

A PARADOX OF PAST-DIRECTED FEAR: AN IDEALIZED WARRANT APPROACH TO THE FITTINGNESS OF EMOTION

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This paper presents a paradox based on the following assumptions: that emotions are warranted when you are justified in thinking that the emotion is fitting, that there are warranted cases of past-directed fear, that fear is fitting in the face of its formal object: *dangerousness*, and that this formal object consists in a probability of damage or harm to something of value. The paper then discusses three likely solutions: (1) denying that past-directed fear can be warranted, (2) using an alternative formulation of fear's formal object, and (3) giving up warrant as justified as fittingness. Finally, it provides a case for the third solution and presents a warrant-based approach to fittingness and the appropriateness of emotions in general.

1. Introduction

Fear is an emotion directed at dangerous things, meaning things that are likely to cause harm or damage. It is commonly assumed that fear is only directed at future events. But there are convincing exceptions to this, cases of so-called past-directed fear, such as fear that you left the stove on (see Prinz 2004: 28) or that your mother might have been in an aeroplane crash (Roberts 2003: 193). Such cases do not necessarily pose a problem to the assumed future-direction of fear (see Bordini & Torrenço 2023), but they nonetheless pose a problem to the *appropriateness* of fear in these types of situations. In this paper, I show how a paradox arises from cases of warranted past-directed fear, and even some cases of future-directed fear (see §4.1), and propose a solution for how to solve it.

In §2, I explain the commonly held difference between types of appropriateness: fittingness, warrant, and prudential or moral appropriateness. In §3,

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I describe a paradox that this approach faces when trying to account for the warrant of some past-directed episodes of fear. In §4, I examine three possible solutions and argue that changing the definition of warranted fear is the most fruitful one. In §5, I discuss the consequences of such a change and the wider implications it might have for the relation between warrant and fittingness of emotions in general. In §6, I conclude.

2. Appropriateness of Emotion

When asking whether an emotion is appropriate, we can distinguish two distinct questions: “is the emotion *fitting* (or *correct*)?” and “is the emotion *warranted* (or *justified*)?” The answers to these two questions can easily diverge. First, for an emotion to be fitting, it is commonly understood, is for the associated sentimental property to apply.¹ The assumption here is that there are a type of evaluative properties, called *sentimental values*, or *formal objects*, that are closely associated with a type of emotion. An example of this is the sentimental property of being frightening or fearsome. This property is what we ascribe to something that is the proper object of fear, such as a wild boar standing right in front of you in the woods. Similarly, we can think of many other sentimental properties closely associated with emotions, including being joyous, sad, annoying, boring, interesting, frustrating, shameful, enviable, or awesome.

One problem in assessing an emotion’s fittingness is clarifying its formal object. The above list of sentimental properties can seem unhelpful when it comes to assessing the fittingness of an emotion. Answering “when is fear fitting?” with “when its object is frightening” is arguably both trivial and uninformative. This is especially the case if, by *frightening*, we simply mean that something is an appropriate object of fear. Such an interpretation of sentimental properties renders the analysis of fitting emotions tightly circular and is rather unhelpful to assess whether any instance of fear is fitting or not. In response, some philosophers of emotion accept this circularity and embrace it (e.g., Tappolet 2016), but more often than not, philosophers write about more emotion-independent properties like being *dangerous* or *threatening* for fear, or *offensiveness* for anger. So while it might be controversial to focus on a more independent property like *dangerousness*, it also provides a better basis upon which to decide the fittingness of an instance of fear. In this paper, I take this approach and show how it can lead to a paradox.

1. While fittingness is sometimes seen as a standard that applies to many different attitudes, such as beliefs, intentions, and emotions, see, e.g., Howard (2018), I am here only concerned with the fittingness of emotions. I don’t take it as an important desideratum to preserve a broadly applicable notion of fittingness, or warrant.

Second, for an emotion to be *warranted*, is for it to seem fitting to the person experiencing it. The warrant of an emotion can diverge from its fittingness in several ways. The subject could simply be mistaken about the facts of the situation. For example, if you, due to no fault of your own, falsely thought that you won the lottery, you might be warranted in feeling joy. However, your joy would not be fitting since you did not actually win anything, hence there is nothing to which you could ascribe the property of being joyous. Assuming you did not arrive at your belief through motivated thinking or similarly bad reasoning, it would be perfectly rationally justified to feel the joy, even if it is not fitting. This is because, from your point of view, the world looks just like it would if your joy were fitting. It would therefore still be rationally appropriate, or *warranted*, for you to feel joy.

Aside from fittingness and warrant, there are other possible interpretations of the *appropriateness* of an emotion, such as its prudential or moral value. These do not invoke an emotion's intrinsic appropriateness, but use external standards of evaluation, such as usefulness or moral merit. Ever since D'Arms and Jacobson (2000) and Rabinowicz and Rønnow-Rasmussen (2004), this distinction between fittingness and warrant on the one hand, and moral or prudential evaluations on the other, has been widely adopted in the philosophical literature on the appropriateness of emotions. In this paper, I set considerations of usefulness and moral worth aside and focus on the intrinsic warrant of fear.

3. The Paradox

To show how the above notions of fittingness and warrant lead to a paradox in cases of past-directed fear, let us first consider a simple case: Imagine you have invested a lot of money in a specific stock. One day, you are out and about and your mobile phone battery is almost dying when your broker calls you, sounding unsettled. "The stock market has just crashed —," she tells you when your phone cuts out, battery dead. You immediately start to panic, not knowing whether your stock is affected, fearing that you might have just lost all your money.

First and foremost, I will assume that the case described above is one that we would want to be able to account for by a theory of warranted fear:

Relevance of the Case: Being afraid that you might already have lost all your money is a clear case of warranted fear.

In a next step, we need to find a suitable definition of warrant. Summarizing the currently most agreed upon understanding, Na'aman (2020: 532) proposes the following explication: "[T]hat an attitude is warranted means it is *rationally justified as fitting*" Applied to our case of fear, we can say the following:

Warrant as 'Justified as Fitting Fear': Fear of X is warranted if you are rationally justified in thinking that fear is fitting.

Fittingness, in the case of fear, would mean that there is an actual threat or something actually dangerous, and not just that there might be a threat according to your best information. The fittingness conditions of fear would be that its formal object applies to the situation, something like that there is a threat or danger. But this raises a question: Is there an actual threat of you losing your money or not? On the one hand, given what you know, it seems about as likely that you have lost your money as that it is safe. On the other hand, this is only uncertain given your limited knowledge of what has happened. You also know that either you have already lost all of your money, or all of your money is safe. So, while there seems to be a remaining probability of having lost it all, you can also be certain that the matter has already been settled, so there should be no probability left, either way.

This puzzle seems to come up due to an ambiguity in how we think about the formal object of fear. Typically, the formal object of fear is understood as something like *dangerousness*, or as the object of fear posing some kind of *threat* or *risk of harm*. As mentioned, these properties are often preferred because they can be defined independently of fear itself. While there is no clear common definition of danger, threat or risk (see Hansson 2023), the notion of a threat or danger is commonly understood as *a probability of harm*, mostly meaning an uncertain harm, the probability of which is neither zero nor one. Whatever we might prefer to call the formal object, drawing on this idea of threat or dangerousness, we can formulate a gloss for the formal object of fear as something like the following:

Formal Object of Fear: The formal object of fear is a *non-trivial* (greater than zero, but smaller than one) probability of a harm or damage to something valued.²

This notion seems to work well as the *Formal Object of Fear*, since it describes a situation in which a harm is not certain, meaning neither guaranteed nor impossible to manifest. If a harm was as good as impossible, fear would not be fitting, and you could rather feel reassured. If the harm is certain because it already happened, it would count as a loss rather than danger, and sadness

2. Bordini and Torrenco (2023) define dangerousness as possible *future* harm. While this may complicate matters, it does not fundamentally change my argument here. I avoid this stipulation, both for the sake of brevity and to not bias the definition against cases of past-directed fear from the start. While this stipulation seems to point towards a solution of the problem, it might actually not, for reasons brought forward in §4.1.

would be more fitting. If it is a future harm that is nonetheless guaranteed to happen, it is also no longer a risk or threat, but rather a certain outcome one has to accept, in such a case dread, terror or despair would be a more fitting response. However, this latter case of guaranteed future harm might be more controversial, and I discuss the issue further in §4.1.

If we accept the above formulation of the *Formal Object of Fear*, we can define the fittingness conditions as follows:

Fittingness of Fear: Fear of X is fitting if there is a non-trivial probability of X causing³ harm or damage to something valued.

Combined with the definition of *Warrant as 'Justified as Fitting Fear'*, we can conclude that the warrant conditions of fear are the following:

Warrant of Fear: Fear of X is *warranted* if you are rationally justified in thinking that there is a non-trivial probability of X causing harm or damage to something valued.

The feature that causes the puzzle is how to understand the aspect of probability used in these definitions. For one, if we grant that there is still a probability of losing your money, then we would want to focus on something like a *subjective probability* that stems from your lack of full knowledge of the situation.

Alternatively, we could insist that the threat only persists if there is still a real chance of not losing the money. Otherwise, either the harm has already materialized, or no harm has come about. In that case, we would require something like an *objective probability* for there to be a threat or dangerousness.

However, both options, when combined with the definition of *Warrant as 'Justified as Fitting Fear'*, face different problems when trying to account for our case of past-directed fear. In the following, I illustrate the problems each of these options face.

3.1. *Subjective Fittingness of Fear*

The first option for the type of probabilities that we could take to feature in the formal object of fear are subjective probabilities. Subjective probabilities are most commonly understood as *credences*, meaning degrees of belief in a certain proposition:

3. I use the phrase 'X causing harm' as shorthand for both 'X having caused' or 'X will cause harm' throughout the paper.

Subjective Probability (Credences): The degree of belief or confidence in something coming about or already being the case.

The most common subjectivist theory of probability is the one given by Bayesian probability theory (Ramsey 1931; De Morgan 1847). This theory interprets the subjective probability of an event as the strength of a belief that the event will occur. I will adopt this standard approach to credences here, although the argument I present throughout the paper should also work with other substantive theories of subjective probabilities. Given this approach, we would interpret fear as presenting something as the object of a relatively strong belief that it has or will cause harm or damage to something of value. Accordingly, the fittingness condition would read as follows:

Subjective Fittingness of Fear: Fear of X is fitting if you *have a non-trivial degree of belief or confidence* in X causing harm or damage to something valued.

The most apparent problem with the use of purely subjective probabilities in the definition of fitting fear is that it renders all intelligible instances of fear fitting. It is commonly assumed that the formal object of an emotion is what makes the emotion intelligible to others. In the case of fear, this would mean that for my fear of an unknown animal in our path to be intelligible to you, you need to at least assume that I take that animal to be dangerous in some way. But this is exactly the condition that applies to *Subjective Fittingness of Fear*.

Fittingness is commonly meant to posit a standard for emotions that goes beyond merely explaining them or making them intelligible. It is often thought of as an analogue to the truth of a belief or accuracy of perception. Hence, if we go with unqualified subjective dangerousness for the fittingness standard of fear, it will deviate widely from this common conception of what fittingness means. For my fear of the unknown animal to be fitting, something more needs to apply, such as that I am not mistaken about the potential harm it can do. Therefore, some kind of external correctness condition needs to apply, for fittingness to be a useful standard beyond simple intelligibility.

This option does not fare much better when it comes to its interpretation of a standard of warrant. When we unpack *Warrant as 'Justified as Fitting Fear'* with *Subjective Fittingness of Fear*, we get the following:

Subjective Fittingness-Based Warrant of Fear: Fear of X is warranted if you are rationally justified in thinking that you *have a non-trivial degree of belief or confidence* in X causing harm or damage to something valued.

This could be interpreted in two ways: either, it is a standard that requires a certain amount of justified self-knowledge, or it simply is the same standard as what we would standardly understand as warranted fear. The first option is to take the formulation of ‘being justified in thinking’ in the warrant condition at face value. This interpretation would mean that warrant does not require evidence in support of the likelihood of harm being caused, but rather requires evidence for having a certain mental state. This would be fulfilled by something like introspection, not by information about the animal before us. Hence, it focuses on the wrong object of justification, since the point of *Warrant of Fear* is to be in a situation in which your evidence supports thinking that there is a threat.

The second option is to gloss over the formulation of ‘justified in thinking that you have a non-trivial degree of belief or confidence’ and interpret it as saying that you have to be justified in having such a degree of confidence. In this case, warrant based on subjective fittingness would resemble something like the *Rational Subjective Fittingness of Fear* that I turn to now.

3.2. *Rational Subjective Fittingness of Fear*

The above version of subjective probabilities is purely descriptive, meaning it describes the confidence you actually have that you have lost your money. But subjective probabilities can also be viewed through a normative lens, namely as the confidence that it would be rational for you to have. Since you don’t have enough information about the situation to be certain that you have or haven’t lost your money, you also *should not* be certain either way. We can call this normative version either *rational credences* or *rational subjective probabilities*:

Rational Subjective Probabilities (Rational Credences): The degree of belief or confidence you *are rationally justified* in having in something coming about or already being the case, given your evidence.

Under this view, we would interpret fear as presenting something as the object of an epistemically justified, non-trivially high degree of belief that it causes harm or damage to something of value. Hence, the fittingness condition would also reflect the normative view on credences:

Rational Subjective Fittingness of Fear: Fear of X is fitting if you *are rationally justified* in having a non-trivial degree of belief or confidence in X causing harm or damage to something valued, given your evidence.

The difference between this interpretation and the purely descriptive one is that fear would always come with a sense of being justified in taking the object to be a source of harm, while the former would allow for fear to either seem based on a rational degree of belief or not.⁴

This option posits a standard that goes beyond the mere intelligibility of purely descriptive credences. However, the primary problem with rational subjective probabilities in the definition of fitting fear is that it blurs the lines between the notions of fittingness and the warrant of fear. Compare the following rational subjective fittingness-based definition of warrant to the above definition of *Rational Subjective Fittingness of Fear*, given that we go with epistemically justified credences:

Rational Subjective Fittingness-Based Warrant of Fear: Fear of X is warranted if you are rationally justified in thinking that you are rationally justified in having a non-trivial degree of belief or confidence of X causing harm or damage to something valued.

As with the *Subjective Fittingness-Based Warrant of Fear*, this formulation can be interpreted in two ways. It could be read to render warrant to no longer be about how you relate to the object of your fear, but rather about your own mental states. Namely, that to be warranted in fear, you need to have a second order belief about the rational justification of your credence. This would mean that if you did not reflect on the justification of your own epistemic state, you would not be justified in fear. But again, even if this would follow from a literal interpretation of the formulation used here, it seems an implausible condition for fear being warranted. The two major problems are, for one, that it no longer seems to be directly about the object of your fear, and two, that it would be a rather demanding standard that requires a type of self-knowledge or self-awareness that is not commonly assumed for warranted emotions.

Alternatively, we could read the doubling of “rational justification” as both applying to you being justified in your degree of confidence. In this case, the second occurrence of “rationally justified” does not add anything to the requirement, except for doubling the qualification that your degree of confidence needs to be justified by your evidence. Under this interpretation, however, the notions of warrant and fittingness collapse into the same standard. Hence, we can

4. A similar difference can also be found in the debate around the rationality of *recalcitrant emotions*, emotions which conflict with an explicit judgement to the contrary. According to Brady (2009), perceptual theories tend to view the strength of an emotion’s presentation like that of perception, with only a defeasible degree of justification, while judgement theories of emotions view the strength of an emotion’s representation as just as strong as it is with a belief’s representation.

no longer make a distinction between warrant, where you only need evidence for impending harm, and fittingness, where there needs to be an actual probability of harm. This is because apparent dangerousness and actual dangerousness would always come out as the same thing.

3.3. *Objective Fittingness of Fear*

While there are differing accounts of objective probabilities, typically called *chances*, a common feature is that they are something like a worldly disposition or tendency that is inherent to the situation itself:

Objective Probability (Chances): The worldly tendency of an event occurring, in line with the laws of nature.

In a case where the harm or damage has not yet materialized, there can be both an objective and a subjective probability of it materializing. In cases where the harm or damage has already materialized, there is no longer any tendency towards one outcome or the other⁵, but there can still be a subjective probability. As a consequence, the fittingness condition of fear based on objective chances would come out as follows:

Objective Fittingness of Fear: Fear of X is fitting if there remains a *non-trivial chance* of X causing harm or damage to something valued.

This option is what is most often associated with the idea of fittingness, namely that there is a standard based on external factors, similar to a standard of truth with respect to beliefs, which makes an emotion like fear fitting.

However, requiring objective probabilities of harm does not fare much better than subjective ones either. If there is only an actual threat or actual dangerousness if there is an objective chance of harm or damage to something valued, then fear of having lost your money can certainly not be fitting. This is because your money is either lost, or it is safe. In either case, there is no remaining chance of damage, only manifest damage or no damage. Of course, in real life, there can always be another chance of damage around the corner, but that is not what is at issue here.

5. I am assuming here, that the kind of objective probability relevant for fear has changed to either zero or one after the event has occurred. That is not to deny that there might still remain a fact about the chance of an event having occurred, even after the fact, but those past chances are no longer relevant for fear, see §4.3.

Even worse, since there is no more objective chance of harm left, and you can clearly know this, fear is also no longer warranted. Warrant, under this interpretation, would read as follows:

Objective Fittingness-Based Warrant of Fear: Fear of X is warranted if you are rationally justified in thinking that there remains a non-trivial chance of X causing harm or damage to something valued.

Let me elaborate: You know that you have either already lost all your money, or you have not. This means you know that there is no remaining objective chance about whether you have lost it. In effect, you also know that your fear cannot be fitting. This is because there are only two options left: Either, you have already lost your money and there is no more chance of damage to fear, in which case sadness would be the fitting emotion; or, you still have all your money, in which case there is also no chance of damage any more and fear would also be unfitting. Since you know all of this, you have decisive evidence that there is no objective chance of damage; therefore, you cannot be justified in thinking that there is any chance of harm or damage; therefore, fear is not warranted.

3.4. *Disjunctive Fittingness of Fear*

We might think that this issue can be resolved by accepting that the fittingness of fear does not depend only on any one type of probabilities, but that either one would make fear fitting, meaning that together they build a disjunctively necessary condition. But this merely makes the example case more paradoxical. For one, you are still uncertain about which outcome has manifested, meaning you have a non-zero degree of belief or confidence that you have lost everything. Hence, from a subjective point-of-view, your fear is still fitting and warranted. But, since you know that your fear cannot be fitting, you have definitive reason to believe that the matter has been settled one way or the other, and therefore you know that your fear is unfitting, and therefore it would not be warranted. Hence, if we accept any combination of options to constitute dangerousness, we simply inherit the problems of the above accounts.

In summary, the paradox of past-directed fear arises from four premises:

1. *Fittingness of Fear:* Fear is fitting only if directed at a threat or something dangerous.
2. *Warrant as 'Justified as Fitting Fear':* An emotion like fear is warranted only if it is subjectively justified as being fitting.

3. *Relevance of the Case*: Some cases of past-directed fear are warranted.
4. *Formal Object of Fear*: The formal object of fear is a probability of a harm or damage occurring to something of value.

Given that in any past-directed case, you know that an event has already either occurred or it has not, you know that no real danger remains. Hence, your fear cannot be justified as being fitting. Hence, no instance of past-directed fear can be warranted, contradicting the clear cases in premise (2).⁶ Given this contradiction, it seems we need to deny at least one of the premises. Since (1) seems the most uncontroversial of all four premises, in the next section, I discuss the more promising strategies of giving up on either (2), (3), or (4), and the merits and problems with doing so.

4. Possible Solutions

The consequence of the problems shown in the last section is that we have an inconsistent account of the warrant of fear towards uncertain but past events. To resolve this inconsistency, three solutions seem to suggest themselves most prominently: (4.1) to deny the *Relevance of the Case*, (4.2) to object to the gloss of the *Formal Object of Fear*, or (4.3) to revise *Warrant as 'Justified as Fitting Fear'* and define the concept of warrant without that of fittingness. In the following, I will discuss these three options and argue why the third one is the most viable.

4.1. Denying the Relevance of the Case

As a first option to resolve the paradox, we could give up on the *Relevance of the Case*, deny that cases of fear of uncertain but past outcomes are warranted, and accept that a theory of warranted emotion does not have to account for them. This first option seems to be a typical biting-the-bullet-strategy. As such, it is a viable way forward if we accept that philosophical reasoning about everyday issues can lead to revisions of our commonly held judgements. However, there are some considerations to caution against taking this path too quickly.

Bordini and Torrenco (2023) pursue a more developed version of this strategy by labelling cases of fear like the one discussed as *non-standard* cases of fear. This might not amount to completely rejecting the case as relevant to the discussion

6. A similar contradiction applies to cases of future-directed fear in which we know that a future event is either definitely going to, or not going to, occur. I further discuss this broader threat of the paradox in §4.1.

of fear, but it does dispute the weight it has in decisions about what theory best accounts for the appropriateness of emotions. In portraying fear under uncertainty about past events as non-standard, we can more easily dismiss that the case does not perfectly fit with all features of our theoretical account. I am assuming, here, that a theory of emotions and their appropriateness conditions should at least account for standard cases. Meaning, it should be able to correctly appraise an emotion as appropriate or inappropriate, in line with our commonly shared judgements. Hence, if something is a non-standard case, the theory does not need to perfectly account for it.

Assuming that such non-standard cases exist, this means that a theory that can account for all standard cases of fear but not for the non-standard cases of fear is incomplete. It lacks explanatory power with regard to these non-standard cases. It cannot explain how they can exist and whether they are appropriate in their own non-standard way, according to their non-standard standards of appropriateness. Therefore, labelling some cases as non-standard cases of fear simply shifts the problem away from the discussion of fear to the discussion of these non-standard emotions, thereby complicating the subject area that has to be explained by more general theories of emotion. I am not denying that this is a viable divide-and-conquer approach, to carve out areas of clear cases that fit one's theory of emotion and sort out the messy bits to deal with separately. Methodologically, this means a reduction in the scope of your account, limiting the range of cases you can account for, in favour of improving the rate of success in accounting for the cases within that range.

However, it is not clear that by separating out non-standard cases or by giving them up entirely, we get rid of the problem. Cases of fear of possible *future* harms also involve the ambiguity about what kinds of probabilities are required. To test possible edge-cases of this approach, we construct hypothetical cases in which future events are either certain or probabilistically guaranteed to cause harm or damage. For example, in a deterministic world, there might not be any objective chances for future events either, and we would again be left with the problems of subjective probabilities. In such a world, we would know that no matter how uncertain we are about such a future event, since the future is already determined, our fear is not fitting. Either it is already the case that harm will manifest, or it is already the case that it will not. Meaning either there is a 1 or a 0 chance of harm, and no non-trivial chance either way, hence fear would not be fitting. If we knew that a future event is certain in this way, then fear would also not be warranted. Hence, by rejecting the *Relevance of the Case*, we would probably need to get rid of many more cases of warranted fear than simply those of uncertain but past harms. In such a deterministic world, all cases of fear would fall under the category of non-standard. It seems odd that the categorization of emotions into standard or non-standard should depend on whether the world is deterministic or not.

However, there might also be an argument in favour of embracing that our view of the nature of reality should have an impact on how we understand our emotions. The belief that everything is determined or pre-ordained could in fact change how we view our fears, namely make them seem unwarranted. That is to say, this strategy is not without its merits and could be a viable way forward if one is open to a certain degree of revisionism of judgements about the warrant of fear. At this point, I can only show the theoretical costs and implications of this solution, but not rule it out definitively.

4.2. *Rejecting the Formal Object of Fear*

As a second option to resolve the paradox, we could give up on the proposed *Formal Object of Fear* and redefine it to not depend on probabilities at all. One such option is to view fear as being about *future* harms, rather than potential or probable harms. This would resolve the paradox by simply excluding all past-directed fear, which equates to the first solution, rejecting the *Relevance of the Case*. Alternatively, the formal object, understood as a threat or dangerousness, could be defined by some idea of potential other than probabilities, such as the mere possibility of harm. However, it is unlikely that any alternative option would account better for uncertain but past events and deal with the tension between the subjective and objective perspectives at the core of the problem. This is because the core problem remains even with mere possibilities, unless past events can still be merely possible even if they have already occurred.

A much more interesting option for rejecting the *Formal Object of Fear* is to keep the probability not as the constitutive feature of the object, but its effect. Bordini and Torrenço (2023) suggest that dangerousness has a more complex temporal structure than I have suggested in my formulation of the *Formal Object of Fear*. Rather than the formal object *being* a probability of harm or damage, according to them, the object of fear *poses* a probability of harm. This means the dangerous thing is itself separate from the probability, but generates the probability, or is the source or cause of probability of harm. Applied to the stock market crash case, the danger is the crash. The crash is not a probability, but rather an event that generates a new probability of harm to you. The harm or damage then is something like you losing your retirement savings, not being able to pay your bills or buy something you have been saving for.

If we take this temporal structure of dangerousness proposed by Bordini and Torrenço, we can see that there is more than one probability at play here. First, there is the probability of the crash having occurred: $P(\text{crash})$. Second, there is the probability of the harm or damage manifesting given that the crash has occurred: $P(\text{harm} \mid \text{crash})$. Both of these instances of probability can again be understood in

terms of chances or credences. Given that we can distinguish these instances of probability in the case, we have to re-examine which one of these is constitutive of dangerousness, and thereby relevant for the fittingness of fear, and which one is relevant for the warrant of fear—or whether both of them are relevant, individually or in combination, for either fittingness or warrant.

It does not seem to be the case that only one of the two instances of probability are constitutive of dangerousness. On the one hand, if there is a probability of the crash occurring and certainty that harmful consequences will arise from it, then the crash poses a danger according to the *Formal Object of Fear*: There is a probability $P(\text{crash})$ of a harm occurring. On the other hand, if the crash will certainly happen or has already happened, but the harmful consequences are not certain but probable to manifest, there is also a danger according to the *Formal Object of Fear*: There is a probability $P(\text{harm}|\text{crash})$ of a harm occurring.

The same is the case if both the crash and the harmful consequences are uncertain but probable: There is a probability of $P(\text{crash}) \times P(\text{harm}|\text{crash})$ of a harm occurring. The only case, in which the definition is not met, is when both $P(\text{crash})$ and $P(\text{harm}|\text{crash})$ both equal one, or if one of them equals zero.

At first glance, it seems that both instances of probability warrant fear: You can fear the crash happening if you know that in such a case you would definitely suffer the harm. This scenario is open to the paradox, since you can both be uncertain about whether it has happened and know with certainty that it either happened or not. If it has happened, there are certain harmful consequences, in which case, sadness would be more fitting than fear. If it has not happened, there are no harmful consequences and no negative emotion would be fitting.

You can fear that the harmful consequences will manifest with a certain probability, given that the crash has certainly occurred. However, this is a tricky case since it invites reinterpretation. It is not clear that what you fear or are warranted in fearing in this scenario is the crash, rather than simply fearing the consequences of the crash. This confusion is made worse by the fact that we commonly use both types of description to talk about fear. In English, I can say that I fear the wild boar, that I fear the wild boar attacking me, or that I fear being harmed by the boar. These might all describe the same situation but highlight different features, or they could describe distinct emotions I could experience in the same situation.

I can fear that a crash might have occurred, given there is such a probability, and that it has a certain probability of producing harmful consequences. This scenario bares some intricate complications. It makes it possible that I know that the crash has either occurred or not, but also ascribe some subjective probability to either one being the case. At the same time, the possibility for both subjective and objective probabilities remain.

If the crash has already occurred, but the consequences are still uncertain, then two scenarios are possible: (a) If the crash has occurred, then there is an objective probability of harm. The objective dangerousness is then constituted by the objective probability $P(harm|crash)$ of harm. (b) If the crash has not occurred, the objective probability of harm is zero and there is no objective dangerousness. In either scenario, the subjective dangerousness consists of the subjective probability of the crash having happened $P(crash)$ times the subjective probability of the harm manifesting $P(harm|crash)$. However, at the same time, you know that your subjective probability is either too low, if the objective probability $P(crash)$ is one, or it should be zero, if the objective probability $P(crash)$ is zero.

An additional complication is introduced if the consequences are also certain or have already manifested in the past. In this case, you have a subjective probability $P(harm|crash) \times P(crash)$, while knowing that either the crash has not happened, or the consequences have or have not manifested. This means that there is still tremendous subjective dangerousness, but no objective dangerousness remains.

The only case that seems clearly irrational is to fear a crash that you already know has occurred, and fearing it for its harmful consequences that you know are certain or that you know have already manifested. If they have already manifested, sadness over the loss seems to be the more adequate emotion. But if they are certain but still lie in the future, it is less clear what response would be more adequate than fear. We might distinguish emotions like dread or terror from fear. These would be emotions that are similar to fear, but also with an aspect of despair that is not necessarily present in fear, which can occur under conditions of certain future harm.

If we apply these distinctions to the case, it seems we should agree with Bordini and Torrenco (2023) that only cases of past-directed fear in which the consequences have not yet materialized are warranted. We can easily interpret the stock market crash case in such a way. While we do know that the crash has either happened or not, the negative consequences are still in our future and uncertain.

This solution is less clear in cases similar to the aeroplane-crash described by Roberts (2003: 193), where you are uncertain whether your mother was on an aeroplane which you discovered had crashed. In this type of case, the probability of her having been on the plane is uncertain, but you know that she either was on the plane or not. However, it is not obvious that the harm or damage you fear lies in the future. There may be an argument that the harm is that you now have to live your life without her in it, or that you never got to say goodbye, or some other part of your life that falls away. But this interpretation seems somewhat self-centred. It might not match the experience of people who would rather describe such a fear as based on their care for the well-being of their loved-ones. The more straightforward harm, in that case, is the harm to your mother, namely that she got severely hurt and died.

In effect, while this solution gets rid of some cases, we still have situations in which fear is warranted, but you can know that whatever will cause the harm did already occur, or it did not happen. Therefore, the paradox still applies to the remaining cases. In the remainder of the paper, I will suggest a third solution to the paradox.

4.3. *Defining Warrant without Fittingness*

As a third solution to the paradox, we could give up on *Warrant as 'Justified as Fitting Fear'* and give an alternative account of warrant that does not rely on the notion of fittingness. According to *Warrant as 'Justified as Fitting Fear'*, we require the notion of fittingness to define warrant, and we require the notion of dangerousness, as fear's formal object, to define the *Fittingness of Fear*. If we redefine warrant without alluding to fittingness, we don't require the notion of objective dangerousness in our definition, and therefore, we also don't automatically take on board the problem of dealing with both objective and subjective dangerousness. My proposal to redefine warrant independently of fittingness, allowing for subjective probability, is as follows:

Subjective Warrant of Fear: Fear of X is warranted if you are rationally justified in having a non-trivial degree of belief or confidence in X causing harm or damage to something valued, given your evidence.

Spelled out, my proposal is to define the warrant of fear only with reference to the subjective dangerousness, meaning the subjective probability of harm or damage. But is this solution better than the previous two? I argue that it is. First, defining warrant with subjective probability has the positive upshot that fear can be warranted in cases of past-directed fear, and also in any case where you can be certain that there is no remaining objective chance. This means it can account for the *Relevance of the Case*. Second, it also does not require rejecting the proposed formulation of the *Formal Object of Fear*. However, this is the case because it no longer relies on a unified notion of dangerousness. Rather, the *Subjective Warrant of Fear* only relies on a subjective interpretation of dangerousness.

But this solution also raises a large problem: If we redefine *warrant* in this way, what should we do with *fittingness*? We could reserve the notion of *Fittingness of Fear* as exclusively referring to objective dangerousness—i.e., the objective chance of harm or damage to something valued—effectively accepting only *Objective Fittingness of Fear*. However, this move requires us to accept two distinct types of dangerousness, an objective and a subjective one. This raises the question whether

both count as formal objects of fear. Because if so, we might also need to accept two distinct types of fear: a type of fear, the formal object of which is objective dangerousness, and another type of fear, the formal object of which is subjective dangerousness.⁷ This would solve the paradox of past-directed fear by postulating past-directed cases of fear are actually a distinct type of fear, like *subjective fear*. But such a distinction would also be highly ad hoc and motivated purely by the very goal of solving the problem.⁸

While we might not want to rely on such an ad hoc solution, I also want to caution against simply accepting *objective dangerousness* as the obvious and unquestioned formal object of fear. The case of fear seems deceptively clear, which might be a reason why it is frequently used in the literature discussing the fittingness of emotion, but *dangerousness* is nonetheless only an approximation of the formal object of fear. D'Arms and Jacobson (2000: 66–67) are sceptical that we can in principle do better than to formulate a somewhat vague approximation, what they call a *gloss*, to the sentimental value associated with an emotion. But such a gloss can be under- or over-inclusive, and mask other relevant factors, as I argue is the case here. But even if we accept *dangerousness* as a gloss, the distinction between subjective and objective dangerousness is too clear to dismiss. The problem arises because subjective and objective dangerousness look like two distinct sentimental properties. And if we only want to allow one type of fear, which sentimental property is its proper formal object? Does fear present something as subjectively dangerous, or does it present it as objectively dangerous? While this question cannot be definitively answered here, I want to at least argue that subjective dangerousness is in no way a less plausible answer than objective dangerousness.

The question at hand is: “Does fear actually present its object as *objectively dangerous*?” To test your intuitions on this, consider the objective probability of your mother having been on the plane. Let’s assume she was about split between catching the plane that later crashed or an earlier one, the last time you spoke on the phone. We can think of the objective probabilities as similar to a flip of a coin, if it landed heads, she took the doomed plane, if it landed tails, she took an earlier one. The probabilities for either case were about 0.5 at that time. Now, there are two ways to think about what happens to these probabilities once the coin is flipped. For one, we could say that the probabilities turned to 1 for the side that landed up and 0 for the down-facing side. In that case, we get the situation of the paradox, where you don’t know which side has landed up, but you know that

7. Many thanks to Oded Na’aman for pointing out this issue to me.

8. This would be an extreme form of the practise of dividing emotions into new subtypes simply to solve philosophical puzzles, which authors like D'Arms and Jacobson (2023: 29) strongly criticize as a methodological no-go.

one or the other has, meaning you don't know whether the probability of heads is 0 or 1, but you definitively know it is one of those and not 0.5. In that case, your fear should no longer apply.

However, a second interpretation is to say that the probabilities of the coin having landed either side are still 0.5, since that is simply what those probabilities were at the time just before the flip. So the probabilities of the event having occurred are best described by those given by the causal events or the state of the world leading up to the event itself.⁹ Fear could represent those objective probabilities of harm, which would avoid the paradox. In that case, however, fear should also still represent those probabilities, even if you now know which way the coin landed. In that case, every past event that might have caused harm should be a fitting object of fear, even if that harm did not materialize. While this way of looking at past probabilities might be a valid way to think about past dangers, it no longer seems like how fear presents the world to us.

If we turn to subjective dangerousness, these difficulties in making sense of how fear presents the world disappear. The subjective probabilities of the coin having landed either way can now be understood as something like the strength of a belief or the degree of confidence that it landed heads, or tails. Given this understanding, we would interpret fear as presenting the coin having landed heads and caused harm as the object of a non-negligibly strong belief. You are far from certain that this is what has happened, but you also do not have a reassuring degree of certainty in tails either. Out of the discussed options, the subjective interpretation of how fear presents the world does not seem less plausible than either of the ones involving objective probabilities.

Accordingly, I propose to take the formal object of fear to involve subjective probabilities, and set aside the association between fear and objective probabilities for now, although it might still remain relevant in more indirect ways. This proposal solves the problem of two distinct types of fear by simply denying that the objective *dangerousness* version of fear even exists. And it is not as ad hoc as the postulation of two distinct forms of fear, since the alternatives are at least as implausible and loaded with problems as the proposal—to take subjective dangerousness as the formal object of fear.

As we have seen in §§3.1-3.2, if we take the formal object of fear to be subjective dangerousness, then fittingness becomes either too weak or redundant and approximately the same as warrant. If fear primarily represents its object from a subjective point of view, then it should be warrant, not fittingness, that is the primary way of assessing the appropriateness of fear. But this does not mean that

9. A version of this might not require relativizing probabilities to a specific time, such that it's not the case that chances *were* 0.5, but simply *are* 0.5. This version seems to face the same question about how probabilities of past events remain relevant for fear now.

we have to give up on the distinction between warrant and fittingness. We can still account for a distinct notion of fittingness that captures some of the objectivity that fittingness is thought to hold. In the next section, I propose a warrant-based approach to the appropriateness of emotions, which can account for past-directed fear, and based on which, we can reconstruct a standard of fittingness, both without committing to two distinct types of fear.

5. A Warrant-Based Approach to Fitting Fear

In the last section, I have discussed the most likely solutions to the paradox of past-directed fear and argued that the third one, redefining warrant as *Subjective Warrant of Fear* is the most promising one. One remaining issue with this solution is: What happens with *fittingness*? If the formal object of fear is the non-trivial subjective probability of harm or damage to something valued, then what does it mean for fear to be fitting? In this section, I propose a way to regain a notion of fittingness even under a warrant-first approach.

But first, we need to clarify what a standard of fittingness is supposed to be, that is distinct from warrant. There is a certain value in keeping a distinct notion of fittingness to make sense of cases where someone might be subjectively warranted in fear, but a well-informed onlooker would immediately see that this fear is based on bad or missing information. In such a situation, there is some merit in being able to say that the fear may be warranted, but is not fitting. So if we want to keep such a distinct notion of fitting fear, but can not rely on the formal object of fear to determine when fear is fitting, how else should we think about fittingness? I suggest that, since *Subjective Warrant of Fear* does no longer define warrant with reference to fittingness, we can instead define fittingness with reference to warrant, without running into a circular definition. The following is a general proposal for such a definition:

Fittingness as Idealized Warranted Fear: Fear of X is fitting if, under counterfactual conditions of ideal information, you would be rationally justified in having a non-trivial degree of belief or confidence in X causing harm or damage to something valued.

Note that *Fittingness as Idealized Warranted Fear* conceptualizes fittingness as a standard that no longer depends on the emotion's formal object obtaining. Rather, fittingness depends on whether the emotion would be warranted under counterfactual conditions, which are identical to the actual conditions in every way except for the subject being ideally informed about their situation. According to this account of fittingness, we can say that it would not be fitting to fear past events

because in the hypothetical scenario where you had all the relevant information about whether it happened or not, you would no longer be warranted in feeling fear. In the stock market example, your fear is warranted because, given your limited information, a non-trivial degree of belief that harm was caused is still rationally justified. But your fear is not fitting because, if you knew that you had lost all your money, such a credence would no longer be justified—only a full belief in your loss. The same is the case if you knew that your money was safe, you should no longer have a non-trivial degree of belief in harm being caused—at least not by the crash, you might still have other things to fear. This is because in light of all relevant information, your evidence would change, and you should rationally adjust your credence to match the objective chances. But since you are not in the idealized scenario, you do not have access to this relevant information, hence your fear is still warranted. You can still be aware that there is more relevant information that you could have, and that if you had it, your fear would no longer be warranted, meaning that your fear is not fitting, but this does not affect its warrant. Hence, we can both judge that your fear is warranted but not fitting, without any contradiction or paradox.

In the following parts of this section, I discuss some remaining worries and open questions arising from this proposal. In 5.1, I discuss that there seems to remain a tension in cases of past-directed fear that arises from the knowledge that an event has either happened or not, that does not seem to apply to most future-directed cases of fear. In 5.2, I discuss the different possible standards of fittingness, based on different degrees or kinds of idealization. And in 5.3, I will show that the warrant-based approach can generalize to types of emotion other than fear.

5.1. *A Remaining Tension*

While the above proposed solution resolves the paradox of past-directed fear, there are still some remaining worries with it. For one, while the strict contradiction of the paradox is resolved, there still seems to be a tension in cases of past-directed fear, which does not appear in many future-directed cases.¹⁰ Compare the aeroplane case, where you know that either your mother was on the plane, or she wasn't, with a situation where you are confronted by a roaring bear in the woods. In the past-directed case, there still seems to be a tension between you not knowing what happened, while at the same time you knowing that one or the other option has already come to pass. In the bear case, there is no such tension, since the harm that you are afraid of has not yet happened and might not

10. I am grateful to an anonymous reviewer from bringing up this remaining sense of unease.

happen. You are, in a sense, fully caught up with the available information about the events.

The remaining tension still seems most accurately described by the tension central to the paradox: (1) you know that there is a fact of the matter about the past event, while (2) you do not know what happened and only have limited information to assess the situation. You still know that if you had the relevant information, you would not be afraid, but rather relieved or in shock and grief. Hence, even in the idealized warrant account of fittingness, knowing that under idealized conditions you would have a different outlook, has some impact on your outlook in the non-ideal situation. However, this knowledge does not help you resolve the uncertainty either way. So, rather than being a contradiction in your beliefs, the remaining tension is better described as a *zetetic pressure* (see Friedman 2020: 503), the need to take the necessary means to find out something you want to know, but don't know. This need is backed by a strong care for the well-being of a loved-one, and might therefore seem much more urgently in need of being resolved than if you were merely curious about the facts.

Viewed in this way, there might not be that big of a difference between the past- and future-directed fear, since in both cases, there is an uncertainty and a strong urge to resolve it, backed by a concern for someone's well-being. Just that while in the past-directed case, this urge manifests as a need to find out more, in the future-directed case this urge manifests in behavioural tendencies to protect yourself or get to safety. The odd aspect of past-directed fear might therefore be that you cannot affect the desired outcome, but still experience a strong urge towards action. This urge very likely then pushes the desire to find out what happened. It would be strange if there were no such remaining tension, given that your fear reflects your cares and concerns, but all you are able to do is wonder about what happened.

5.2. Degrees and Types of Idealization

Thus far, it remains an open question, how exactly the idealized conditions used in the definition of fittingness should be spelled out. The above proposal of idealization is only one way we could spell out this idealization. Depending on what role a standard of fittingness plays in a given theory of emotion, fitting attitude analysis of value, or in some other theoretical context, we might want to talk about different types of idealization.

We could set a more or less demanding standard for fittingness. For example, in the plane crash case, we could set the standard at any relevant information you could reasonably have access to. This would include all air-traffic data, weather reports, or other information accessible to a human being in that situation. If we

set the standard this low, we could not only say that past-directed fear can be warranted, it could even sometimes be fitting. Alternatively, we could set a high standard and include all relevant information theoretically available at the time. Then, whether the plane crashed or not would be included in the information available under idealized conditions, since that information does exist somewhere. Either way, whether you have access to the information or not does not impact the fittingness of your fear.

We can push this even further and formulate a maximally expansive degree of idealization that includes all possible information, even future information, in the standard required for fittingness. However, such a maximal standard would not only render past-directed fear unfitting, but also all future-directed fear with it.¹¹ While I am not proposing any one degree of idealization here, it seems that a more moderate standard would suffice and capture most of the desired cases of past-directed fear without ruling out even all future-directed fear. Hence, we might want to opt for a more targeted idealization, such as the one proposed by Baras and Na'aman (2022), which I discuss in the following section.

The one type of idealization, discussed this far, is the absence of any factual mistakes or lack of relevant information. If you did not actually lose your money, fear would not be fitting. Neither would it be fitting if the lack of money does not actually pose any setback or hindrance to anything you value, for example, because you are lucky enough to live in a society that does not require money to live any life you want. We can call this idealized standard something like *descriptive fittingness*.

Another idealization would be an evaluative one. You might not be mistaken about any descriptive aspect of your situation, but value something morally problematic.¹² For example, if you might lose a position of arbitrary power over others, and would see this as a harm to something you value. If arbitrary power over others is morally objectionable, then you should not value it. Hence, you should not see the likelihood of its loss as dangerous. We might call this idealized standard something like *evaluative fittingness*.

Depending on the theoretical context, the requirements for a standard of fittingness might differ. A fitting attitude analysis of sentimental evaluative properties might need to only rely on descriptive fittingness in order to avoid circularity, while a theory about the ethics of emotions would require a concept of evaluative fittingness. Hence, rather than an issue, it is a strength of the warrant-based approach that it can allow for these different types and degrees of idealization.

11. Many thanks to an anonymous reviewer for bringing up this point.

12. This assumes that our emotions partly depend on our underlying motivational states, such as desires, cares, and concerns. Authors who argue for this point include Deonna and Teroni (2012), Döring (2007), Helm (2001), Roberts (2003), Smith (2005), and Díaz (2023).

5.3. Generalizability

Another worry with the proposed solution might be whether a warrant-based account can translate to other emotion types. Fear in the face of the uncertainty of having lost all your investments is not fear in the face of objective dangerousness, but of subjective dangerousness, a property not merely given by the object itself, but one that is relative to the subject experiencing the fear. Analogously, we need to find the proper *subject-relative* properties for other types of emotions. For example, Baras and Na'aman (2022) state that *surprise* is fitting if something is unexpected and also relevant. While relevance is the focus of their attention, the feature of interest to us here is how they spell out the unexpectedness condition: for surprise to be fitting, *not expecting* would also need to be fitting.

This is a somewhat idealized standard because it does not simply take what someone *actually* did not expect or predict, but what they *fittingly* did not to predict or expect. Their standard for what counts as fitting unexpectedness thereby depends on whether something was not expectable or predictable *to the person*. But this requires some epistemic standard about what information constituted the basis on which something is expectable or predictable to the person. We would not say that, since there was an ancient artefact containing information about the location of Atlantis, buried somewhere in the world, it would be unfitting to not expect finding its ruins. Any standard of expectability needs to limit the scope of what information counts as part of the basis of the prediction or expectation.

A reasonable standard might say something like, whatever information you would have had readily available or could have found given a reasonable amount of research, counts as the basis for evaluating your non-expectations as fitting or unfitting. A more demanding standard, by which anything that could be predicted by any information anywhere in the world, would probably render anything but singular quantum events expectable.

Both fear and surprise are, arguably, epistemic emotions, or at least closely connected to probability. But a warrant-based approach can also extend to emotions that are not primarily epistemic. Sadness, for example, is said to represent its object as a loss. Probabilities have no real relevance for something to count as a loss. Rather, for something to definitively be a loss, any probability of it not being a harm, damage or other type of setback needs to already have disappeared. If you lost your money, that is a loss, if there is still a probability that you did not, it is not yet a loss.

If, according to what you know, the world is such that something of importance or value to you is gone, then sadness would be warranted. We can now apply both descriptive or evaluative idealizations to formulate different fittingness standards. For the former, we might say that your sadness is *descriptively fitting* only if, given you are in a situation of ideal information, you would be warranted

in believing that the thing of value is gone. Since ideal information in this case most likely will mean that it is actually gone, the warrant-based approach would come to the same conclusions as fittingness-based approaches in most cases. I think this is the desirable outcome, since both fittingness-based accounts and the proposed warrant-based account try to capture the same judgements in most situations.

For an evaluative idealization, we could require something like ideal rationality and moral clarity. If you were warranted in valuing the thing that you have lost, under such conditions, then your sadness could be regarded as *evaluatively fitting* under the given conditions. Either type of idealization can have different uses, and we can argue whether either one is appropriate for a given theory or purpose. Like this, a warrant-based approach can account for cases in which fittingness-based approaches would judge sadness as unfitting based on denying that the thing in question was actually of value.

We might even think that some typically past-directed emotions, such as regret, could be warranted when directed towards future events.¹³ For example, you might know that you have to fire an employee and be so certain about it that you already regret what you are about to do. Assuming the formal object of regret is something bad you inflict on another, a fittingness-based approach might discard this emotion as unwarranted, since you have not yet done anything bad, and you know that you haven't yet. A warrant-based approach might couch this in more subjective terms, that regret already includes actions you are set on doing. But a full discussion of such cases would warrant its own paper.

6. Conclusion

Fear seems to provide a seductively simple showcase, by which to explain ideas of fittingness of emotions. The fittingness-based approach takes the formal object of fear to be dangerousness, and that you can be correct or mistaken about something being dangerous. And if, given what you know, it seems like fear would be fitting, then your fear is warranted. Other emotions, like surprise, joy or awe, tend to provide somewhat greater challenges, in how to define their formal objects, and to explain how one could be mistaken about them. But cases of past-directed fear show us that, even the seemingly simple case of fear, can come to clash with this approach. While these points of friction can be patched up by intelligent and creative solutions, I suggest flipping the order of explanation and approach the fittingness of emotions from the subjective side, to establish the formal objects of emotions as subject-relative, to establish conditions of warrant relative to the

13. I am grateful to an anonymous reviewer for bringing up this possibility.

subject's perspective, and to view fittingness as a type of, or several types of, idealization of those warrant conditions.

In this paper, I have shown that the account of *Warrant as 'Justified as Fitting Fear'* faces a paradox in cases of past-directed fear, where there is a subjective probability, but at the same time no more objective probability of harm. From the three most promising solutions, I have argued that giving up the definition of *Warrant as 'Justified as Fitting Fear'* is the most fruitful one. The biggest problem this solution faces is that it seems to depend on the existence of two different types of fear, one directed at objective dangerousness and one directed at subjective dangerousness. To circumvent this problem, I have suggested eliminating objective probabilities from the formal object of fear altogether and take a warrant-based approach to appropriateness of emotions. Taking this approach, we can both reconstruct notions of fittingness, namely *Fittingness as Idealized Warranted Fear*, and even generalize the approach to other types of emotions.

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