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The Ecology of Fear and Climate Change: A Pragmatist Point of View

JEROME BALLE

*University of Bordeaux, CNRS, UMR Passages
France
Email: Jerome.ballet@u-bordeaux.fr*

DAMIEN BAZIN

*Côte d'Azur University, CNRS, GREDEG
France
Email: damien.bazin@gredeg.cnrs.fr
<https://orcid.org/0000-0002-0020-5044>*

EMMANUEL PETIT

*University of Bordeaux, CNRS, BSE
France
Email: Emmanuel.petit@u-bordeaux.fr*

ABSTRACT

The ecology of fear has become a common rhetoric in efforts to support climate mitigation. The thesis of the collapse is an extreme version, asserting the inevitable collapse of the world. Fear, then, becomes the ultimate emotion for spurring action. In this article, drawing on the work of the pragmatist John Dewey, we show that fear is an ambiguous emotion. Dewey stressed the quality of an emotion. Following his reasoning, this article draws a distinction between intense and moderate fear. Intense fear annihilates action, while moderate fear fulfils the conditions for an emotion of quality (in the Deweyan sense), which enables action. For this reason, the thesis of the collapse must be rejected, while an ecology of fear, drawing on moderate fear, may be maintained.

KEYWORDS

Climate change, collapse, John Dewey, emotions, fear

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I. INTRODUCTION

Emotions are a potential driver for action to mitigate climate change (Leiserowitz 2006; Moser 2007; Norgaard 2011; Swim et al. 2011; Myers et al. 2012; Smith and Leiserowitz 2014; Clayton et al. 2015). A focus on emotions is even more essential, as they can be catalysts for values (Nelissen et al. 2007; Tappolet 2016). The motivational role of values in relation to action is in fact questionable (Markowitz and Shariff 2012). In the case of rapid climate change, the link between values and action is even less probable, since as it is global, rapid climate change weakens the motivational role of values in action (Sinnott-Armstrong 2005; Butler et al. 2015). Conversely, a combination of values and emotions reinforces the motivational role by giving individuals a greater sense of responsibility (Gifford 2011; Tappolet 2016).

Among emotions, fear has received the most attention in the environmental psychology literature. It has contributed to the development of an ecology of fear (Davis 1998), ecological thinking that draws on fear to spur action. While Davis applied such a rhetoric to the city of Los Angeles and the surrounding area affected by earthquakes, fires and flooding, it now plays a central role in responses to climate change (Moser and Dilling 2004; Ereaut and Segnit 2006; Moser 2007; Nordhaus and Shellenberger 2009; O'Neill and Nicholson-Cole 2009; Gourevitch 2010; Feinberg and Willer 2011). In recent years, an extreme version of the ecology of fear has developed with the thesis of collapse. This movement has appealed to the emotion of fear to construct an apocalyptic discourse (Dörries 2010; Charbonnier 2019).

A wide range of criticism has recently pointed to the shortcomings of the ecology of fear (Moser 2007; Ojala 2012; Stern 2012; Williston 2012; Chadwick 2015; Head 2016; Feldman and Hart 2018) and of the thesis of collapse in particular (Dupuy 2020; Larrère and Larrère 2020; Theys 2020). This article extends this criticism, arguing that by inciting and appealing to the emotion of fear, this movement may be choosing a path that is counterproductive to the intended aim of climate mitigation. Two questions arise. First, can fear support action, or is it, as often supposed, a barrier to rationality and action? Second, if it can support action, to what extent does the action taken in response to fear point to a successful climate change outcome?

Our arguments draw on the thinking of American pragmatist philosopher John Dewey. Dewey emphasised the role emotions play in changing behaviour and habits (Whitehouse 1978; Garreta 2002, 2007; Quéré 2018). He also understood that for a process of change to occur, the emotion must have certain qualities (Dewey 1934a). Indeed, change occurs through the coming together of emotion and reason, which Dewey called the *method of intelligence* (Dewey 1922). For instance, a fear that is inappropriate, unsuitable, eruptive, excessive, or even irrational or phobic may very well lead to freezing individual habits in place and further pushing off prospects of change. In our view, it is

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therefore possible, in line with Dewey's reasoning (Dewey 1934a), to oppose an emotion of intense fear – which cannot be conceived of as a solution to a problem (and which, on the contrary, contributes to it) – with a form of moderate fear that is compatible with the method of intelligence described by the pragmatist author. Our aim is to draw on John Dewey's conception of emotions to show that a moderate fear can contribute to motivating climate mitigation, while an intense fear (as is appealed to by the thesis of collapse) cannot.

In the first section, we explore the ecology of fear and more specifically its extreme version: the thesis of collapse. The second section presents the nature and role of emotion in change through a reading of John Dewey's work. In particular, we address the question of the 'quality of the emotion experienced' (Dewey 1934a: 69), a central question in the process of change according to Dewey, since, while an emotion always signals a mismatch between individual habits, customs or institutions and the issues or problems to be solved, it is through an 'emotional quality' (Ibid.: 38) that change may occur. Emotion must have certain characteristics in order to bring about change. In the third section, we compare the ecology of fear, and more particularly the thesis of collapse, with Dewey's thinking, distinguishing between moderate fear and intense fear. We stress that while moderate and intense fear both signal a disturbance in the evolution of individuals' environments and attitudes, the former, unlike the latter, can help change individual attitudes and transform institutions. In this way, an emotion of moderate fear can qualitatively fulfil the conditions for a real transformation of the subject's experience (and of the emotion itself), which, in principle, intense fear does not allow for, as it becomes entrenched in an emotional habit.

2. FROM THE ECOLOGY OF FEAR TO THE ECOLOGY OF COLLAPSE

Our societies have entered an era of risk management (Beck 1992). Risks are no longer just local, but also global. Environmental disasters like Chernobyl, along with terrorist shocks and structural financial crises, challenge national borders and call for global risk governance. The same is true for climate change and the rapid degradation of biodiversity (Beck 2018). This has given rise to a movement focusing on global environmental risks as the ecology of fear. The ecology of fear is intended both as a way to identify environmental risks and as a tool for raising public awareness to facilitate change through the emotion of fear. The goal of this movement is to draw on the emotion of fear to encourage change, both in individuals' behaviour and among policy makers. Davis (1998) was one of the first to use this expression to highlight the many environmental risks facing the city of Los Angeles. Since then, the concept has become relatively well known and is increasingly used in the context of

climate change (Moser and Dilling 2004; Ereaut and Segnit 2006; Nordhaus and Shellenberger 2009; O'Neill and Nicholson-Cole 2009; Gourevitch 2010; Feinberg and Willer 2011). The emotion of fear is at the heart of this kind of argument. It is meant to facilitate action to support climate mitigation by emphasising the danger. It is assumed that 'fear appeals' attract individuals' attention, lead to awareness of the risks, and ultimately, spur action to reduce the tension that fear has caused (Blondé and Girandola 2016).

In recent years, an extreme version of the ecology of fear has developed with the thesis of collapse brought about by climate change. The thesis of collapse is based on a threefold rhetoric: the inevitability of climate change, the inevitability of the consequences of climate change and the inevitability of inaction in the face of climate change (Dupuy 2004; Larrère and Larrère 2020)¹. In the words of supporters of the thesis of collapse:

There are often several ways to solve a local or isolated problem, but tackling all of the problems together at the global level makes the cost of possible solutions so high that the only appropriate response is denial. It is this massive denial that ensures that collapse is certain. (Sinaï, Servigne and Cochet 2019: n.p.)

This threefold rhetoric aims to create a feeling of fear in order to push people to take action (Dupuy 2004; Larrère and Larrère 2020). It is indeed a rhetoric, insofar as in seeking to push people to action, the movement recognises that the inevitable may still be avoided. But urgent action is needed. Paradoxically, this urgency at once confirms the inevitable risk and opens up one last possibility. The supporters of this thesis assert that the end of our world is very near, to create this impression that collapse is inevitable, and that urgent action is therefore needed. Cochet (2019: 40) notes that 'the collapse of the globalized society is [...] certain around 2030, give or take a year'.²

The threat of collapse is meant to drive action for immediate change. In this way, the thesis of collapse plays on and appeals to fear, with the aim of using this emotion to speed up change. The deadline given for change is very short, in order to associate fear with urgent action to avert the danger.

To summarise, using this rhetoric of collapse supports an emotion of fear brought to a fever pitch. The thesis of collapse is fuelled by the emotion of fear and anticipates that fear is a motivational force that supports change. However, as noted in the introduction, two questions arise: 1) does fear really support action? and 2) do the individual actions carried out in response to fear point to a successful climate change outcome?

1. We can note that the thesis of collapse therefore differs from the more general Anthropocene thesis, in particular research demonstrating the necessity of Anthropocene thinking, including in its historical aspect, to build a more resilient society; see Hamilton, Gemenne and Bonneuil (2015) and Grove and Chandler (2017).

2. Yves Cochet served as minister for regional planning and the environment in France, and was then a member of parliament and of the European parliament.

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With regard to the first question, research in different disciplines has underlined that fear may inhibit action (Macy and Brown 1998; Nichol森 2002; Moser 2007; Swim et al. 2011; Blondé and Girandola 2016). Concerning the challenges of climate change more specifically, due to a very intense fear, people find it too difficult to process the emotions and existential questions related to environmental problems (Pihkala 2018). Consequently, they have a tendency to resort to various defences, for example denial (Norgaard 2011).

Of course, fear does not eliminate all forms of action. But, when fear has an effect on individual behaviours, does this effect lead to reducing the amplitude of climate change? A 2020 report by the *Observatoire des Vécus du Collapse* [Observatory of Collapse Experiences] in France, asserted, based on a lexicological analysis of interviews with 1,800 individuals familiar with the topic, that collapse is associated with the central core of the ‘end’ with three terms directly related to this ‘end’: catastrophe, war and death (Michot, Steffan and Sutter 2020). Fear is the prominent emotion in this lexicological analysis. This report also shows that the prospect of a collapse elicits four types of respondent groups: a) *passive pessimists*, who are paralysed by fear and consider any action to be pointless; b) *passive optimists*, who are just as passive, but considers that experts and science will be able to change things; c) *active pessimists*, who identify purely individual solutions on the fringes of society, in the survivalist mindset of the thesis of the collapse; d) *active optimists*, who believe in the power of collective action for change. This last group represents 29.5 per cent of the respondents. This means that the majority of individuals are either passive, or seeking solutions on the fringes of society without trying to transform it. Moreover, it cannot be inferred that the active optimists have been pushed to collective action as a result of the discourse of the thesis of collapse. It is just as likely that these individuals, who are already more involved in collective change than the others, are familiar with this thesis for this reason. In other words, it is not the thesis of collapse that has pushed them to collective action, but it is because they are involved in collective action that they are interested in the thesis of collapse.

This finding is confirmed by other studies. In the United States, Moser and Dilling (2004), O’Neill and Nicholson-Cole (2009) and Stern (2012) have noted that fear is not successful in convincing sceptics, even if climate change fear affects a growing proportion of the country’s population (see also Firebaugh et al. 2021). On the other hand, the Prepper Movement is typical of those adopting survivalist strategies (Kabel and Chmidling 2014).

Overall, arguments of the thesis of collapse do not seem to support change. This finding, coupled with the fact that fear is the dominant emotion in the discursive analysis, should raise questions for proponents of this thesis. By using the register of fear, and associating it with the prospect of what appears to be inevitable, nothing in these arguments promotes action. Does this mean the ecology of fear should be rejected altogether? Since the thesis of collapse

differs from the ecology of fear by focusing on the extreme nature of the situation, it may be possible to reject collapse while maintaining some validity of the ecology of fear. We must further explore the emotion of fear and better characterise its role in changing habits. We attempt to do this in the following section, drawing on the thinking of John Dewey.

3. THE NATURE AND ROLE OF EMOTIONS ACCORDING TO DEWEY

John Dewey started thinking about emotions very early in his career. In the mid-1890s, he published articles building on, but also criticising, the approaches used by Darwin (1872) and James (1884). The development of his thinking on this topic culminated some 40 years later in *Art as Experience* (Dewey 1934a). Many studies have contributed to rediscovering Dewey's writing on this topic over the past twenty years (Garrison 2003; Hohr 2010, 2013; Morse 2010; Mendonça 2012; Pappas 2016; Crippen 2018; Quéré 2018; Petit and Ballet 2021). Dewey (1894a, b, 1895, 1896) initially offered a form of 'functional psychology' of emotion. In his later works, he moved away from this simplistic understanding to relate emotions more specifically and deeply to the central concept of experience in the pragmatist approach (Quéré 2018). Emotion refers to a mode of teleological behaviour (Dewey 1895) but, above all, is a moving and cementing force (Dewey 1934a) that guides experience. Whereas the articles of 1894 and 1895 had portrayed emotion as a behavioural manifestation of a divided activity or a struggle, in *Art as Experience* (1934), emotion is a useful contributor to, and integral part of, the process of inquiry triggered by problematic situations.

In what follows, we begin by showing that, for Dewey, an emotion cannot be defined without drawing on the situation in which it has arisen. In particular, we cannot speak of *fear*, but of *a* fear. We then emphasise that emotion plays a crucial role in the harmonious unfolding of an experience. For an experience to be unified and complete – meaning that a balance between an organism and its environment is achieved or restored and that the problematic situation is successfully resolved – the emotion must have certain qualities. An experience, however, is not always unified and perfect. In this case, as we show to conclude our reading of Dewey, it is possible to identify the limitations and shortcomings of emotion in its ability to guide a harmonious experience to its conclusion.

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3.1 *Feeling and expressing 'fear' or 'a'fear'?*

For Dewey, emotions are qualities or aspects of a given experience: 'emotions are attached to events and objects in their movement' (Dewey 1934a: 42). More precisely:

emotion in its ordinary sense is something called out *by* objects, physical and personal; it is response *to* an objective situation. It is not something existing somewhere by itself which then employs material through which to express itself. Emotion is an indication of intimate participation, in a more or less excited way in some scene of nature or life; it is, so to speak, an attitude or disposition which is a function of objective things. (Dewey 1925: 390; emphasis in original)

The distinctive feature of emotion is that it is associated with a specific *situation* in close interaction with the *environment* that has given rise to it. This is why, as the passage below clearly shows, it is more appropriate to talk about *an* emotion rather than *the* emotion in an overly general way:

Save nominally, there is not such a thing as *the* emotion of fear, hate, love. The unique, unduplicated character of experienced events and situations impregnates the emotion that is evoked. Were it the function of speech to reproduce that to which it refers, we could never speak of fear, but only of fear-of-this-particular-oncoming-automobile, with all its specifications of time and place, or fear-under-specified-circumstances-of-drawing-a-wrong-conclusion-from-such-and-such data. (Dewey 1934a: 67; emphasis in original).

Emotion therefore has a real *objective* component: 'fear, whether an instinct or an acquisition, is a function of the environment. Man fears because he exists in a fearful, an awful world. The *world* is precarious and perilous' (Dewey 1925: 42; emphasis in original). Emotion is closely related to a situation and attests to the dynamic, ongoing interaction between the subject and his/her environment.

It is crucial, however, to make a distinction here between what may simply be a 'reflex' (an impulse) and the true meaning of emotion according to Dewey. As Dewey stated in *Human Nature and Conduct*, the term impulse corresponds to something 'not directed', initial or 'primitive' (Dewey 1922: 104). Whereas the term emotion (or at times impulsions), by contrast, describes behaviour directed toward something. The passage below clarifies this point:

Emotion belongs of a certainty to the self. But it belongs to the self that is concerned in the movement of events toward an issue that is desired or *disliked*. We jump instantaneously when we are *scared*, as we blush on the instant when we are ashamed. But fright and shamed modesty are not in this case emotional states. Of themselves they are but *automatic reflexes*. In order to *become emotional they must become parts of an inclusive and enduring situation that involves concern for objects and their issues*. The jump of fright becomes emotional *fear* when there is found or thought to exist a threatening object that must be dealt with or escaped from. (Dewey 1934a: 42; emphasis added)

As illustrated by Quéré (2018: 50), explaining Dewey's theory, a noise that wakes us up at night may:

provoke a feeling of fear (causal role), but it is not its object. It is not the noise we are afraid of, but what it may mean, for example that a burglar has broken into our home, with the various possible implications of such a scenario. The emotion therefore depends on the ideas and images that may arise in response to hearing the noise, and the development of worry about how the events will unfold.

These illustrations of fear underscore, first of all, that emotion functions as an effective warning system for the organism. Emotion is an indicator of an imbalance between the organism and its environment. The situation is 'cloudy' (or 'doubtful', in Peirce's (1877) proposed terminology for philosophical inquiry), either because the environment runs contrary to our needs (in the case for instance of a robbery), or because our needs are contrary to the interests of the environment, or because our needs and our habits are mutually incompatible. This uncertainty indicates a desire for change on the part of the subject and can set off a process of 'inquiry'. This process of inquiry seeks to restore harmony to the relationship between organism and environment. In Quéré's example of a robbery, the subject starts to 'listen carefully to the noises in the house, watch out for movement, turn lights on in rooms, walk through the house, check to make sure that doors and windows are locked *etc.*' (Ibid.).

Emotion is, however, more than a mere signal. It also represents one of the means of inquiry in order to establish and solve the problem signalled by the disturbance. In other words, emotion forms part of what Dewey calls '*an experience*' (Dewey 1934a: 35). Emotion guides experience so that the harmony between the subject and his environment is restored. Emotion is, in this respect, what allows for the completeness and unity of an experience.

3.2. The role of emotion in the completeness of an experience

According to Dewey, 'every experience is the result of interaction between a live creature and some aspect of the world in which he lives' (Ibid.: 43–4). As a result, '[e]xperience occurs continuously, because the interaction of live creature and environing conditions is involved in the very process of living' (Ibid.: 35). In his work *Art as Experience*, Dewey (1934a) devotes a great deal of his analysis to the notion of experience in the artistic realm and the underlying aesthetic emotion. He specifies, however, that the concepts he presents are very broad in scope and may also be used to describe more ordinary experiences, such as the simple act of thinking (Dewey 1910). Dewey also provides other illustrations of the ordinary nature of experience:

A piece of work is finished in a way that is satisfactory; a problem receives its solution; a game is played through; a situation, whether that of eating a meal, playing a game of chess, carrying on a conversation, writing a book, or taking

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part in a political campaign, is so rounded out that its close is a consummation and not a cessation (Dewey 1934a: 35)

A problem that is solved or a process of inquiry that is successfully carried out therefore correspond to complete experiences. The imbalance between environment and subject, signalled by emotion, is resolved. Balance is restored. In an enlightening passage from *Art as Experience* (known as ‘the room’, Dewey 1934a: 77–78), Dewey describes an experience – which he refers to as complete – in which an individual transforms and calms his initial irritability by redirecting his activity. By tidying his room, order is restored both to his environment and his psychological wellbeing. In this example of the room, the practical, emotional and intellectual aspects are intertwined. According to Dewey, in a vital experience it is not possible to divide the practical, emotional and intellectual from one another and set the properties of one against the characteristics of the others. For Dewey, ‘man is an emotional and imaginative as well as an observing and reasoning creature’ (1925: 236). It is impossible, in the course of experience and during the process of inquiry, to dissociate that which is related to emotion and that which refers to reason: ‘[i]ntelligence, as distinct from the older conception of reason, is inherently involved in action. Moreover, there is no opposition between it and emotion.’ (Dewey 1934b: 79)

Even if the pragmatist conception of experience is profoundly non-dual, we can, however, for analytical reasons, attempt to identify the central role that emotion plays in it. As such, the ‘experience [...] has a satisfying emotional quality because it possesses internal integration and fulfilment reached through ordered and organized movement’ (Dewey 1934b: 38). Emotion has certain qualities that allow it to guide the individual:

Emotion is the moving and cementing force. It selects what is congruous and dyes what is selected with its color, thereby giving qualitative unity to materials externally disparate and dissimilar. It thus provides unity in and through varied parts of an experience. (Ibid.: 42)

By evoking ‘materials’ here, Dewey is thinking of the raw materials (words, dyes, clay, etc.) with which the artist (writer, painter, sculptor, etc.) creates their works. ‘Selection and organization of material are at once a function and a test of the quality of the emotion experienced’ (Ibid.: 69). An emotion of quality, which attests to the work’s creativity and the unity of the experience, is described as ‘aesthetic’ when it can harmoniously assemble these various materials to cause an emotion. ‘The determination of the *mot juste*, of the right incident in the right place, of exquisiteness of proportion, of the precise tone, hue, and shade that helps unify the whole while it defines a part, is accomplished by emotion’ (Ibid.: 70; emphasis in original). Emotion therefore has certain qualities that make it a central part of experience.

As we have already noted, experience also has an ordinary nature (Formis 2015). The ‘materials’ evoked in the previous passage refer to the tools of

artistic creation, but also correspond to various objects the individual makes use of in his environment in the course of an experience. They also correspond to the ideas structuring a thought and guiding a decision of any kind. In our daily lives, emotion is therefore that which leads to the completeness and unity of our experiences. However, an experience may be imperfect or incomplete. In this case, emotion has not done its work of restoring balance between the individual and his environment.

3.3 *The 'enemies' of experience or the shortcomings of emotion*

Emotion is effective 'when it is spent indirectly in search for material and in giving it order, not when it is directly expended' (Dewey 1934a: 70). Emotion is 'aesthetic' when it is not simply a 'discharge of affects'. In other words, 'emotions are qualities, when they are significant, of a complex experience that moves and changes. I say, when they are *significant*, for otherwise they are but the outbreaks and eruptions of a disturbed infant' (Ibid.: 41; emphasis in original).

Not all emotions are able to do this intelligent work of making our experiences unified and complete. In the course of our daily lives, and in particular in the act of thinking, the unified and 'finished' nature of the experience is not a general rule. It is neither certain nor even common. The situation may be more problematic, more complex than the one evoked for instance through the example of the room. Notably, the alchemy of emotion, which, in being transformed, leads to solving the initial problem the individual faces, is very delicate in most situations. More specifically:

[e]xperience is limited by all the causes which interfere with perception of the relations between undergoing and doing. There may be interference because of excess on the side of doing or of excess on the side of receptivity, of undergoing. (Ibid.: 44)

On the one hand, Dewey identifies a form of impetuosity, impatience, hurry, or thirst for action that impedes the unfolding of an experience and makes it superficial. The resistance the individual faces due to the appearance of a problematic situation is treated as an obstruction to be eliminated, rather than an opportunity for reflection.

On the other hand, and we stress this dimension, '[e]xperiences are also cut short from maturing by excess of receptivity' (Ibid.: 45). This excessive receptivity corresponds to an overabundance of emotion: '[t]here is, when one is mastered by an emotion, too much undergoing (in the language by which having an experience has been described) and too little active response to permit a balanced relationship to be struck' (Ibid.: 70). In other words, the experience fails because the emotion felt is not harmoniously guided, does not allow the individual to reflect and act accordingly. That is, the experience is incomplete since the relationship between emotion (undergoing) and action

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(doing) is impaired: '[s]ome decisive action is needed in order to establish contact with the realities of the world and in order that impressions may be so related to facts that their value is tested and organized' (Ibid.: 45). As Dewey underscores, the 'perception of relationship between what is done and what is undergone constitutes the work of intelligence' (Ibid.: 45). The method of intelligence explores how an individual or organism responds to problems they encounter. It simultaneously involves action, emotion and reason, in a balanced way.

The excess of emotion takes two forms: an experience is imperfect when the underlying emotion is either (1) insufficient or inappropriate or (2) excessive and eruptive.

(1) First, the incompleteness or imperfection of an experience may come from insufficient or inadequate stimulation that hampers an individual's engagement in an experience. This is the case, for example, with boredom or apathy. Etymologically, the nature of an emotion is to force us to act (the word emotion comes from the Latin *emovere*, which means 'cause to move'). An emotion that is lacking in intensity will not effectively mobilise the energy needed for the fulfilment of an experience. 'Perception is an act of the going-out of the energy in order to receive, not a withholding of energy' (Ibid.: 53). However, '[i]n much of our intercourse with our surroundings we withdraw; sometimes from fear, if only of expending unduly our store of energy' (Ibid.). It is thus possible for an emotional passive routine to lock us into a position that prevents any transformation. This refers in particular to numerous situations identified by sociologists in which the production of emotions is aimed at preserving a reputation, a social identity, self-esteem or a clear conscience (Cabanas and Illouz 2019).

(2) An excess of emotion can also act as a barrier to experience: according to Dewey, 'a person overwhelmed by an emotion is thereby incapacitated for expressing it' (Dewey 1934a: 69). An 'immediate discharge' is, in particular, detrimental to the rhythm of experience since '[e]nergy is not conserved so as to contribute to an ordered development [...] There is not [in particular] enough resistance to create tension, and thereby a periodic accumulation and release [...] We get a sob or shriek, a grimace, a scowl, a contortion, a fist striking out wildly' (Ibid.: 155). The opposite of experience is therefore dissipation, agitation, lack of attention, the unfocused nature of behaviour that reflects an imbalance with the environment. As such, 'fears of a world unfriendly to dominating desires breed inhibition of all action or confine it within familiar channels' (Ibid.: 157). For example, as Dewey points out in *A Common Faith*, intense fear instilled by religion creates dependence on forces that are beyond our control: '[p]rimitive man was so impotent in the face of these forces that, especially in an unfavorable natural environment, fear became a dominant attitude, and, as the old saying goes, fear created the gods' (Dewey 1934b: 24).

Intense and prolonged ‘fear never gave stable perspective in the life of anyone. It is dispersive and withdrawing’ (Ibid.: 25).

To summarise, there are ‘enemies’ of experience: an intense but dissipated emotion – or on the contrary a form of lethargy – as well as ‘the humdrum; slackness of loose ends; submission to convention in practice and intellectual procedure [...] Rigid abstinence, coerced submission, tightness on one side and dissipation, incoherence and aimless indulgence on the other, are deviations in opposite directions from the unity of experience’ (Dewey 1934b: 40). Insufficient or excessive emotion results in the non-fulfilment of an experience. This implies that its achievement is the result, as Dewey suggests, of the proper (Aristotelian) proportion of affects. This also shows that a ‘successful’ experience implies a specific aptitude in the conduct of emotion and a certain level of intensity of emotional energy. In particular, the individual who is the most capable of achieving a harmonious experience (and who corresponds to an artist for Dewey) is one who ‘does not shun moments of resistance [and ...] rather cultivates them, not for their own sake but because of their potentialities, bringing to living consciousness an experience that is unified and total’ (Ibid.: 15).

4. DISCUSSION: THE ECOLOGY OF FEAR PUT TO THE TEST OF EMOTIONS

The ecology of fear draws on an emotion of fear. The objective of this ecology is to use fear to change individuals’ attitudes and behaviours that are contrary to climate mitigation. Fear, whether intense or moderate, remains a signal of a dysfunction in the relationship between an organism and its environment. The way an individual responds to awareness of this dysfunction – and which in John Dewey’s view corresponds to having an experience, meaning leading an inquiry and finding a solution – depends on the intensity of the emotion felt. In particular, when the emotion of fear is too intense, as is the case when it is caused by the inevitability of catastrophe envisioned by the thesis of collapse, fear is devoid of the quality needed to achieve a virtuous experience and spur action. A more moderate fear, on the other hand, is an emotion that can help bring about change.

4.1. Distinguishing between intense fear and moderate fear

As we noted in our preliminary discussion of Dewey’s conception of emotion, it is preferable to refer to *a* fear, related to a particular situation, than to *fear* in general. The emotion of fear must be discussed with its array of subtleties. Introducing nuances relating to fear implies being able to distinguish – based on its intensity and the way it is assessed – a simple worry or fear from panic or

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terror (Scherer 2005). With regard to climate change, we wish to emphasise that it is useful to distinguish between an emotion of intense fear and a more moderate fear. In particular, the intensity of the fear (an intensity compounded by the prospect of inevitability that the thesis of collapse proclaims) must be taken into account. In a Deweyan sense, an experience in which an overly intense fear is felt may be incomplete (and therefore unfulfilled) when the relationship between emotion (undergoing) and action (doing) is impaired. Conversely, an emotion that is lacking in intensity leads to a form of apathy or nostalgia that is insufficient to unleash action. The relationship between emotion and motivation for action is ambiguous (Tappolet 2016). It is therefore crucial to explore the characteristics or qualities an emotion of fear must have in order to result in producing an action conducive to restoring the environment.

Empirical research has recently focused on the phenomenon of eco-anxiety (Verplanken et al. 2013, 2020; Ojala et al. 2021), defined as feeling anxious due to climate change. This research shows that eco-anxiety can at times lead to depression (Gifford and Gifford 2016). However, since it does not explain the relationship between the intensity of eco-anxiety and people's commitment to taking action for environmentally-friendly change, this research does not allow us to advance in our analysis of the role emotions play in action. Dewey's pragmatist analysis provides a way forward.

4.2. Why moderate fear is an emotion of quality in the Deweyan sense

Unlike intense fear, moderate fear is associated with rational thinking (Sève 1993; Oliveira 2014). A moderate fear corresponds to an anticipation of the threat and allows an informed circumvention of the threat so that every action becomes intentional and virtuous. This virtue can be understood as not directing towards indifference or non-choice, but as directing action towards what is right. Sève (1993) also noted that moderate fear is conceived of *via ex-ante* rationality in response to a coming threat. Moderate fear allows for rational action and takes on an ethical dimension, if only by guiding action towards avoiding the worst. Then, moderate fear allows us to identify risks with discernment, and to limit them by redirecting present actions with the aim of reshaping risks in the future. Intense fear, on the contrary, amplifies the catastrophe so the present threat becomes irreversible, no action can change the situation and the only solution is a possible survivalist strategy, like the Prepper Movement (Kabel and Chmidling 2014).

With moderate fear, fear becomes an instrument for assessing the situation, and is not bad in and of itself. An emotion of fear can therefore align with Dewey's method of intelligence. As such, it helps skilfully to guide us towards the perceivable. It leads us to achieve a true experience, in the Deweyan sense – a transformation – and ultimately possesses a quality that intense fear does not. This distinction is coherent with Chen (2016), who points out that people

who are exposed to moderate fear appeals are more likely to commit to making changes than those who are exposed to strong (intense) fear appeals.

4.3. *Fear and the hope of change*

To disentangle moderate from intense fear, we can use Beck's (1979)³ triangle of depression. Psychiatrist Aaron Temkin Beck, the father of cognitive therapy, distinguished between three interconnected elements in his research on therapy for depression: cognitive (what we think), emotional (what we feel) and behavioural (what we do). By playing on the register of intense fear through a prophesy of doom, the thesis of collapse blocks the horizon of change (what we think). The thoughts in the thesis of collapse are inevitable and become a certainty. As a result, we are afraid (what we feel) but take no action (what we do), precisely because it is inevitable and certain. It is through this register of an inevitable horizon, which is impossible to change, that the thesis of the collapse feeds intense fear. In *The Quest for Certainty* (1929), Dewey clearly demonstrated how the need for security (in response to fear) hampers effective scientific analysis. In *Liberalism and Social Action* (1935), criticising the use of violence for transforming institutions, he was more radical:

Insistence that the use of violent force is *inevitable* limits the use of available intelligence, for wherever the inevitable reigns intelligence cannot be used. Commitment to inevitability is always the fruit of dogma; intelligence does not pretend to *know* save as a result of experimentation, the opposite of preconceived dogma. (Dewey 1935: 78; emphasis in original)

This can be seen as a decisive attack on the use of intense fear. Instead of mobilising action, intense fear creates apathy, fatigue and resignation, and is thus an 'enemy of experience'. In Dewey's words, '[o]rdinary experience is [...] infected with apathy, lassitude [...]. The "world" is too much with us as burden or distraction. We are not sufficiently alive to feel the tang of sense nor yet to be moved by thought. We are oppressed by our surroundings or are callous to them' (1934a: 260). Therefore, insofar as '[n]o complete and enduring suppression of emotion is possible [...] emotion [of fear] withdraws and feeds upon things of fantasy' (Ibid.). The emotion of intense fear is reduced, as maintained by Sartre (1939), to a conduct of 'escape' (faced with an aggressive bear, we faint). In this case, individuals 'find easy entrance into a kingdom of free floating emotions' (Dewey 1934a: 260). Norgaard (2006, 2011), for example, has shown how fear or guilt may incite individuals to adopt strategies of protection or even denial that allow them to justify their lack of participation in reducing carbon emissions in the atmosphere.

Unlike intense fear, moderate fear brings together the three parts of the triangle in the following way: what we feel is probable but remains uncertain.

3. We thank Laurent Parrot who suggested the use of this triangle.

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Therefore, we are afraid that it will occur. To avoid this, we take action, since it is by taking action that we can avoid what is probable but not inevitable. This distinction aligns with the major role psychology must play in climate action (Rachlinski 2000; Swim et al. 2011). Psychological barriers are just as important in climate action as political and economic barriers, as they affect what we think (Gifford 2011). Following Beck's triangle, we can say that information about risks and dangers can drive improvements in perception (change what we think); however, the kind of message in turn may create different kinds of emotions (what we feel), and ultimately influence the fulfilment of individuals' commitment to change in light of these risks (what we do) (Myers et al. 2012). For this reason, Gifford and Comeau (2011) have noted that commitment to climate mitigation action is much higher when messages offer solutions, values and a positive vision of change than when they rely on sacrifice (economic or symbolic). In other words, the emotion created by the message must contain hope in order to activate change. And hope must be appealed to for this reason (Moser 2007; Ojala 2012; Stern 2012; Williston 2012; Chadwick 2015; Head 2016; Feldman and Hart 2018; Nabi et al. 2018).

This is precisely the difference between an emotion of intense fear and an emotion of moderate fear. Intense fear, as drawn on by the thesis of collapse, leaves no room for rationality or hope, as it entrenches individual attitudes and habits. It can even, as Norgaard has noted (2006, 2011), reinforce them at times. Moderate fear, on the other hand, opens a prospect of possible change, and therefore hope. Dewey's thinking is particularly relevant in this process. The quality and intensity of an emotion is essential to the transformative process. It is first and foremost through an emotion compatible with reason – the method of intelligence for Dewey – that change can be envisioned and activated. It is also because the emotion of moderate fear can itself be transformed (from fear to hope) during the process that an individual may achieve a virtuous experience that leads him/her to take action. Since moderate fear presupposes action and intense fear annihilates it, a sort of 'enlightened doomsaying' (as described by Dupuy 2004) may draw on moderate fear, whereas the thesis of collapse gets lost in the instrumentalisation of intense fear, which may also create a self-fulfilling prophecy.

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