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## **Fear beyond danger**

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### **Abstract**

Many agree that the more we feel that we can handle a given situation, the less afraid we are. But why? Is the situation no longer dangerous or is fear a response to more than danger? Here I analyse situations in which one reacts in cold blood to danger and argue that the formal object of fear is not the dangerous, but the unsafe. The unsafe indicates not only how the world is, but also how it can be handled. Safety, and its negative counterpart, are characterized by their duality, both evaluative (is the snake dangerous?) and agentive (is it under control?).

### **KEYWORDS**

danger, emotion, safety, control, appraisal, agency, attitude

## 1. INTRODUCTION

Imagine that a rally driver sees an oncoming car ready to crash into her. Her long-term practice has taught her what to do in such circumstances and how to do it properly. According to Goldie (2000, p. 63), she reacts in cold blood and stays genuinely fearless. But does she represent the oncoming car as dangerous? It might seem that she must evaluate danger as being weak, or even null, because there is only a small probability that she gets harmed given her driving skills. This would explain her lack of fear. However, if she does not represent the situation as dangerous, why does she display increased arousal, speeded responses, and many signs associated with danger reaction? We may then revise our first intuition and note that there is a sense in which a situation does seem dangerous if failing to react properly could kill the person. This is why the rally driver reacts in such a way. However, we now face another problem: If she is aware of the oncoming car as dangerous, why does she feel no fear? Arguably, the rally driver does not feel afraid because she is aware that she has the situation under control. By contrast, it seems highly plausible that a novice driver with little experience would feel scared. A major difference between the two is at the agentic level: They have a different feeling about what they can do about the threat. Their sense of control, or lack of it, thus seems to matter to fear. However, this claim needs to be qualified. Let us now imagine that our young driver is actually very religious and fully trusts St Christopher, the patron of cars, to protect her. Then she might be fearless like the rally driver, despite her weak evaluation of her own driving skill. I thus propose that fear is partly determined by the sense that danger is under control, whether by oneself or by something else.

In this paper, I focus exclusively on genuine experiential episodes of fear (I am afraid of the car accelerating towards me), leaving aside non-genuine fears (I fear that it will rain tomorrow) and dispositional fears (I am afraid of flying). Genuine fear is characterized by its distinctive affective phenomenal character: It feels a specific way to experience fear, which is different, for instance, from how it feels to experience disgust. There are many types of genuine fears, including panic, dread, fright, and so forth, but I shall not address these fine-grained differences. For sake of simplicity, I shall focus on the type of fear that one can experience while being face-to-face with a dangerous animal. Fears of snakes, spiders, or dogs are prototypical examples in the literature, whether in philosophy or in cognitive science. These fears may be easily understood insofar as they have strong evolutionary roots. The scope of this paper, however, goes beyond this type of evolutionary fear. It also covers acquired fears caused by

dangerous things that appeared only recently in our history, such as car accidents, or even more recently, COVID-19. These acquired fears can be based on abstract knowledge or personal experiences. Though they differ from basic evolutionary fears in some respects, possibly involving different neural pathways, they share some fundamental features at the personal level that we will explore here.<sup>1</sup> More specifically, my proposal shall be three-fold.

First, I shall argue that one can be non-conceptually aware of something as being dangerous without experiencing fear. Danger awareness is not a sufficient condition for fear. Secondly, I shall show that fear typically also involves some kind of non-conceptual negative evaluation that determines that the threat is not under control. To do so, I will explore the contribution of agentive factors to fear, focusing especially on the sense of one's own control. In line with numerous results showing the detrimental effect of helplessness on one's affective experiences, appraisal theories of emotions in psychology have proposed that control over the situation is among the most important appraisal criteria that determine whether or not one feels afraid (Lazarus, 1991). However, little has been said in philosophy about the contribution of the sense of control to fear (with the notable exception of Nussbaum, 2001). Here I will propose that fear does not respond to the dangerous *simpliciter*, but to the *unsafe*. The unsafe indicates not only how the world is, but also how it can be handled or dealt with. Feeling safe does not necessarily mean that there is no danger, though it obviously helps, but rather that one feels that one can be protected from the threat. Safety, and its negative counterpart, are characterized by their duality, both evaluative (is the car dangerous?) and agentive (is it under control?). One might then say that feeling fear is experiencing the lack of safety.

## 2. DISSOCIATING FEAR AND DANGER AWARENESS

Many would agree that being afraid of something involves being aware of this thing as dangerous (e.g., De Sousa, 2002; Prinz, 2004; Deonna & Teroni, 2012; Mitchell, 2021; D'Arms and Jacobson, 2017):

The formal object of fear—the norm defined by fear for its own appropriateness—is the Dangerous. (De Sousa, 2002, p. 251)

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<sup>1</sup> At the end of the paper I will consider some special cases of fear to assess the scope of the proposal, including fear for others, fear of relatively remote events, and fear in fiction.

Fear, for example, may represent the property of being dangerous. (Prinz, 2004, p. 63)

Jonas's fear may be assessed as justified if it is based on his apprehension of a certain danger, and, as it happens, as correct because he indeed faces a dangerous situation. (Deonna and Teroni, 2012, p. 41)

The dangerous here is conceived as a mind-independent evaluative property, the objective property to harm a given organism, physically or psychologically.<sup>2</sup> Some then argue that fear represents danger, and so has evaluative content, where the content is either conceptual (e.g., Nussbaum, 2001) or non-conceptual (e.g., Mitchell 2021; Prinz 2004). Others argue that danger awareness is expressed not in the content, but in the attitude of the emotion (e.g., Deonna & Teroni, 2012). All these accounts, however, assume that the dangerous is what is conventionally called the formal object of fear. The formal object is the unitary evaluative property that individuates the type of the emotion (i.e., distinguishing it from other emotions) and the norm to evaluate whether the emotion is appropriate. On this view, one can feel afraid while there is in fact no danger. Fear is then said to be inappropriate. But can one correctly experience the situation as dangerous and *not* feel afraid?

Alston (1967) replies positively: “[B]eing frightened cannot consist simply in seeing something as dangerous” (p. 485). He assumes that danger awareness and its appropriate response do not suffice to account for the emotional experience of fear. Is his assumption warranted? One can find the beginning of an answer in recent empirical findings showing that one can appraise something as being dangerous in the absence of subjective reports of fear. At the neural level, there is a specialized system in the amygdala tuned to danger. It operates automatically very early on in the cognitive architecture, thus allowing for rapid evaluative processing even when visual information is still limited and rudimentary (Pourtois et al., 2013). This early appraisal mechanism does not systematically give rise to a feeling of fear. In one study, healthy participants were presented with a subliminal presentation of threatening stimuli.

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<sup>2</sup> Though I will not enter this debate here, one may note that D’Arms and Jacobson (2017) question whether there can be a satisfying response-independent definition of danger. Nonetheless, they seem to acknowledge that there are cases in which the dangerous can be assessed objectively: “that some activities, such as walking through a lion’s den, are dangerous for a perfectly obvious reason that can be understood without recourse to fear: it is likely to kill you” (p. 261). Furthermore, even those who defend a response-dependent account of fear, which I shall discuss at the end of the paper, accept that there may be a response-independent notion of danger (Tappolet, 2016).

This sufficed to activate the amygdala and elicit physiological responses despite the participants reporting no fear (Tamietto & de Gelder, 2010). Similar results can be found in patients with spatial neglect after a right parietal lesion, who do not pay attention to the left side of their visual hemifield (for instance, they would draw a flower with petals only on the right side). If asked to choose where they would prefer to live between two houses, one of which being drawn with its left side on fire, they select the other one. When asked why, they do not mention the fire and they express no fear (Marshall & Halligan, 1988). Likewise, patients with blindsight after a lesion of V1 can discriminate between threatening and non-threatening stimuli and display bodily responses when they “see” the threatening ones, though they report no visual awareness and no fear (de Gelder et al., 1999).<sup>3</sup> On the basis of such findings, the neuroscientist Joseph LeDoux has thus repeatedly argued that one should be careful not to confuse the feeling of fear with what he calls defensive circuits (e.g., LeDoux, 2015). So, it is empirically possible to appraise something as dangerous without experiencing fear.

No study has been done yet to pinpoint the precise differences between danger reaction and fear reaction. The difficulty is that danger awareness and fear have probably a common core since fear involves being aware of danger. For instance, at the physiological level, the findings on subliminal perception and on affective blindsight show that danger appraisal in the absence of fear is associated with physiological responses comparable to the ones found in fear. Still, it is plausible that the intensity of the physiological signs is higher when being fearful, and that there are other differences, still to be investigated. At the behavioural level, though many often refer to defensive behaviours as if they constituted a unified category, there are many differences among them (LeDoux & Daw, 2018). Some are stimulus-triggered and automatic, such as the blink reflex. Others are more complex, but still preprogrammed fixed reaction patterns like the famous three Fs (flight, freeze, fight). Others involve more flexible and deliberate instrumental behaviours, which depend on building up more or less explicit models of the world. Though there is also no sharp line between the defensive responses triggered by danger appraisal and those triggered by fear, many of these responses can be triggered independently of fear and those motivated by fear are often the most sophisticated ones, and thus the costliest ones. Finally, at the attentional level, both danger appraisal and fear capture and consume attention, but fear can be more persistent, sometimes lasting beyond danger itself. For instance, imagine that you hear an unusual noise in the night in your apartment. This automatically alerts

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<sup>3</sup> It remains open whether these patients have unconscious fear. My proposal, however, exclusively targets conscious episodes of fear.

you of a possible threat and you react, looking around to check if everything is okay and if it is, you simply go back to bed. But if you start feeling afraid, then the discovery that all is fine does not suffice to calm you down and the fear can invade your thoughts (Brady, 2013). Danger appraisal without fear has effects that are more narrow-minded, so to speak. They cover only the elements of the situation that are directly relevant and they fade more rapidly. By contrast, one may argue that fear is less encapsulated and more connected with the rest of the cognitive architecture. It can thus have a larger impact on one's cognitive system, and thus more negative side-effects.

One may then argue that it is evolutionary advantageous for danger awareness and fear coming apart (Moscarello & Hartley, 2017). A creature is more likely to survive if it is not systematically afraid of everything that it evaluates as dangerous. The reason for this is that one tends to over-estimate risks. One cannot afford to overlook threats because such oversight could be lethal. As a consequence, there is an adaptive innate bias to automatically assume danger in ambiguous situations, which can be summarized by the motto "better safe than sorry". However, if one were afraid each time, there would be a risk of cognitively investing too much into self-defence, and this would bear consequences on other types of behaviours that are also essential for survival. For instance, it has been found that fearful animals no longer look for food even though they are hungry. If one were systematically afraid each time one becomes aware of danger, it could prevent foraging, mating, exploring, reproducing, and more generally prospering, and it would do so even in situations that eventually did not require fear because the appraisal system over-estimated danger. It would then lead an organism to miss opportunities, and even to endanger oneself. To summarize, one should maximize danger detection (to avoid missing potential harm), while minimizing fear (to keep on living, one cannot hide forever).

One may reply that danger appraisal is unconscious in many of the cases that I reviewed, and possibly processed only at the subpersonal level. One may further argue that as soon as it becomes conscious, one feels afraid. But is that really the case? First, it is controversial whether patients with neglect and even with blindsight have no consciousness of what they see (Phillips, 2021). Furthermore, the rally driver who reacts in cold blood can later justify the way she suddenly braked and drastically turned the wheel by acknowledging that it was a close call and she needed to react quickly, thus showing that she was conscious of the threat. Her conscious experience of danger is not to be confused with the conscious experience of fear. It is evaluative, but not yet affective. Alston suggests another example of a dissociation between the two:

Two people can see a snake as equally dangerous, both can take the same sorts of steps to meet the danger, and yet one is gripped with fear while the other is calm. (Alston, 1967, p. 485)

Let us flesh out Alston's example and imagine the following scenario:

Clara has always been attracted by wild animals and wanted to become a veterinary in game reserves. However, the first time she approached a snake, she could not help but panicking, and she simply froze. Her second trial was barely better but being really motivated, she kept training and gained detailed knowledge about wildlife and how to take care of animals in the savanna. She is now a well-known veterinary who rarely feels afraid of her patients and when she takes care of a snake, she no longer feels fear.

The crucial question is whether Clara still experiences the snake as dangerous when she becomes an expert. If we can indeed show that she can experience the snake as being dangerous without experiencing fear, then it means that danger awareness is not sufficient for fear and that there must be something else.

### **3. DANGEROUS**

The dangerous is a relational and relative property. For instance, peanuts can harm someone allergic to them, but not others. This depends on the creature's physiological tolerance. Even rattlesnakes can be dangerous for some species, such as human beings, but not for others, such as woodrats. Not only does danger depend on the creature, but also on the context. The oncoming car is dangerous if one is in the street, but not if one watches it from one's window on the third floor. One might then argue that whether or not something is dangerous also depends on the creature's ability to deal with this specific threat. The fact is that when one is in full control of the situation like Clara the expert, there is almost no risk of being harmed. We can then propose a first interpretation of Clara's case:



- (i) Unlike when she was an apprentice, Clara the expert does not represent the sick animal as being dangerous for her since she knows how to handle it. This explains why she no longer experiences fear.

This account may seem relatively intuitive. For instance, a child may feel afraid of the dark but when she grows older and wiser, she no longer experiences the dark as threatening, and as a consequence, she no longer feels afraid. In her case, however, her early fear was unjustified, or inappropriate, because there was no danger at all. Her expertise has allowed her to rectify the mistaken evaluation that she made when she was younger. By contrast, in Clara's case, her first appraisal was not mistaken. It might have been rough and sketchy, partly based on prejudice and approximate knowledge, but it was not fundamentally flawed. It is a fact that some snakes, like the Black Mamba for instance, are dangerous because their bites are almost always fatal if untreated. They are not like imaginary monsters in the closet. For objective threats, the sense of danger is not reduced to zero simply in virtue of one's expertise. The sense of control can modulate it or moderate it, but only to a certain extent. It does not extinguish it completely.

The fact is that if the sense of control could reduce danger evaluation to zero, it would have unwelcome consequences. For Clara to evaluate the situation as being "not dangerous" would then be ambiguous. It could mean either that there is no likely source of harm for her in the environment or that there is one but that she can handle it. This ambiguity is problematic because the cognitive significance of these two meanings is radically distinct. It makes a difference whether or not one is aware of the risk of potential harm. There are physiological, attentional, and sensorimotor signatures of danger appraisal, which are absent if one does not evaluate the situation negatively. In brief, unless one has detected a possible risk of being harmed, one does not act to protect oneself. The risk can be only imaginary or anticipated but, in all cases danger appraisal is a prerequisite for one to engage in defensive behaviours.

Now, Clara displays protective behaviours even when she has become an expert. She is attentionally alert and she invests all her attentional resources to the task at hand. Furthermore, she adopts a range of protective gestures, for instance, approaching the animal from a certain angle or avoiding sudden movements. These behaviours seem to indicate that at some level at least, she represents the possibility of being potentially harmed. At the doxastic level too, she recognizes the presence of danger. If explicitly asked whether there is no danger at all, she would probably disagree. Handling sick wild animals is risky, no matter how expert one has become, and there will always be cases in which they can potentially harm their caregiver. With

learning and practice, Clara has become fully aware of the wild animals' strength, their unpredictability, and the difficulties of handling them, especially when ill, and in greater details than when she started. Even if she knows that she is good at what she does, she also knows that she must be extra careful precisely because taking care of wild animals is dangerous. This is true in general, but this is also true *for her*. Even though it is unlikely that she will be harmed, it is not as if there were no danger at all for her. She should not become overconfident and let her guard down. She still can be harmed if she does not act in the right way and this is why she behaves in a special way, to avoid such a scenario. Her behaviour is justified by her awareness of danger. She would have no reason to proceed cautiously if she were not aware of a possible danger for her. Hence, experiencing a sense of control while facing danger does not entail being blind to danger, quite the contrary. If experts downsized danger, appraising the situation as being less dangerous for them than it is, they would actually be bad at protecting themselves by failing to take the necessary means to respond. In brief, to be an expert means correctly assessing the degree of danger in order to react appropriately. It involves an acute awareness of what awaits one in a given situation and of how to respond to it.

One may then grant that Clara the expert is aware that the situation is dangerous for her, but only at the conceptual level, which explains why she does not feel afraid. Most people indeed agree that conceptual grasp of danger does not suffice for fear. For instance, one can smoke and fail to experience fear while believing that tobacco is dangerous. Likewise, a large number of people now believe in the danger of global warming but they remain relatively detached from the situation. As a consequence, it has been argued that affective states need to be *non-conceptual* (Prinz, 2004; Tappolet, 2016; Carruthers, 2018; Mitchell, 2021; Tye, 2008). The non-conceptual hypothesis can easily account for the fact that young children and animals can experience fear since fear does not require possessing the concept of danger. One may then explain Clara's lack of fear in the following way:

- (ii) Clara the expert represents the situation as dangerous for her, but only at the conceptual level, whereas Clara the apprentice represents it also at the non-conceptual level.

But why would Clara's evaluation be only at the conceptual level when she becomes an expert? It seems literally vital for danger evaluation to occur at an early stage because there are many situations in which one cannot afford the time to conceptually assess the risks before acting. Expertise need not modify that. The debate on skills goes beyond the scope of this paper but

for many, they require non-conceptual practical representations based on a high sensitivity to subtle variations in the situation (e.g., Pavese, 2019; Fridland, 2021; Pacherie & Mylopoulos, 2021). We can then propose that by becoming skilful, the sensitivity of Clara's non-conceptual appraisal has gained in precision and reliability. It is less likely to signal danger when there is no reason for it and thus, has fewer false alarms. It is also less likely to fail to spot danger, and has thus fewer false negatives. In both cases, her appraisal can still be non-conceptual.

To recapitulate, I have first argued that even as an expert, Clara can still represent the situation as being dangerous for her, which explains why she engages all her attentional resources and acts in the way she does. I have then argued that her danger appraisal is not only at the conceptual level, but also at a relatively primitive and non-conceptual level. Her sense of control thus does not extinguish her awareness of danger. Being aware that something can hurt her if she does not react in the appropriate way is a legitimate ground to experience it as being dangerous. The sense of control then asserts that she knows how to react in the appropriate way, but it does not alter the fact that it is still dangerous for her. Put in another way, the evaluation of potential harm is not systematically brought to zero simply because one feels that the situation is under control. It may be reduced, but one can remain aware of some degree of danger when it is justified. Hence, one can feel in control and still non-conceptually experience the situation as dangerous. We can now propose the following analysis, which shall be our working hypothesis from now on:

- (iii) Even when expert, Clara non-conceptually represents the situation as dangerous for her.

As originally suggested by Alston (1967), danger awareness can overflow fear. However, one may reply that though Clara the expert non-conceptually represents the situation as dangerous, she does not represent it as *dangerous enough* to feel afraid. In brief, small danger would not warrant fear. But is that really the case? It is not appropriate to feel afraid from small dangers, but this does not entail that we never do so. Nor does it seem that we only experience fear for major dangers. Furthermore, even if Clara's expertise has lowered her risk evaluation, her prudential behaviour does not seem to indicate that she represents the danger as being only low. She does not act in a careless way. Hence, we need to look elsewhere to explain why she remains fearless despite non-conceptually representing danger. What is missing?

#### 4. HELPLESS

Let us return to the contrast between Clara the apprentice, panicking, and Clara the expert, almost fearless. Past successful interactions with animals have given Clara the expert a sense of control: She is aware that she is now ready to face the situation awaiting her. More specifically, she evaluates the likelihood that her next movements will be successful both in helping the sick animal and in avoiding injury. By contrast, Clara the apprentice feels helpless. One may then propose that her affective state is determined not only by her awareness of danger, but also by her sense of control, or by the lack of it.

There has been extensive discussion on the sense of control over a given action, but less has been said of a more enduring notion of the sense of control, which precedes the performance of the action. According to Moscarello and Hartley (2017, p. 725), the sense of control corresponds to “the perceived breadth of an organism’s influence over its environment”. On the basis of one’s past behaviours, it predicts the successful outcomes of actions that have not yet been performed to positively influence the current state of affairs. It has three main features. First, it targets the environment: It is the situation that is under control. I do not include here the sense of control that one has over one’s affective states in emotion regulation, but only the sense of control over the situation that is the object of fear.<sup>4</sup> Secondly, it is scalar, spreading between helplessness (low probability of success) and full control (high probability of success). Finally, the sense of control can be said to be metacognitive insofar as it is based on the monitoring of one’s performance (e.g., Pacherie & Mylopoulos, 2021; Tashjan et al., 2021). It is primarily grounded on the knowledge of past behaviours in relevantly similar circumstances, which are generalized beyond their respective contexts (Moscarello & Hartley, 2017). The success of one’s previous actions (*lack of error*) is one of the main cues for the sense of control, but this is not the only one. Take the example of learning a new language. You feel that you master a new linguistic skill when you make only a few mistakes, but also when the words come to you with ease. Even if your grammar and your vocabulary were flawless, you would not feel bilingual if you had to think twice before speaking. What is missing then is fluency (*lack of effort*). It has been found that fluency at the level of action selection plays a major role

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<sup>4</sup> Control over one’s affective states through emotional regulation plays a major role in clinical psychology (e.g. Van der Kolk, 2014), but here I focus on the intrinsic constituents of fear, and not on the extrinsic mechanisms that can modulate it.

for the sense of control: The easier it is to select which movement to perform, the more in control one feels over the action in progress (e.g., Metcalfe & Greene 2007; Chambon & Haggard 2012). Roughly speaking, you feel that you are in control because you can decide what to do knowing that it will be the right decision, but also because you can easily decide. Knowledge of one's abilities must then be implemented in the here-and-now context to compute the success of the forthcoming action. You might be an excellent runner but if you feel tired today, this will be of little help for you to escape the barking dog. In brief, the sense of control is grounded in past experiences, anchored in the present situation, and oriented towards the future.

The sense of control need not be a form of conceptual self-evaluative judgment. The two types of cues (lack of error and lack of effort) are relatively basic and can be computed purely at the sensorimotor level. When the situation is completely new, however, one cannot use low-level cues based on past experiences. The sense of control then depends on high-level cues based on one's beliefs about oneself and about one's relations with the world. Studies in social psychology have isolated a personality trait, known as the "locus of control". It corresponds to the tendency for individuals to judge that events are contingent on their behaviour (internal locus) or that they result from chance, luck or other people's decisions (external locus) (Rotter, 1966). We can thus distinguish two types of sense of control, which can be respectively compared to system 1 and to system 2 in reasoning (Shea et al., 2014).

The subpersonal computations involved in the sense of control can give rise at the personal level to a specific type of phenomenology, a noetic feeling akin to the feeling of competence (Bjork, 1999; Dokic, 2012; Koriat, 2000):

[A] particular noetic feeling is about one's own cognitive competence at a given task. Its content can have the form *I can do this* (or the selfless form *This can be done*), where the demonstrative 'this' refers to a relevant cognitive task in the subject's current situation. (Dokic, 2012, p. 316)

In the case of fear, one can refine Dokic's characterization and propose that the sense of insufficient control asserts something like 'This cannot be done!'

Interestingly, there is a large range of studies, both in rodents and in humans, that show that agentic evaluation modulates fear (e.g., Maier & Seligman, 2016; Moscarello & Hartley,

2017). A classic experimental paradigm consists in comparing fear indicators in those who undergo an uncontrollable electric shock (learned helplessness), those who receive a shock but who learn the way to avoid it (learned control), and those who receive no shock (unstressed). It has been found that learned control in rodents decreases freezing to threat-associated cues, increases social exploration, and improves instrumental learning in later controllable contexts, often to levels exceeding those of the unstressed rats (Maier, 2015). Similar results can be found for humans. In one study by Hartley and coll. (2014), a group of participants was presented with a grid in which they could move the cursor and they were given a series of electric shocks (rated as unpleasant but not painful) every 2 seconds until they reached the border of the grid with their cursor. After several repetitions, they could find an escape route to reach a location in the grid in which they no longer received shocks. Another group received the shocks and moved the cursor in the grid but there was no escape route. A week later, both groups were exposed to a classic fear conditioning task. They were shown two abstract shapes of different colours, one paired with an electric shock, and the other not. It was immediately followed by an extinction phase, in which the shape previously associated with the shock was no longer followed by it. The extinction phase was repeated the day after. It was found that those who had control exhibited successful extinction and an absence of fear recovery, whereas for the others, the extinction phase failed to significantly reduce their skin conductance response, which remained elevated even the day after. Furthermore, the modulation was correlated with the participants' rating of their degree of control. In brief, when they had past experiences of being able to protect themselves from the threat, they were less afraid of new potential threats.

Though most studies have been done in situations of physical danger, it has been shown that the sense of control can have a similar impact on social fear (Amat et al., 2010). Furthermore, prolonged exposure to loss of control can induce what has been called the learned helplessness syndrome, summarized by the motto "Nothing one does matters" (Maier & Seligman, 2016, p. 2). These patients lose their ability to initiate new behaviours that could allow them to effectively cope with environmental challenges and they experience disproportionate fear. Finally, a large-scale study shows that individuals suffering from various anxiety disorders (obsessive-compulsive disorder, social phobia, generalized anxiety disorder, and panic disorder) share a significant tendency to underestimate their agency. Their anxiety decreases after cognitive-behavioural therapies that increase their perceived control (Gallagher et al., 2014).

Let us take stock for a moment. I have proposed that an individual can be aware in a primitive non-conceptual way that something is dangerous without necessarily feeling afraid of that thing. I have further suggested that in our case study, the main difference between the novice that feels helpless and the expert that experiences a sense of control is a difference at the agentive level, and I have described the origins of this noetic feeling. More generally, the sense of helplessness has been shown to have a strong impact on fear. It actually seems difficult – even impossible – to conceive of a scenario in which one genuinely feels afraid while experiencing the situation as fully under control. The challenge now is to explore how exactly the sense of insufficient control contributes to fear.

## 5. UNSAFE

For many years now, appraisal theories have acknowledged the importance of the sense of insufficient control for fear. Smith and Lazarus (1993), for instance, argue that emotions involve two distinct types of appraisal, one type regarding the relevance of the state of affairs for the subject's well-being and the other type regarding her resources and options for coping with it. Scherer and colleagues (2001) distinguish sixteen dimensions of appraisal grouped into four classes, respectively about relevance, consequences, coping potential, and normative significance. Notwithstanding their idiosyncrasies, appraisal theories defend what Lazarus (1991) calls a *molecular approach*, according to which emotions are analysed in terms of multiple properties across several dimensions, including the sense of control. It must be distinguished from the *molar approach*, according to which emotions are analysed in terms of their formal object, a unitary evaluative property that determines their appropriateness. The relationship between molecular and molar properties is complex (Teroni, 2023), and my objective is not to reconcile them. Instead, it is to find room for the sense of insufficient control within a molar approach to fear.

As mentioned earlier, for many the formal object of fear is the dangerous. Here I want to argue that it is not always rational to be afraid of what is dangerous. There are cases in which someone's fear may not be conceived as being justified although it is based on a correct evaluation of danger. One should not feel afraid each time there is danger, but only each time there is danger that cannot be handled. There are thus two kinds of situation in which fear can be said to be inappropriate. First, when there is no danger. For instance, I suffer from vertigo and I can be paralysed by fear though I stand at less than one meter above the ground. Secondly, when one underestimates one's abilities and the control that one has over the situation. This is

typically the case in the learned helplessness paradigms that we described earlier. Participants feel afraid because on the previous occasion, they could not get the situation under control, but this is no longer true. In this case, fear does not seem to be justified or appropriate, though danger is correctly appraised. This is because the justification of fear goes beyond danger to include the capacity for control. I thus propose that the formal object of fear is not the dangerous, but the *unsafe*. It is only when safety is at risk that fear can be said to be justified, or at least appropriate.

The dangerous and the unsafe should not be taken as synonymous. The dangerous is part of what it takes for a situation to be unsafe, but it does not exhaust it. As nicely summarized by Tashjan and colleagues:

Safety Is Not Inverted Threat. Safety can be signaled alone or in the context of threat (...) In the context of threat, perception of safety can differ as a function of protection, despite holding attack probability constant. (Tashjan et al., 2021, p. 345)

Tashjan and colleagues have developed a computational and neural Bayesian model of safety decision, which highlights the factors that determine the probability that one is safe and the urgency to interfere with one's current activity. They show that animal behaviours are determined by the output of a dual evaluation, threat evaluation and self-evaluation, based on two independent types of computations. Computations involved in threat evaluation assess the imminence, value, and likelihood of danger outside. Computations involved in self-evaluation determine one's own capability and preparedness to cope with it given the environment. This dual evaluation depends on two distinct neural systems, including the basolateral amygdala, midcingulate cortex, insula, and striatum for threat evaluation, and the anterior hippocampus, posterior cingulate cortex and frontal lobes for self-evaluation. Some of these regions are connected together so that self-evaluation can modulate threat evaluation, but they still operate independently. In this model, threat evaluation is not brought to zero simply because one has a sense of control. Signals from both components are integrated at the level of the anterior ventromedial prefrontal cortex, which computes the degree of safety. Priors can then decide which weight to ascribe to each component. For instance, one can easily imagine that for those commonly called control-freaks, more weight is given to self-evaluation (they feel unsafe as soon as they do not have full control).



On this view, safety is thus Janus-faced. It faces outward, assessing how dangerous the situation is. It faces inward, assessing how likely one is to handle the situation properly. However, this does not fully exhaust all the factors that are relevant for deciding whether or not one is safe. Remember our religious novice driver who fully trusts St Christopher to protect her. Her example highlights the fact that there are several ways for the threat to be neutralized. It could be thanks to one's own abilities or to other people's abilities. Tashjan and colleagues (2021) then talk of social protection but they do not comment further on it. One may suggest that in addition to self-directed evaluation, there needs to be other-directed evaluation. In a social context, the sense of insufficient control over the threat is not sufficient for the felt lack of safety. What matters for safety is not that *I* can control the threat, but rather that the threat is under control, no matter by whom. I thus propose a selfless notion of control, similar to a feeling of the type 'this can't be neutralized!' while referring to the threat.

Still, one may note that there are differences between the two agentic components. First, there are many situations in which other-directed evaluation is less reliable than self-directed evaluation because one is less certain about what others can and will do. In the final computation of safety, its outcome may thus be given less weight than the outcome of self-directed evaluation. Furthermore, other-directed evaluation is triggered only in social context<sup>5</sup>; self-evaluation, on the other hand, is always relevant because the subject is always there. For those reasons, one may tentatively suggest that only self-directed evaluation is intrinsic to safety, whereas other-directed evaluation remains extrinsic but more work would be needed to defend this stronger thesis.

In light of this notion of safety, we can now better understand fear. According to what I call the unsafe view, fear responds to the lack of safety. Roughly speaking, it follows from two distinct questions. Is there danger? And is there something that can protect me from it? If one replies positively to the first and negatively to the second, then one feels afraid. This view does not challenge the standard assumption according to which the formal object of fear is the dangerous, but rather enrich it by including the further dimension of control. On the unsafe view, the sense of insufficient control is not simply an enabling condition for fear to occur, like oxygen for fire. It is intrinsic to the unsafe, to which fear responds. Fear may be assessed as justified if it is based on one's apprehension of a certain danger *that is not under sufficient control*, and, as it happens, as correct because one indeed faces a dangerous situation *that is not*

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<sup>5</sup> For those who believe in the omnipresence and omnipotence of God, they are never alone.

*under sufficient control*. In other words, fear may be assessed as justified if it is based on one's apprehension of a certain *lack of safety*, and, as it happens, as correct because one indeed faces a situation that is *unsafe*. The unsafe view incorporates insight from appraisal theories, while still being compatible with a molar approach. On some respects – though not all - it is similar with Nussbaum's (2001) conception of fear:

In order to have fear—as Aristotle already saw—I must believe that bad events are impending; that they are not trivially, but seriously bad; *and that I am not entirely in control of warding them off*. (Nussbaum, 2001, p. 28, my underline)

Nussbaum acknowledges the importance of the sense of insufficient control for fear, which she puts at equal level with the sense of danger. The unsafe view, however, proposes a more primitive conception of fear than Nussbaum's view or the appraisal theories. It does not assume that one needs to hold beliefs about control. The fear content is non-conceptual in the sense that the subject need not possess concepts such DANGER, CONTROL, or SAFETY in order to represent the situation via fear. Furthermore, it does not assume that the sense of insufficient control involves a first-person component. It does not assert '*I am not entirely in control*', but rather '*these events are not entirely under control*'.

One may object that the unsafe view does not apply to all instances of fear. I argued earlier that it applies to fears that are either evolutionarily grounded or acquired. When the novice driver feels afraid of the oncoming car, her fear is appropriate for the same reasons as Clara the apprentice when she feels afraid of the snake: She non-conceptually evaluates the situation as dangerous and out of control. I have also suggested that fears for psychological danger, such as the fear of social exclusion, also involve an agentive dimension. I shall now consider a series of special cases, namely, fears for other people, fears of remote events, and fears in fiction.

First, as a mother, I have often felt afraid for my son. Here again, my fear is determined by the sense of insufficient control. I feel afraid because I feel that my son cannot handle the situation himself and that there is nothing I can do to protect him. My fear responds to the unsafe, it is just someone else's being unsafe. Consider now fears that target relatively remote and thus abstract bad events, such as death, financial crisis, or global warming. One may dispute that one can have experiential episodes of fears for such objects (Aristotle, for instance, denies that one can fear death). Still, there may be situations in which we can experience an acute

sense of dread of the future awaiting us, even if it is relatively distant in time. Then it seems that part of the reasons that make death, global warming, or financial crisis so scary is that they seem to be unavoidable and that everybody is powerless. The sense of helplessness in these cases is more holistic than when one faces an immediate threat, something like “nothing can ever be done!”. Nonetheless, one may say that remote fears encompass an agentive dimension.

The last case is of the fears that one can experience while reading or watching fiction, which Tappolet (2016) calls contemplative fears. One can feel scared of the monster or for one of the characters and still simultaneously feel safe at home. This, however, is not incompatible with the unsafe view. Both threat evaluation and self-evaluation work at two levels, the level of imagination or pretence and the level of reality, with each level sending contradictory signals. One then experiences two distinct affective states. If we focus only on what one feels in response to the fictional situation, many have questioned that it consists in genuine fear (e.g., Walton, 1978; Currie, 2020; Teroni, 2019; Friend, 2016). Instead, it may be conceived as a form of as-if fear or quasi-fear with different appropriateness conditions: Contemplative fear is appropriate when it represents the situation *as it is represented as being*, and not as it is (Currie, 2020). One may then propose that the appropriateness conditions of contemplative fear also include an agentive dimension (one represents the situation as being dangerous and not under control) but even if it were not systematically the case, quasi-fear would not disqualify the unsafe view, which applies to genuine fear only.

## 6. CONTENT-BASED AND ATTITUDE-BASED APPROACHES

According to the unsafe view, the sense of insufficient control is not merely a modulatory factor of fear, but rather one of its intrinsic components. We have seen that cognitive neuroscience shows how it contributes to fear at the computational and neural levels (Tashjan et al., 2021). We now need to understand its contribution at the representational level. Here I assume that affective experiences are representational states with intentional content. One of the major challenges in the philosophy of emotion has been to account for the affective phenomenal character of these representational states. For some, affective phenomenology is determined exclusively by the content of the emotion. On this content-based approach, there is no phenomenal difference between two affective experiences that cannot be explained by differences in content (Tye, 2008; Carruthers, 2018; Prinz, 2004; Tappolet, 2016; Döring, 2007). However, others have rejected this pure representationalism and argued that the affective phenomenal character is determined not only by the particular intentional content, but also by

the attitude-type (Goldie, 2000; Deonna & Teroni, 2012; Mitchell, 2021; Müller, 2019; Kriegel, 2017). My objective here is not to settle the debate between these two approaches, but more modestly to show that there is conceptual space for the sense of insufficient control in both theoretical frameworks and that it can contribute either to the affective content or to the experiential mode of fear.

Let us first consider the content-based approach. One might simply claim that Clare's fear represents the snake as unsafe, and has thus a content that can be specified in terms of that evaluative property. Even if one wanted to keep the notion of danger within the content of fear, one might claim that she represents the snake as *uncontrollably dangerous*.<sup>6</sup> Danger content does not need to exhaust the affective character of fear. Agentive content can contribute too. Another way for the content-based approach to introduce the dimension of control is to offer a response-dependent account of fear. On this type of account, fear is a response to the *fearsome*, understood as a response-dependent property (Tappolet, 2016; D'Arms & Jacobson, 2003). On this view, something is said to be fearsome if it is appropriate to be afraid of it under normal conditions. The unsafe view need not revise the content of fear, but simply specify its conditions of appropriateness by including the agentive component. One may for instance claim that the fearsome supervenes on the unsafe: There can be no difference in the fearsome without some differences in safety. On this interpretation, Clara the apprentice represents the situation as fearsome because fear is appropriate given the threat and her lack of skill.

Various objections have been put forward against response-dependent accounts (e.g., Dokic & Lemaire, 2013), and more generally against the content-based approach (Goldie, 2000; Deonna & Teroni, 2012; Mitchell, 2021; Müller, 2019; Kriegel, 2017). I shall not summarize them here but simply describe how the unsafe view can be spelled out in terms of attitude instead of content. On this interpretation, the difference between Clara the apprentice and Clara the expert is not a difference in content, but a difference in attitude. They both represent the snake as dangerous but under a different experiential mode. When Clara the apprentice introspectively attends to her fear experience, she is aware of the size, the strength and the fangs of the snake, but she is also aware of something beyond that, of the special negative way she relates to the snake. The special mode under which one represents danger in fear can then be conceived as a negative attitude, a basic felt disfavour directed at the intentional object of the

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<sup>6</sup> To be clear, we are not back to the proposal that I rejected earlier, namely, that the sense of control modulates danger appraisal. To modulate the degree of danger is not the same as to qualify the type of danger.

emotion (Müller, 2019; Mitchell, 2021). One might then propose that the sense of control shapes the experiential mode under which one experiences danger. Advocates of the attitude-based approach claim that to experience an emotion, one needs to be *moved* by what one represents (Goldie, 2000; Deonna & Teroni, 2015; Mitchell, 2021). According to the unsafe view, being moved by danger means feeling that the danger cannot be overcome. On this interpretation, Clara the apprentice represents the snake as dangerous under the ‘this can’t be done!’ mode, whereas Clara the expert also represents it as dangerous but her attitude towards it has changed, she now feels ‘this can be done!’.

The unsafe view, and in particular its self-oriented agentic dimension, might then be compared with the family of theories that put the notion of action readiness at their core (Frijda, 1986; Scarrantino, 2014; Deonna & Teroni, 2012). According to Frijda (1986, p. 71), “emotions (...) can be defined as modes of relational action readiness”. On this view, emotions consist in being prepared to act. More recently, Deonna and Teroni (2012) proposed that each emotion corresponds to a specific experiential mode characterized by a holistic pattern of action-readiness that expresses how the body is poised to act toward the object of the emotion.

In fear, the relevant action readiness should be described as follows: we feel the way our body is poised to act in a way that will contribute to the neutralization of what provokes the fear. (Deonna and Teroni, 2012, p. 80)

Even if we assume that the sense of insufficient control contributes to the experiential mode of fear, and not to its content, it is not to be confused with a mode of action readiness. It does not reflect what we are ready to do about the situation, but to what extent the situation is under control. In brief, the fear attitude does not consist in feeling one’s body prepared to neutralize what provokes the fear, but rather in feeling one’s limited ability to neutralize it (as well as other people’s limited ability). Still, the two are connected with the degree of felt control explaining the type of protective behaviours that one must engage in. Imagine that a wild dog is running towards you. You feel afraid but if you are in good shape, you still experience some limited sense of control (though not enough for you to feel confident that the dog will not catch you) and you start running. By contrast, if you are asthmatic, you experience very little control and you feel more scared. You then need to engage in more proactive and deliberative behaviours to find a way to get out of the situation. Finally, if you suffer from the helplessness

syndrome, you feel extreme fear and simply do nothing. When individuals have been conditioned to learn that future shocks are independent from their responses, they no longer try to avoid the threats (Maier & Seligman, 2015). In all these cases, one can talk of “metacognition”, a specific type of metacognition that evaluates and monitors control ability to regulate action control mode (Pacherie & Mylopoulos, 2021).

## 7. CONCLUSION

The objective of this paper was to understand why in some specific circumstances certain individuals do not feel afraid while others do. This allowed us to shed new light on the nature of fear. I offered here the building blocks for a new agentive approach to fear. Most philosophical discussions on the relationship between fear and agency have focused on the motivating reasons that the emotion provides for defensive behaviours. However, my focus was not downstream, at the way fear turns into actions, but rather upstream, at the way the sense of insufficient control turns into fear. I argued that it is only in combination with a sense of insufficient control that non-conceptual danger awareness can lead to fear. To paraphrase De Sousa, the formal object of fear – the norm defined by fear for its own appropriateness – is not the Dangerous, but the Unsafe. Keeping the two evaluative properties as distinct allows us to explain how we protect ourselves without living in a permanent state of fear.

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