis Eleven*. Epub ahead of print 23 February 2021. DOI: 10.1177/0725513621993278.

Neckel S, Besedovsky N, Boddenberg M, et al. (2018) *Die Gesellschaft der Nachhaltigkeit. Umrisse eines Forschungsprogramms*. Bielefeld: Transcript.

Norgaard KM (2010) *Living in Denial. Climate Change, Emotions and Everyday Life*. Cambridge, MA: MIT Press.

Oels A, Carvalho A (2012) Wer hat Angst vor ‘Klimaflüchtlingen’? Wie die mediale und politische Konstruktion des Klimawandels den politischen Handlungsspielraum strukturiert. In: Neverla I, Schäfer MS (eds) *Das Medien-Klima. Fragen und Befunde der kommunikationswissenschaftlichen Klimaforschung*. Wiesbaden: Springer VS, 253–276.

Ojala M (2018) Eco-anxiety. *RSA Journal* 164(4). 10–15.

O’Neill S, Nicholson-Cole S (2009) ‘Fear won’t do it’: Promoting positive engagement with climate change through visual and iconic representations. *Science Communication* 30(3): 355–379.

Orr DW (2016) *Dangerous Years. Climate Change, the Long Emergency and the Way Forward*. New Haven: Yale University Press.

Rackow K, Schupp J, Von Scheve C (2012) Angst und Ärger. Zur Relevanz emotionaler Dimensionen sozialer Ungleichheit. *Zietschrift für Soziologie* 41(5): 392–409.

Reser JP, Bradley GL (2017) Fear appeals in climate change communication. Von Storch H (ed.) *Oxford Research Encyclopedia of Climate Science*. Oxford: Oxford University Press.

Riesman D (1961) *The Lonely Crowd: A Study of the Changing American Character*. New Haven: Yale University Press.

Roeser S (2012) Risk communication, public engagement, and climate change: A role for emotions. *Risk Analysis* 32(6): 1033–1040.

Saint-Amour PK (2020) There is grief for a tree. *American Imagio* 77(1): 137–155.

Scheer M (2019) Emotion als kulturelle Praxis. In: Kappelhoff H, Bakels JH, Lehmann H, et al. (eds) *Emotionen. Ein interdisziplinäres Handbuch*. Berlin: Metzler, 352–362.

Scheff TJ (1988) Shame and conformity: The deference-emotion system. *American Sociological Review* 53: 395–406.

Schloßberger M (2019) Liebe und mitgefühl. In: Kappelhoff H, Bakels JH, Lehmann H, et al. (eds) *Emotionen. Ein interdisziplinäres Handbuch*. Berlin: Metzler, 190–194.

Shearer C (2011) *Kivalina. A Climate Change Story*. Chicago: Haymarket Books.

Shue H (2014) *Climate Justice: Vulnerability and Protection*. New York: Oxford University Press.
Teroni F, Deonna J (2008) Differentiating shame from guilt. *Consciousness and Cognition* 17(3): 725–740.

Wackernagel M, Rees W (1996) *Our Ecological Footprint: Reducing Human Impact on the Earth*. Gabriola Island, BC: New Society Publishers.

Wagner G (2019) Helfen und Reziprozität. Freiwilliges Engagement für Geflüchtete im ländlichen Raum. *Zeitschrift für Soziologie* 48(3): 226–241.

Washington H, Cook J (2011) *Climate Change Denial. Heads in the Sand*. London: Earthscan.

Weintrobe S (2013) The difficult problem of anxiety in thinking about climate change. In: Weintrobe S (ed.) *Engaging with Climate Change: Psychoanalytic and Interdisciplinary Perspectives*. London: Routledge, 33–47.

Weisser F, Müller-Mahn D (2016) No place for the political: Micro-geographies of the Paris climate change conference 2015. *Antipode* 49(3): 802–820.

Wolrath Söderberg M, Wormbs N (2019) *Grounded: Beyond Flugskam*. Stockholm: European Liberal Forum & Fores.

Wright C, Nyberg D (2012) Working with passion: Emotionology, corporate environmentalism and climate change. *Human Relations* 65(12): 1561–1587.

**Author biographies**

**Sighard Neckel** is a professor of sociology at the University of Hamburg and spokesperson of the Humanities Centre for Advanced Studies ‘Futures of Sustainability’. His research interests include economic sociology, social inequality, social theory and social change, sociology of emotions, conflicts on sustainability. Among his last publications are *Gesellschaftstheorie im Anthropozän* (Campus, 2020, co-editor), *Die globale Finanzklasse* (Campus, 2018, co-author) and *Die Gesellschaft der Nachhaltigkeit* (Transcript, 2018, co-author).

**Martina Hasenfratz** is a sociologist and research associate at the Humanities Centre for Advanced Studies ‘Futures of Sustainability’ at Hamburg University. Her research interests include sociology of culture, theories of practice and sociology of emotions, material culture, and sustainability. Her last publications are *Imaginationen von Nachhaltigkeit* (Campus, 2020, co-editor) and *Die Gesellschaft der Nachhaltigkeit* (Transcript, 2018, co-author).