



Relief, time-bias, and the metaphysics of tense

Julian Bacharach¹ 

Received: 12 May 2021 / Accepted: 21 April 2022 / Published online: 26 May 2022
© The Author(s) 2022

Abstract

Our emotional lives are full of temporal asymmetries. Salient among these is that we tend to feel differently about painful or unpleasant events depending on their temporal location: we feel anxiety or trepidation about painful events we anticipate in the future, and relief when they are over. One question, then, is whether temporally asymmetric emotions such as relief have any ramifications for the metaphysics of time. On what has become the standard way of finessing this question, the asymmetry of relief is an instance of the phenomenon of *future-bias*, a tendency to prefer painful events to be located in the past than in the future. The main question then posed is whether this pattern of preferences can be justified in the light of different metaphysical theories of time. In this paper I argue that this whole dialectic is misconceived. While many people may have future-biased preferences and these are a legitimate object of psychological study, this should be distinguished from the more basic phenomenon of relief that an unpleasant experience is over. Acknowledging the distinctness of these phenomena has two main consequences. First, if relief is not a manifestation of a time-biased preference, it is unclear what it would be for it to be justified or unjustified. This, in turn, should lead us to reassess how the psychology of relief bears on our metaphysical commitments. As I shall suggest, the real significance of the temporally asymmetric emotions for the metaphysics of time is that they manifest, and so reflection on them serves to draw our attention to, a structural feature of our awareness of the passage of time that resists re-articulation in other terms.

Keywords Time · Relief · A-Theory/B-Theory · Temporal experience · Emotion · Rationality

Our emotional lives are full of temporal asymmetries. Perhaps most salient among these is that we tend to feel very differently about painful or unpleasant events depending on whether they are located in our future, present or past. Generally speaking, we

✉ Julian Bacharach
julian.bacharach@gmail.com

¹ Institut Für Philosophie, Humboldt-Universität zu Berlin, Unter den Linden 6, 10117 Berlin, Germany

tend to experience anxiety or trepidation when anticipating future unpleasant events, discomfort or distress while undergoing them, and relief when they are over. Think of any familiar unpleasant task or occurrence: having a dental operation, or clearing rotting sludge out of your kitchen drain, or a loud banging noise coming from the building site next door. The contrast between aversion before and while the thing is going on, and relief when it stops, is an integral aspect of one's experience of these events.

It goes without saying that this pattern of affect is intimately connected with how we experience time. One question, then, is whether our understanding of temporally asymmetric emotions such as relief has any ramifications for the metaphysics of time. Given the way that the metaphysical options are divided up in contemporary philosophy, this typically resolves itself into the question whether the phenomenon of relief can be accommodated within the standard 'tenseless' picture or 'B-theory,' according to which the universe is extended along four dimensions, and the status of an occurrence as past, present or future is a matter of its temporal relation to a contextually indexed time. Opponents of this picture have argued that making sense of the asymmetry of relief requires us to adopt a 'tensed' or 'A-theoretic' picture, on which the difference between past, present and future is an intrinsic, non-relational matter.

On what has become a standard way of finessing this question, the asymmetry of relief is an instance of the more general phenomenon of time-bias, specifically 'future-bias.' This is defined by one recent contributor as follows: "A person is *future-biased* when she would rather, other things being equal, that bad things be in the past than in the future, and that good things be the future than in the past. Most of us are, at least to some degree, future-biased." (Hare, 2013, p. 507) On this framing, the two questions then posed are then (i) is this pattern of preferences rationally justified?, and (ii) does it result from the biased agents' being sensitive to some objective and non-relational temporal feature of the occurrence or occurrences in question, in a way that cannot be accommodated by a tenseless theory of time? In posing these questions, it is generally further assumed that a positive answer to the second is plausible only given a positive answer to the first: that is, future-biased preferences could be justified only if there were some absolute metaphysical difference between past and future events as such. Consequently, much of the recent debate over the metaphysical import of temporally asymmetric emotions has been concerned with the question of the justification status of time-biased preferences.

In this paper I argue that this whole dialectic is misconceived. Although future-biased preferences are a genuine psychological phenomenon and legitimate object of study in their own right, they should be distinguished from the asymmetry of relief. It takes some careful probing to elicit future-biased preferences, and hence it is rightly viewed by many contributors to the debate as an empirically open question just how widespread a phenomenon they are. By contrast, the asymmetry of relief is something that can be instantly recognised by anyone through minimal reflection on their own experience.

Acknowledging the distinctness of these phenomena has two main consequences. First, if relief at the cessation of an unpleasant experience is not a manifestation of a time-biased preference, then it is no longer clear what is meant in asking whether it is justified. We should therefore suspect that this question is philosophically empty.

Secondly, if it is not meaningful to ask whether the asymmetry of relief is rationally justified, this in turn should reconfigure our assessment of how the phenomenon of relief bears on our metaphysical commitments. As I shall suggest, the real significance of these asymmetric emotions for the philosophy of time is not that they evince a pattern of preferences that may or may not be justified in the light of a metaphysical theory. Rather they manifest, and so reflection on them serves to draw our attention to, a structural feature of our awareness of the passage of time that resists re-articulation in other terms.

The plan is as follows. In Sect. 1 I describe the standard dialectic, on which it is assumed that relief that an unpleasant experience is over manifests a time-biased preference whose justification depends on a certain metaphysics of time being correct. In Sect. 2 I criticise the mistaken identification of the emotional reaction of relief with the expression of a preference. In Sect. 3 I offer a diagnosis of this mistake, in the assumption that relief is always a response to a change in belief. I suggest that we may reject this assumption if we draw a distinction between two types of relief, *doxastic* and *experiential* relief. In Sect. 4 I sketch an alternative, positive account of experiential relief, which places it in the wider context of the experience of aversive desires and their satisfaction. In Sect. 5 I consider how this account deals with a famous example due to Derek Parfit. Finally, in Sect. 6 I make some more speculative remarks about how the asymmetry of relief relates to the apparent passage of time, and reflect on the ramifications of the experiential account for questions about the reality of tense.

1 The asymmetry of relief

Imagine you are on an unpleasantly hot and crowded bus journey. As you are shoved and jostled by the sweaty passengers around you, you grow increasingly desperate for the journey to come to an end. Finally the bus pulls into its destination and disgorges its load. You feel a flood of relief and say to yourself, ‘Thank goodness that’s over!’

What is it exactly that you are thanking goodness for here? One candidate for the object of your relief is the fact that the bus journey ended at the time it did. For instance, it could be that you have an onward connection to make, and you are anxious about missing it if your bus arrives late. In that case, when the journey comes to an end, you might express your relief that it ended on time with the thought, ‘Thank goodness that journey is now over, in time for me to make my connection.’ Although you now express this relief in terms of the journey being in the past, this is something you could have been relieved at before, if you were sufficiently confident that the journey would end on time. In that case, you might have expressed your relief in terms of the future-directed thought, ‘Thank goodness this journey will be over at such-and-such a time.’

Intuitively, however, this is not the only thing you might be relieved at. It may also be that, when the bus arrives at its destination, you are simply relieved that that awful journey is over, on top of your relief that it ended when it did. We can bring out what is distinctive about this type of relief by imagining that you were never in any doubt about that the journey would end on time; but it is only when it actually concludes,

and you can express as much using the past-directed thought ‘That journey is over,’ that you have cause to be relieved.

Following Hoerl (2015), we might label the above two types of relief as, respectively, *counterfactual* and *temporal* relief. Counterfactual relief is just relief at discovering how some actual matter of fact turned out, where one had feared a worse alternative. One can be relieved in this sense at anything that one can learn and have preferences about, irrespective of one’s temporal perspective on the facts in question. One can be relieved at the outcome of a recent election, or at the result of some medical tests, or that one’s favourite formal theory of truth is consistent. Temporal relief, meanwhile, is relief that “turns specifically on the fact that a painful or otherwise unpleasant episode has actually taken place, but has now ended.” (Hoerl, 2015, p. 220) Note that, as the above vignette shows, the use of a tensed representation of an event as past, present or future is not sufficient to distinguish temporal from counterfactual relief. Rather, what is distinctive about temporal relief is that one’s *reason* for being relieved is essentially tied to the temporal perspective of after the unpleasant event in question, so that one could not have had the same reason for being relieved at an earlier point in time—even if one were in absolutely no doubt about when it was going to end.

Temporal relief is often seen as philosophically puzzling in a way that counterfactual relief is not. How can we explain the distinctive new reason one gets for being relieved when an unpleasant occurrence has come to an end? In particular, in the wake of some influential remarks of A. N. Prior (1959), the chief question that has been posed about temporal relief is whether it can be accommodated within the framework of a ‘tenseless’ metaphysics of time. On this picture, events all have unique locations on a fixed, unchanging timelines, and the function of tensed notions of past, present and future is to locate events in relation to a particular point indexed as ‘now’—in something like the way that places can be identified as ‘here’—but play no part in the description of temporal reality in itself. By contrast, on the ‘tensed’ picture that Prior advocates, being past or future is a metaphysically primitive feature of a state of affairs, which alters as time passes. On this picture, an event’s becoming past is an objective, absolute change in its reality-status, rather than merely reflecting a difference in the temporal perspective of the tense-user.¹ The challenge for the tenseless picture is thus to explain why we should take such different affective attitudes to past and future events, given that the difference between past and future is merely a difference in the thinker’s temporal location and not in the events themselves.

In the latter half of this paper, I will offer my own account of temporal relief and its asymmetry, and consider the metaphysical ramifications of this account. In the meantime, however, my aim is to provide a corrective to what has become a standard way of framing the issue. On this construal, one feels relief when an unpleasant event is over because one has the ‘future-biased’ preference for timelines in which bad things happen in the past over otherwise similar timelines in which bad things happen in the future. The challenge is then just to explain why we have this preference, and how it might be justified.

¹ Prior’s is not the only version of the tensed theory, and question of how best to formulate the tensed/tenseless contrast has become a large topic of discussion in itself. I will set these issues aside as far as possible and use Prior’s view as a stalking-horse.

On the face of it, it is hard to see what the explanation of future-biased preferences should have to do with questions about the metaphysics of time. Preferring one kind of timeline over another is, it would seem, simply a contingent feature of our psychological makeup—perhaps to be explained in evolutionary terms (e.g. Dyke & Maclaurin, 2002; Suhler & Callender, 2012). For this reason, a proponent of a tensed theory of time is typically portrayed as objecting that a proper explanation of our time-biased preferences should in some way reveal them to be *justified*, and as insisting that they could not be justified if a tenseless metaphysics were correct. So conceived, the argument against a tenseless metaphysics turns on two principal assumptions: (i) an adequate explanation of future-biased preferences must show them to be justified; and (ii) such preferences could not be justified if, as a tenseless metaphysics has it, there is no intrinsic, non-relational difference between an event's being past and future (e.g. Bnefsi, 2019; Fernandes, 2019).

A general misgiving one might have about this argument is that it appears to involve moving from an 'is' to an 'ought': that is, it assumes that non-normative metaphysical facts about the structure of temporal reality can entail or explain normative facts about what patterns of preference we rationally ought to have.² However, the proponent of the argument need not claim that a tensed theory of time on its own is sufficient to secure the justification of time-biased preferences, but only that a tensed metaphysics is a precondition of such preferences being justified. And their reason for holding this is the assumption that, if there is some difference in the attitudes we are rationally permitted to take towards otherwise similar past or future events, this must reflect some real, non-relational difference between them, and according to the tenseless picture there is no such difference. Thus, the argument need not involve the controversial assumption that the descriptive can entail or explain the normative, but only the weaker one that the normative supervenes on the descriptive.³

Nevertheless, assumption ii) still looks questionable. Many of our values and preferences exhibit various kinds of bias and partiality. For instance, we typically care more about our own well-being, and that of those we have close relationships to, than we do about other people's. It would be an extreme position to hold that such partiality is appropriate only if certain people possess a special metaphysical status which others lack.⁴ Accordingly, it seems open to a defender of time-biased preferences to assimilate future-bias to other forms of partiality. For instance, Sayid Bnefsi suggests, "in the interpersonal context, it seems our asymmetric attitudes between others are justified by the variously intimate relationships that we stand in with others, and the reasons that we have for standing in those relationships with them. Likewise, in the intertemporal context, it may be that our asymmetric attitudes between the past and the future are justified by the variously different metaphysical, epistemological, and ethical relations that we stand in with ourselves in the future rather than the past" (Bnefsi, 2019, p. 50).⁵

² Thanks to an anonymous reviewer for raising this point.

³ Cf. Fernandes (2019, p. 4004) for clarification of this point.

⁴ Not that this position lacks its defenders: cf. Hare (2007, 2009).

⁵ A further problem for this assumption is that it is equally debatable whether future-biased preferences are justified given some kind of tensed metaphysics. For instance, Greene and Sullivan (2015) argue that

Moreover, the argument suffers from the following general difficulty. It has the schematic form: We are justified in doing X; we are justified in doing X only if Y; therefore, Y. Clearly, for this to be persuasive as an argument in favour of Y, there must be some way of establishing whether we are justified in doing X, independently of inquiring into the truth of Y. Otherwise there would be nothing to count against instead arguing, by *modus tollens*, from the falsity of Y to the conclusion that we are not justified in doing X. But this is difficult to reconcile with the conditional premise that X is justified only if Y. For the only plausible reason for accepting this conditional premise is, presumably, that the justification of X depends on the truth of Y. And if this is so, then any uncertainty about Y should similarly undermine our confidence in the justification of X.

Regarding the matter at hand, the problem is that, on the one hand, assumption ii) of the argument says that the justification of future-biased preferences depends partly on whether a tensed theory of time is correct. On the other hand, for the argument to be dialectically effective, we need to have some way of telling whether our preferences are justified prior to settling our metaphysical commitments; otherwise, someone could just as well take as a starting-point the assumption of a tenseless theory, and argue that, because all times are metaphysically equal, there are no grounds for treating similar past and future events differently. In other words, in order for the argument to be a convincing way of establishing its metaphysical conclusion, it must be that we have some special insight into the justification of our preferences, prior to and independently of our metaphysical commitments. Yet it is hard to see how this could be so if our the justification of our preferences depends on a certain metaphysics being correct.⁶

If the argument against a tenseless theory turns on the idea that relief manifests a pattern of biased preference, one which can be justified only if a tensed metaphysics is true, then it is on shaky ground. In the next section, I examine in more detail the assumption that temporal relief involves having future-biased preferences. I argue that this is a distortion of the phenomenon and should therefore be resisted.

2 Relief and preference

The standard construal of the argument from relief, as I have presented it, sees temporal relief as the expression of a general biased preference for painful events to be located

Footnote 5 continued

presentism is incompatible with the justification of future-bias, while Bnefsi (2020) suggests that future-bias can be equally justified on a presentist as on a tenseless metaphysics. The fact that the justifiability of future-bias is open to question on both a tenseless and a tensed metaphysics suggests that the question of justification is orthogonal to questions of metaphysics. Thanks to a reviewer for this point.

⁶ This point has a certain amount in common with Barry Stroud's (1968) influential critique of transcendental arguments. The arguments Stroud criticises have the form: we operate with a certain concept X (e.g. the concept of an objective spatial world); X makes sense only if condition Y is satisfied (e.g. if there are bodies which exist unperceived); therefore Y is satisfied. Stroud objects that the most these arguments can establish is that we must *believe* Y is satisfied if we are to continue to operate with X. Similarly, a different gloss on the above point might be: if the justification of future-biased preferences depends on a tensed metaphysics being correct, the most that follows is that someone who has future-biased preferences is thereby rationally committed to affirming a tensed metaphysics—not that they would be correct in doing so.

in the past rather than the future. But what exactly does it mean to say an agent is biased in this way? The notion of preference is typically connected closely with choice, but having future-biased preferences necessarily means having preferences which differ with respect to past events which the agent cannot affect, and so cannot be directly manifested in the agent's choices.

This question is sharpest for behaviouristic, or 'revealed-preference' views, on which preferences are just dispositions to make choices, or are abstract constructions out of patterns of choice. Such views have largely fallen out of favour in recent decades, at least within the philosophical literature.⁷ But even on views that take preferences to be psychologically real causes of choice behaviour, it is nevertheless a legitimate question what it means to have preferences about the past, what their characteristic expressions are, and on what basis they should be ascribed. The question is particularly pressing here because the preferences in questions are between timelines, or distributions of goods and experiences along timelines. Yet these are not the sort of things that people normally have desires about; people's desires, at least as apparent to introspection, tend to be for much more coarse-grained and indeterminate outcomes, like having a glass of wine, or being somewhere sunny, or getting revenge.⁸

In much of the social scientific literature on intertemporal choice, the notion of preference between timelines is closely associated with *temporal discounting*: a tendency to value payoffs differentially depending on their temporal location.⁹ Temporal discounting is most often discussed in connection with the 'near-biased' preference for timelines in which good things occur sooner rather than later in the future (and bad things later rather than sooner.) One of the key issues here is what form the discount function takes, and so whether it will lead people to reverse their preferences over time, and so to make patterns of choices that are inconsistent or mutually undermining.¹⁰

⁷ For a critique of the revealed-preference paradigm, see Hausman (2011). For a defence see Thoma (2021b).

⁸ The underlying issue here is that the notion of preference, as it is deployed widely across philosophy and the social sciences, is a two-place relation satisfying certain formal constraints to impose a ranking over its objects: it must be at least anti-symmetric, transitive and acyclical; more controversially, preferences should also be complete, meaning that for any two items for which the agent has preferences, either one is preferred to the other or the agent is indifferent between them. This plausibly requires that preferences represent an *overall evaluation* of their objects with respect to all the various things the agent cares about, and so their objects must therefore somehow incorporate or specify these various dimensions of value: for instance, antisymmetry would be violated if someone could prefer to A to B in one respect, but also B to A in another respect. [For the claim that preferences are overall evaluations, see Hausman (2011).] In the case of time-biased preferences, then, it makes sense for the objects of preference to be distributions of experiential goods along a timeline, or propositions about such distributions. In these respects, the notion of a preference ranking is at a considerable remove from the ordinary folk-psychological notion of desire, which is not necessarily comparative, and is not subject to anything like the same formal constraints as the notion of preference: for instance, there is typically no difficulty making sense of someone wanting both A and not-A. For relevant further discussion of the relation between the decision-theoretic notion of preference and the folk-psychological notion of desire, see Thoma (2021a) and Phillips-Brown (2021).

⁹ The discounting model was first proposed by Samuelson (1937). For some reviews see Frederick et al. (2002) and Grüne-Yanoff (2015).

¹⁰ Specifically, an agent whose discounting function is exponential will not reverse their preferences as time passes, whereas an agent with a hyperbolic discount function will, e.g. Ainslie and Haslem (1992). For an engaging general overview, see Elster (2000, I.3). See Callender (2018) for a critique of the standard assumption that only exponential discounting is rational.

It is important to emphasise that in these discounting models, it is not typically assumed that people have direct introspective access to their discount function or to their preferences. Rather, the discount function and preference is invoked as a theoretical posit to explain the patterns of choices that people make. But in the case of future-biased preferences there can be no such pattern of choices over time to motivate their ascription, because they concern timelines which differ with respect to matters the agent cannot affect. So there is a question whether we have any alternative grounds to attribute people biases of this sort.

One frequently-invoked paradigm of future-biased preference is provided by a famous example from Derek Parfit:

Parfit's Operation: You are admitted to hospital for a painful medical procedure. Either you will have an operation on Tuesday which lasts four hours, or an operation on Thursday which lasts one hour. After the operation you will suffer temporary amnesia. When you first wake up on Wednesday, you do not know whether you have had the longer operation or whether the shorter operation is yet to come. (Parfit, 1984, 167)

The generally accepted verdict on the case is that most people would feel relieved to find out they had already had the longer operation, and dismayed to find out they are going to have the shorter operation. And this is typically taken to show that, on Wednesday, out of the two possible timelines, one *prefers* the one with the longer Tuesday operation to the timeline with the the shorter Thursday operation.

I will return to discuss *Parfit's Operation* in more detail in Sect. 5. For now I want to note that the assumption that one's imagined relief is the result of a determinate underlying preference is not obligatory. As noted above, even if preferences are taken to be psychologically real causes of people's choices, they still earn their theoretical keep—at least in social scientific contexts—as posits inferred to explain patterns of choice. It therefore cannot be assumed that people have especially direct or reliable introspective access to their preferences, independently of the choices they make.

Indeed, when there are competing factors to be weighed up, the way one normally goes about determining which complex, fine-grained outcomes one prefers is typically not an independent process from deliberating about what to do. It thus may often be simply unclear how to go about deciding what one's preferences really are when it comes to matters that one cannot possibly affect. In particular, it may be utterly unclear how to go about determining what one's own preferences are about the past, and specifically how the presence of more or less pain and discomfort in one's past should be weighed against other goods when evaluating a possible timeline, given that one cannot deliberate between timelines that differ in this respect.¹¹ We should therefore at least pause before assuming that people's judgments about whether they would be relieved to learn that they were in one kind of timeline rather than another is reflective of a stable and determinate preference for timelines of that sort.¹²

¹¹ For further discussion of the difficulties for deliberating between timelines that differ with respect to the past, see Phillips (2021).

¹² Studies by Greene et al., (2021a, 2021b) also relied on introspective comparisons of subjective satisfaction in different imagined scenarios to ascribe biased preferences, and found various interesting

If future-biased preferences cannot be assumed to be introspectively manifest, and also cannot be revealed directly in people's choices, how then should they be ascribed? Where preferences cannot be directly acted on, a promising proxy for intertemporal choices is people's retrospective or hypothetical bargaining behaviour. That is, one indirect way of ascribing and measuring people's preferences about past events is by getting them to settle on an exchange value for past and future events in terms of fixed goods, such as money. If an agent has a biased preference for past over future pain or discomfort, that must mean they discount past such experiences relative to future ones, and so should should take their fair exchange value to be lower.

Some recent studies by Caruso et al. (2008) provide evidence that many people do indeed display this asymmetry in seeking compensation for future and past events. Caruso and his colleagues found that, when presented with various imaginary scenarios, people seek less compensation for unpleasant work they already have done, and offer less compensation for experiential goods they have already enjoyed, as compared with when those goods and experiences are yet to come. For example, in one study, test subjects were asked to imagine they had agreed to help a neighbour move apartment, and had the opportunity to choose a bottle of wine for themselves using a coupon given by the neighbour. One group of subjects were asked to imagine they had already helped the neighbour to move one week ago, the other group that they had promised to help in one week's time. On average, subjects who imagined helping the neighbour in the future chose for themselves a bottle of wine that was 71% more expensive than that chosen by subjects who imagined having already helped the neighbour. The explanation of this pattern is that "people value events in the future more than they value equivalent events in the equidistant past" (Ibid., p. 800); that is, people regarded their time and effort as worth more compensation when it was in prospect than when it was already completed.

A natural reaction to this result is that the effect does indeed seem irrational.¹³ Accordingly, one might doubt that the phenomenon here is really the same one as that on display in the ordinary experience of relief at the passing of something unpleasant.

This suspicion is backed up by the fact that in the Caruso studies the effect was found only in between-person comparisons. That is, when different subjects were asked to select a bottle of wine for helping a neighbour moved, there was a significant difference between those who were given the future story and those who were given the past story. However, when the same subject was successively given each story, and asked to select an appropriate reward for each, there was no significant difference between that subject's responses. The authors take this pattern to suggest that "participants valued the future event more than the past event, but considered this asymmetry irrational" (Caruso et al., 2008, p. 798). That is, although the participants were initially inclined to ask for more compensation for past than for future events, when explicitly asked to

Footnote 12 continued

discrepancies between people's actual responses and philosophers' armchair predictions about which time-biases people have. Although the above line of thought gives reason to doubt that what these studies measured is best described as a preference between timelines, my argument here is more broadly consonant with the authors' claim that the pattern of judgments elicited in the studies is the product of multiple interacting factors, rather than a single univocal tendency to discount the past. Cf. Greene et al., (2021b, p. 161).

¹³ For some arguments to the effect that it is, see Greene and Sullivan (2015) and Dougherty (2015).

compare rates of compensation for the past and future they did not think it appropriate to be compensated differently depending on the event's temporal location, and so did not act on their initial inclination.

There is thus a serious difficulty for applying the discounting model of preferences about the past to ordinary temporal relief. On the understanding of temporal relief as future-bias, when one is relieved that an unpleasant episode is over, one is making a comparison between timelines where the unpleasant event occurs in the past to those where it occurs in the present or future. But this is precisely the kind of single-person comparison for which the Caruso studies found no significant difference between past and future evaluation.¹⁴

There is a deeper, more conceptual problem with the whole discounting model as applied to temporal relief. Understanding temporal relief in this way, as discounting past unpleasantness relative to the future, implies that someone who is relieved that an unpleasant occurrence is over must thereby consider the occurrence in some sense *less bad* now that it is over. And this implication just seems perverse. Of course, discounting studies like Caruso's suggest that people do tend to do this at least to some extent, at least as measured by their readiness to seek or accept compensation. But it seems entirely possible that someone could feel relieved after an unpleasant event, yet without in any way changing their assessment of how bad the event was. Indeed, someone who discounted past unpleasant events should be less, not more, relieved, than someone who did not—the less bad one thinks a recent occurrence was, the less reason one has to feel relieved!

The discounting model has some further Procrustean consequences. As an unpleasant event unfolds, one's temporal perspective changes continuously, so that progressively more of the event is past and less is future. If one discounts the past relative to the future, we should thus expect a smooth improvement in the degree to which the actual course of events satisfies one's preferences, and hence a smooth tailing off of negative affect. But this prediction does not fit at all well with the familiar experience of the sudden flood of relief when the awfulness finally stops.

In summary, results like the Caruso studies provide reasonable evidence that people do indeed tend to have future-biased preferences, at least to some extent. But this does not mean that, in ordinary cases of temporal relief, one's reason for being relieved is that one has a future-biased preference that gets satisfied. The point to insist on is that, in temporal relief, the cessation of an aversive event triggers an abrupt perspectival shift, so that the valence of one's whole reaction to that event reverses. Any difference in one's subjective assessment of the badness of the event is incidental to this shift. Rather than straining to find a sense in which it is at all correct or illuminating to say that a relieved agent finds past unpleasant experiences to be preferable to present and future ones, we should instead look to loosen the assumptions that led to the identification of temporal relief with future-bias in the first place. This is the aim of the next section.

¹⁴ A further issue is that other studies have shown that the phenomenon may not be cross-culturally robust, e.g. Guo et al. (2012).

3 Types of relief

The motivation for introducing future-biased preferences into the explanation of temporal relief was to account for the distinctive kind of reason one gets for being relieved following the cessation of an unpleasant occurrence. This is clearest in pure cases of temporal relief, where one is never in any doubt about when the occurrence in question will end. In these cases, there is no new information at which one can be relieved when the event comes to an end, so there is nothing else for one to be relieved at save for the bare passage of the event from past to future. So it can seem that one's relief must turn on the fact that one prefers for the unpleasant event to be in the past than in the present or future.

This line of thought, however, turns on an assumption which is open to question. The assumption is that the shift which occasions relief is a cognitive one, in which one comes to represent the world to be some way that is congenial to one's wishes, and so is glad. In other words, relief that an unpleasant episode is over is always mediated by a *belief* to the effect that that episode is over.

We can see this assumption formulated explicitly, for instance, in D. H. Mellor's discussion of the argument from relief. He writes,

What makes me glad that my pain is over is not that it is over, but that I believe it is over...Similarly...with my belief that my pain is past...And as in this case, so in all cases. The immediate cause of our being glad of any A-fact [i.e. tensed 'fact']...is not the fact itself but our belief in it. (Mellor, 1998, 41)

Once we assume that my relief at the cessation of the event must be mediated by an intervening belief of this kind, the road to time-biased preferences is not a long one. For, assuming I was never in doubt about when the thing would end, the only relevant change in my informational state is the shift from present to past indicated by my now being able to say 'That's over.' And, on the assumption that my relief is a response to one of my beliefs, it must be that I regard the bare temporal information that that event is now past as somehow *good news*. And this in turn seems to require that I consider past unpleasant experiences somehow less bad than present or future ones, and so prefer them to be in the past.¹⁵

Mellor's motivation in insisting that his relief be occasioned by a belief is to resist the conclusion that the object of his relief is the 'A-fact' that his pain is over, countenancing which would require buying into a tensed metaphysics along the lines of Prior's. Mellor takes these options to be exhaustive because he assumes that otherwise his relief would be just a brute feeling, without intentional content. And he takes it as read that in Prior's example, one's relief is supposed to be directed at the past pain, the cessation of which provides a distinctive reason for being relieved.¹⁶

¹⁵ Compare Richard Jeffrey's definition of preference: "To say that *A* is [preferred to] *B* means that the agent would welcome the news that *A* was true more than he would the news that *B* is true: *A* would be better news than *B*" (Jeffrey 1983, p. 82).

¹⁶ This is in contrast to Mellor's earlier (1981) response to Prior, in which he suggests that the relief itself is an undirected feeling, and the comment 'Thank goodness that's over' amounts to an acknowledgment that the relief is an effect of the cessation of the unpleasant event. The account elaborated below is in some ways closer to Mellor's earlier response, except I do not hold that the relief is just a feeling.

But these options are not exhaustive. Just as some of my beliefs are based not on other beliefs but rather on experience, we should allow the possibility that other states with intentional content, such as relief, may be similarly directly responsive to experience, without the need for an intervening belief. On this alternative, my relief is a direct response to, and is directed at, the change in my conscious experience that takes place when the unpleasant episode ceases.¹⁷ Insofar as I have a belief that my pain is over as well as being relieved, this is related to my relief, not as a causal intermediary between experience and affect, but rather as the co-effect of a common cause.¹⁸

To accommodate this possibility we need to introduce a second distinction between types of relief, one which is, I suggest, more fundamental than that between counterfactual and temporal relief. On the one hand, there is what might be called *doxastic* relief. In this case one receives some bit of information congenial to one's interests, updates one's beliefs accordingly, and reacts positively to the good news. If we allow beliefs with essentially indexical content, there is no reason why the objects of doxastic relief should be limited to information that can be stated without loss in a tenseless idiom. For example, I groggily look at my bedside clock after oversleeping, and feel relieved that I still have time to get to the meeting. Thus, some cases of doxastic relief may also be cases of temporal relief, if they are a reaction to the temporally indexical news that some unpleasant occurrence is past. (This point will come up again in the discussion of *Parfit's Operation* below.)

On the other hand, there is a special way in which one can feel relieved at the passing of an unpleasant episode, one which essentially involves actually *living through* that episode, and where one's feeling of relief is marked by a consciousness, in immediate memory, of what it was like to live through it. We might accordingly call this phenomenon *experiential* relief. Experiential relief is a case of temporal relief insofar as it involves an awareness of the fact that an unpleasant experience has taken place but has now ended; but, rather than a belief, this awareness takes the form of an experiential memory.

Recognising experiential relief as a category of its own suggests a different way of understanding the new reason one gets for being relieved, one that does not go via future-biased preferences. The general idea is that one's reason for being relieved has a distinctively experiential basis, and that the asymmetry of relief is due to the characteristic temporal profile of the experience of living through an unpleasant episode. The next section will sketch out a way of developing this idea.

4 The experiential account

Let us take stock so far. I have argued that the standard version of the argument from relief, which goes via the question whether temporal relief can be rationally justified, is not convincing. However, I have also pressed that this version of the argument turns on the construal of the asymmetry of relief as caused by future-biased preferences,

¹⁷ A different example of an emotional response to one's experience not mediated by belief might be emotions of aesthetic appreciation.

¹⁸ For this point, see Wollheim (1999, pp. 52–56).

and that this can and should be resisted. And this poses anew the question how to understand the distinctive reason for relief that one acquires when, and not before, an unpleasant comes to an end, if not in terms of the satisfaction of a future-biased preference. The proposal to be developed now is that we should explain the asymmetry of relief by placing it in the context of the characteristic experience and temporal profile of aversive desires and their satisfaction.

Aversion is a fundamental and widespread psychological and ethological phenomenon. This is how it was defined in 1918 by the animal ethologist Wallace Craig: “An aversion is a state of agitation which continues so long as a certain stimulus...is present; but which ceases, being replaced by a state of relative rest, when that stimulus has ceased to act on the sense-organs.” (Craig, 1918).¹⁹ Aversion is the mirror-image of *appetite*—a similarly agitated state induced by the sensing of an attractive stimulus, such as an item of food, and typically leading to a consummatory behaviour with regard to that stimulus if it is attained. Craig goes on to explain that aversion and appetite are not just reflex responses but are rather *motivational* states induced by the novel stimulus. The behaviours these states motivate are moreover actions of the whole organism, and may be shaped by learning and intelligence.

The notion of aversion, along with its twin, appetite, provides a paradigm of a desiderative state that contrasts markedly with the idea of desire as preference.²⁰ This paradigm is nicely encapsulated by G. E. M. Anscombe’s slogan: “The primitive sign of wanting is *trying to get*.” On this conception, aversive and appetitive desires are occurrent, dynamic phenomena that unfold in time in a specific way: the introduction of the novel stimulus triggers the onset of the desire, leading to pursuance or avoidance behaviour; finally, if this is successful, consummation and the cessation of desire.²¹ The phases of this process have characteristic connections with affect: most saliently, in the case of aversion, agitation at the onset of desire, turning to distress or panic if the stimulus persists, and with the dissipation of these emotions, and subsequent relief, when it is removed.²²

A signal feature of this paradigm of desire is that the satisfaction and subsequent cessation of the desire is necessarily contemporaneous with the event that satisfies it. And this is a key point of contrast with desire as preference. One may have preferences regarding some event—the outcome of an experiment, or a football match, say—but only find out about the matter later; or one may become certain in advance about the outcome of some future event about which one is concerned. In these cases, when one learns that things are as one prefers them to be, and so one’s preferences are satisfied,

¹⁹ For a review of the continuing influence of Craig’s work, see Burghardt and Burkhardt (2018). Note that ‘aversion’ here is a mild term of art that differs from the ordinary sense in which one might, say, have an aversion to risk or to cheese. Aversion in the present sense is an occurrent response to a stimulus, not a standing disposition.

²⁰ The idea here of two models of desire is based on an unpublished manuscript by Martin (1999, Unpublished), and is also suggested in Munoz-Dardé (2016). An earlier source for these ideas is Wollheim (1999).

²¹ For a related conception of desires as conscious and occurrent, see Peterson (2019).

²² This is not to say that all aversive desires issue in avoidance. In many cases, such as those of internal bodily pains, there may be no course of action available; in other cases the tendency to act on the aversive desire may be suppressed or overridden by other motives. Even in these cases, however, the onset of an aversive desire will at least make some difference to the agent’s goal-directed action, for example by distracting them from whatever else they are doing.

one may feel relief or satisfaction; but the past or future event which one's preferences concerned is not the proximate cause of relief.²³

There is thus a straightforward explanation of why experiential relief can be had only after the fact. It is tied to a point in the motivational process that follows the satisfaction of an aversive desire, and the satisfaction of this desire is contemporaneous with the event that satisfies it. Therefore, relief at the satisfaction of an aversive desire is always subsequent to the conclusion of the event that initiated that desire. What bears emphasis is that this account does not imply that the relief, or the desire whose satisfaction the relief is a response to, has a *content* concerning that particular event or point in time. And this allows us to resist the assumption that, when one is relieved something unpleasant is over, one must therefore have a preference for timelines on which that state of affairs is prior to a particular, indexically identified moment. Someone who is relieved at the satisfaction of an aversive desire is relieved at that point in time, and not earlier, simply because that was when the desire happened to get satisfied.

However, this is only one half of the story. The initial explanatory challenge was to account for a distinctive *reason* one gets for being relieved when an unpleasant occurrence comes to an end. But on the proposed account, the explanation why relief happens at that point and not earlier is just that the relief is caused by the satisfaction of an aversive desire. And one might complain that this causal explanation does not touch the question of why relief should be *appropriate* then but not earlier.

The answer to this complaint is that the cycle of aversion–satisfaction–relief is not a blind mechanical process, but a form of experience in which the agent consciously and actively pursues their goals, and experiences events as satisfying or frustrating those goals and so as inviting certain reactions. Making good this point requires us to appeal to some much richer explanatory resources than have been in play so far.

There are two key ingredients to the response. The first ingredient is what we might call the *experiential force of desire*. Occurrent desire, at least in a conscious subject, does not just set the subject off on a certain behavioural course. Rather, desire affects the subject's behaviour partly via modifying their experience, for instance through determining the agential and affective affordances that the subject attends to in their environment: with aversive desire, the subject perceives the stimulus *as* dangerous, disgusting, threatening, and so on, and so to-be-avoided or to-be-eliminated. In this sense, the actions prompted by occurrent desires can be, from the point of view of the subject, a fitting response to the world as they experience it.²⁴

²³ There are confusingly two senses of 'satisfaction' in play here. There is a semantic sense in which one's preferences are satisfied just in case the state of affairs which one prefers actually obtains. In this sense, the satisfaction of one's preferences is not an event that takes place at a particular point in time, any more than the truth of one's beliefs is. On the other hand, there is the psychological phenomenon of satisfaction, which may take the form of relief, that takes place only when one *learns* about matters about which one has preferences. With appetite and aversion, by contrast, there is just the actual consummatory event that satisfies the desire.

²⁴ The sense in which perceived affordances provide reasons for action brings up some deep issues I cannot adequately address here. For instance, philosophers such as Christine Korsgaard have argued that an agent can only be credited as acting for reasons if they can employ practical reason to 'stand back' and reflect on their immediate desires (Korsgaard 2009); see also Boyle (2016). Even if this is right, though, I think we should allow a more minimal sense in which, for instance, fleeing can be a fitting response to the

The second ingredient we need to appeal to is the idea that, in normal human experience, action and desire infuses not just the subject's sensory experience of their immediate surroundings, but rather a complex synthesis of memory, sensation and imagination that constitutes their conscious perspective on an extended interval of time.²⁵ In this synthesis, the agent experiences their past, present and future as bearing differentially on their pursuit of their goals: in immediate memory it seems to the agent that they are aware of something which is absent from their sensory experience yet *completed*, and thus no longer requiring action; in anticipating future occurrences, it seems to the agent that something is similarly absent yet *impending*, and so requiring preparation. At the same time, the agent is consciously aware of remembered and anticipated events as completed or coming up *for them*, and of their own ongoing goal-directed activity, fuelled by their occurrent desires, as extending continuously through the past event and into the future.

On this account, an active agent's experiential perspective on an interval of time within which their immediate present is contained is not a static view of events as ordered along a temporal dimension, but a dynamic process in which representations of past, present and future are bound together by that desire-fuelled activity which propels the agent into the future. With these resources at our disposal we can begin to make sense of how the representation, in immediate memory, of a given event as past should carry a different affective valence from the sensory or imaginative representation of that event as present or future. Because the agent's representations of past and future are bound together by action and desire, the representations of an event as past or as future is shot through with agential and affective affordances—and these are different depending on whether the event is represented as past or future. Specifically, a relieved agent's awareness, in immediate memory, of the cessation of a past event, amounts to the awareness of that event's completion as amounting to the satisfaction of an aversive desire of theirs, and so the absence of that event, as given in immediate memory, figures as something to be welcomed.

One might worry that this experiential account of one's reason for being relieved simply shifts the burden of explanation elsewhere. It relies on the idea that, in the conscious synthesis of their temporal experience, it seems to the agent that remembered occurrences are presented to them as completed, and anticipated future ones as impending. But what exactly does this amount to? Isn't this just a restatement of the fact that they seem to the agent to be, respectively, past and future?²⁶

Looked at one way, this is simply a weakness or shortcoming with the experiential account, considered as an explanation of the psychological phenomenon of relief. Looked at another way, though, this is only what we should expect from an explanation that adverts to elements of our understanding of time that depend on intuition and experience, and so elude definition.

Footnote 24 continued

perception of an object as dangerous, even if we would not regard the agent as acting for reasons in a more thoroughgoing sense.

²⁵ For a fuller development of this idea, see Soteriou (2000).

²⁶ Cf. Hare (2013, p. 510): "...it is not clear what [one achieves], by drawing attention to the fact that past pains 'have happened,' or that they are 'gone forever,' or that they are 'behind us,' beyond drawing attention to the fact that that past pains are past."

Here is an analogy. Suppose someone wanted you to explain to them the difference between a left-handed and a right-handed glove. You could talk to them about the different geometrical transformations that can be carried out on rigid objects in three-dimensional space, and explain to them that, if you rotate a left-handed glove through 180 degrees, it will now be back to front (assuming the glove has a differentiated front and back.) But someone might still protest not to understand how the left glove differed from the right in the first place. At this stage, then, all you can do is simply *show* them a pair of gloves, and hope that they grasp the point.

The point of the analogy is that our grasp of the difference between left- and right-orientation involves an ineliminable moment of intuition. This moment of intuition is not just a raw qualitative feel, but is structurally complex in a way that guides our understanding of general features of the spatial domain.²⁷ Similarly, what I wish to suggest is that the completion, or absence, or gone-ness of the past, as ostensibly given in memorial experience, is just such a moment of intuition, and likewise guides our understanding of temporal structure. We might vaguely attempt to express this understanding by saying that as time passes, we move into the future while events recede into the past—but these more or less metaphorical modes of expression do not quite adequately capture what it is we intuitively understand when we say, ‘Thank goodness that’s over!’²⁸

I will return to these ideas in the final section, after tying up one more loose end.

5 Parfit’s Operation revisited

It should be clear that the above account of relief as an experiential phenomenon cannot straightforwardly apply to cases like *Parfit’s Operation*, since it is definitive of that case that the agent has no memory of the past operation, and so has no experiential perspective on it of the kind just sketched. So someone might object that, given that the above account does not directly explain the intuitive verdict on *Parfit’s Operation*, this shows that an account of the asymmetry of relief in terms of time-biased preferences is more general, and deeper, than one in terms of the temporal profile of aversive experience.

I think the right thing to say in response to this is, rather, that *Parfit’s Operation* presents a marginal and peripheral case of temporal relief, and consequently it is a mistake to take it as a central and especially clear illustration of a widespread phenomenon. However, in order to make this response compelling, I need to say a little more about the case, and about what explains the intuitive judgment that one would indeed be relieved to learn that one had had the earlier operation.

²⁷ The point about left and right is hardly original to the author. Cf. Kant (1992a, 1992b, 2004). For a development of the Kantian point in relation to the understanding of time and the experience of memory, see Russell and Hanna (2012).

²⁸ Note that my suggestion here, that the perspective which an agent occupies on an extended interval of time, in virtue of a conscious synthesis of memory, sensation and imagination, is one from it seems to them the past is receding and the future is impeding, is importantly different from claims discussed in the large literature on temporal experience about the experience of passage (e.g. Deng 2017; Ismael 2007; Paul 2010), which are typically concerned more narrowly with whether we *perceive* time as passing.

A preliminary point is that the distinction above, between doxastic and experiential relief, is probably not best conceived as an exhaustive division, but as a bipolar contrast between ideal types, with various mixed cases possible. I suggest that the typically envisaged response to *Parfit's Operation* is just such a hybrid. It resembles experiential relief insofar as it does indeed involve an experience that one has had; but it resembles doxastic relief in that one has to learn, from an external source, that the event is over. Any experiential connection one might have had to the past experience has been, so to speak, surgically removed, and replaced with a mere indexical belief.

To make matters simpler, focus for now on a case where there is only one possible operation. You wake up in a fog of sedation, wondering when they are going to wheel you into theatre, and the nurse tells you that the operation has already happened. You feel relieved. What should we say about the object of one's relief here?

The first point to make is that, although here one has no experiential memories of the operation to figure in one's state of relief, one still has an experiential awareness of a past aversive desire as satisfied, but it is the satisfaction of the *future-directed* aversive desire, to avoid or prevent something painful anticipated in imagination, rather than the present aversive desire to avoid or get away from a perceived painful stimulus. Thus, although one is not actually undergoing anything unpleasant when one wakes up, one is nevertheless in a state of anxious anticipation about what might be going to happen. This state of anxiety does not necessarily amount to a preference that the operation be located in the past; rather, it is part of the characteristic experience of aversion associated with the imaginative representation of an aversive future occurrence as impending. So part of one's relief here is simply that one is no longer in that state of anxiety.

The significance of this point is that we need not necessarily see relief, even relief in response to receiving new information, as revealing a determinate preference about what course of events is best. Rather, one may be relieved simply because one is no longer in a state of anxious anticipation about something one was expecting to happen, even if, all things considered, one thinks it would have been best for that thing to happen. (Another example: you are very nervous about an upcoming job interview, and then learn that the whole thing is off. You might well feel relieved about not having to do it, even though on reflection you recognise doing it would have been for the best.)

But is it plausible that, in *Parfit's Operation*, one's feelings would be mixed or ambivalent in this way? The way the case is often discussed, it is assumed that most people would care very little, if at all, about their past pain, so the fact that one had the Tuesday operation is nothing but good news.²⁹ But, on reflection, we should question whether this is psychologically realistic.

In particular, although your overriding feeling may be one of relief that the whole thing is finished, it would be natural to feel some disquiet about your inability to remember the procedure itself. Was it really as bad as you had feared? Did it go relatively smoothly? Maybe you prod around in your memories for some scraps or clues that will allow you to reconstruct it at least in outline.

²⁹ E.g. Sullivan (2018, pp. 79–80): “In the case of ‘pure’ experiences of pains and pleasures, it seems that our discount functions are absolute: for any amount of time that has elapsed, we assign no value to a merely past painful experience or pleasurable experience.”

We can underline this point by considering a different case. You are brought in for an operation to be carried out under general anaesthetic. After the operation, you learn that somehow the anaesthetic failed, and you were in fact fully conscious but paralysed throughout the procedure, and subsequently suffered selective amnesia. Now if one really were more or less indifferent about one's past painful experiences, one would say 'Oh well, it's all water under the bridge; and anyway, since it happened, at least it's over now.' But, I think, this would be quite an unusual reaction to have. Rather, it is plausible that most people in this situation would be seriously alarmed. And, moreover, part of what is alarming about this situation is precisely the way in which you are cut off from your past pain, and so none of the ordinary ways of reacting to and processing traumatic experiences is available to you here.

What this brings out is that there is actually something quite unnerving about the total absence of an experiential connection to the past in *Parfit's Operation*. This element of discomfort is liable to get overlooked when the situation is merely imagined as part of a philosophical thought experiment, partly for the very reason that there is no tangible experiential anchor for one's imagining to fix onto. There is therefore a strong temptation to oversimplify, and to discount information about one's past experiences altogether, when imagining how one would respond affectively to such a situation.

Thus the situation described in *Parfit's Operation* is actually rather more complex than is typically supposed, because the highly unusual circumstance of a past experience which one cannot remember at all introduces a rogue factor: one which it is tempting to dismiss, but which on further inspection may well be a source of ambivalence and discomfort. For this reason, we should not too readily take the initial intuitive judgment that relief is appropriate here as reflecting a settled or stable preference about what, all things considered, is the best course of events. Rather, it may be that one's judgment here is led solely by one's imagining the release and lessening of tension that naturally goes with no longer bracing oneself for something nasty. More generally, the highly unusual nature of the situation makes it ill-suited in any case as an illustration of a supposedly ubiquitous feature of our psychology. Indeed, if the argument of the previous section carried any conviction, then *Parfit's Operation* is a particularly bad illustration of the temporal asymmetries inherent in our everyday affective psychology, because it lacks precisely that feature which I have argued is central, namely the way in which past painful experiences are presented to us in immediate experiential memory.

In summary, I suggest that the common intuitive judgment that in *Parfit's Operation* one would prefer to receive the news that one had already had the longer operation is the output a complex combination of a number of different psychological factors, rather than evincing a stable preference for past over future pain.

6 Relief and the passage of time

What then of original challenge from temporal relief? Does the explanation of the asymmetry in any way prejudice our metaphysical commitments? And how does this relate to the question of its justification?

On the experiential account sketched above, a relieved agent has a distinctive, experientially-based reason for being relieved when an unpleasant experience comes to an end, namely a memory in which the recent event appears to them as absent yet completed. But someone may still object that this does not really address the question whether the whole pattern of response is justified. That is, even though the account identifies the distinctive ‘reason’ one has for being relieved, and explains why this ‘reason’ was not available at an earlier point in time, there remains a question whether it really is a reason for relief, and so whether the agent is right to treat it as one. And someone might then argue that we can only be justified in taking this as a reason if a tensed metaphysics is correct.

We should, however, doubt whether this question is really asking anything meaningful. If one’s relief does not amount to anything like a judgment that one course of events is somehow better than another, it is ultimately obscure what the demand for justification comes to, or what could satisfy it. It is of course possible to call our affective responses into question, and to criticise and revise them, in the particular case. For example, one might decide that one’s relief was inappropriate or unmotivated if one thought that the past event was not so bad after all; or if one knew there was worse yet to come and so one’s relief was premature.³⁰ But these local questions of justification presuppose that, in general, the cessation of an unpleasant event is an occasion for relief. The further justificatory question is the global one, whether the entire pattern of concern is vindicated or not in the light of our metaphysical commitments. But, unlike local questions, our everyday affective dispositions give us no clues as to how to go about answering this. And this should lead us to suspect that the global justificatory question, rather than being far-reaching and profound, is idle and empty.

The experiential account suggests a different way in which the point about relief might be pressed against a tenseless theory. Prior’s ‘Thank goodness’ observation is typically seen as one of a battery of distinct explanatory challenges posed for the tenseless theorist, and so to be tackled separately from considerations about whether the impression that time passes can be accommodated within a tenseless metaphysics. This divide-and-rule tactic is reinforced by the move of equating the asymmetry of relief with future-biased preferences, for it is indeed hard to see why a conviction that time passes should explain or justify putting a higher value on future than past events. One recent contributor concludes that “the failure to offer any substantial justification for the asymmetry in our attitudes based on the flow of time stems from the inability to offer any non-trivial account of the flow of time” (Yehezkel, 2014, p. 74).

I submit that it is a mistake to view these questions as separate in this way. The experiential account of relief affords a different way of conceiving their relation. On that account, one’s distinctive experiential reason for being relieved is a product of the different way in which past and future events are experienced in memory and anticipation as, respectively, completed or impending. But the difference marked by saying that past events are experienced as completed and future ones as impending is not just a difference in qualitative feel associated with the representations of the events, but a function of the manner in which those representations are dynamically stitched

³⁰ Cases like this of course make the above claim that experiential relief does not go via a belief more problematic. I think the right response is the one taken in my treatment of *Parfit’s Operation*: doxastic and experiential relief are ideal types, and there can be various kinds of mixed cases.

together in the synthesis that constitutes an agent's developing, ongoing perspective on an interval of time. This might be put by saying that it seems to the agent that their own perspective on events is continually moving forward, and so they are always approaching the future and leaving the past behind; but, as with left and right, there is ultimately no form of words that can adequately capture this structural difference.

Thus, when we say that time passes from earlier to later, we should not think of this as an independent metaphysical conviction with the power to explain or justify our affective responses to events in time. The intuition that time passes is partly *constituted* by those very experiences in which it seems to us that the past is completed and the future is impending. The temporally asymmetric emotions are significant just as an especially poignant example of this experiential structure. When the ghastly bus journey ends and one says 'Thank goodness that's over!', locating that displeasing event in one's immediate past, one is thereby giving voice to an intuitive grasp of the difference between the journey's being prior to, and being subsequent to, the present moment, and hence of the otherwise ineffable difference between temporal directions—in other words, of the passage of time.³¹

We should thus see Prior's 'Thank goodness' observation, not so much as posing a novel and distinct phenomenon to be explained separately from the apparent passage of time, but as an attempt to show, rather than say, what the passage of time amounts to, by drawing our attention to a familiar kind of experience in which we vividly feel the past to be completed and the future impending. It is a further step to evaluate whether this intuition is adequately respected by Prior's preferred tensed metaphysics, or indeed anyone else's. But getting the question properly in focus means recognising temporal asymmetries in our psychology beyond merely a tendency to care more about the future than the past.³²

Author contributions This submission is the sole author's own work and all relevant sources have been acknowledged.

Funding Open Access funding enabled and organized by Projekt DEAL. This research was funded by a Leverhulme Trust Study Abroad Studentship (<https://www.leverhulme.ac.uk/study-abroad-studentships>).

Data availability n/a.

Code availability n/a.

³¹ The idea that time has an intrinsic direction, irreducible to facts about the distribution of events in time, is sometimes distinguished from 'robust passage,' which requires something like that a special metaphysical status of 'presentness' transfers from one moment to the next as time passes (e.g. Skow 2015). Against this, I submit we cannot make sense of time's having an intrinsic direction independently of the intuition that time passes; at the same time, we should not assume that 'robust passage' is the only or best way of articulating this intuition.

³² Many of the ideas in this paper were inspired by discussion in an online seminar given by Mike Martin and John Campbell at UC Berkeley in Fall 2020. In addition, thanks to the following people who provided comments and discussion on various draft versions: Vanessa Carr, Pete Faulconbridge, Lizzie Fricker, Alex Geddes, Kirstine La Cour, Daniel Morgan, Lucy O'Brien, Tobias Rosefeldt, Léa-Cecile Salje, and two anonymous referees at this journal. This work was generously supported by the Leverhulme Trust.

Declarations

Conflict of interest The authors declared that they have no conflict of interest.

Ethical approval n/a.

Consent to participate n/a.

Consent for publication n/a.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Ainslie, G., & Haslem, N. (1992). Hyperbolic discounting. In G. Loewenstein & J. Elster (Eds.), *Choice over time*. Russell Sage Foundation.
- Bnefsi, S. (2019). B-theory and time biases. In P. Blackburn, P. Hasle, & P. Øhrstrøm (Eds.), *Logic and philosophy of time: Further themes from prior* (pp. 41–52). Aalborg University Press.
- Bnefsi, S. (2020). Future bias and presentism. In P. Hasle, P. Øhrstrøm, & D. Jakobsen (Eds.), *The metaphysics of time: themes from prior* (pp. 281–297). Universitetsforlag.
- Boyle, M. (2016). Additive theories of rationality: A critique. *European Journal of Philosophy*, 24(3), 527–555.
- Burghardt, G. M., & Burkhardt, R. W. (2018). Wallace Craig's appetites and aversions as constituents of instincts: A centennial appreciation. *Journal of Comparative Psychology*, 132(4), 361–372.
- Callender, C. (2018). The normative standard for future discounting. http://philsci-archiv.pitt.edu/15451/1/temporal_discounting.pdf
- Caruso, E. M., Gilbert, D. T., & Wilson, T. D. (2008). A wrinkle in time: Asymmetric valuation of past and future events. *Psychological Science*, 19(8), 796–801.
- Craig, W. (1918). Appetites and aversions as constituents of instincts. *The Biological Bulletin*, 34(2), 91–107.
- Deng, N. 2017. Temporal experience and the A versus B debate. In *The Routledge handbook of philosophy of temporal experience: Routledge handbooks in philosophy*. Routledge.
- Dougherty, T. (2015). Future-bias and practical reason. *Philosophers' Imprint*, 15(30), 1–16.
- Dyke, H., & Maclaurin, J. (2002). 'Thank goodness that's over': The evolutionary story. *Ratio*, 15(3), 276–292.
- Elster, J. (2000). *Ulysses unbound: Studies in rationality, precommitment, and constraints*. Cambridge University Press.
- Fernandes, A. (2019). Does the temporal asymmetry of value support a tensed metaphysics? *Synthese*, 198(5), 3999–4016.
- Frederick, S., Loewenstein, G., & O'Donoghue, T. (2002). Time discounting and time preference: A critical review. *Journal of Economic Literature*, 40(2), 351–401.
- Greene, P., Latham, A. J., Miller, K., & Norton, J. (2021a). On preferring that overall, things are worse: Future-bias and unequal payoffs. *Philosophy and Phenomenological Research*. <https://doi.org/10.1111/phpr.12819>
- Greene, P., Latham, A. J., Miller, K., & Norton, J. (2021b). Hedonic and non-Hedonic bias toward the future. *Australasian Journal of Philosophy*, 99(1), 148–163.
- Greene, P., & Sullivan, M. (2015). Against time bias. *Ethics*, 125(4), 947–970.

- Grüne-Yanoff, T. (2015). Models of temporal discounting 1937–2000: An interdisciplinary exchange between economics and psychology. *Science in Context*, 28(4), 675–713.
- Guo, T., Ji, L.-J., Spina, R., & Zhang, Z. (2012). Culture, temporal focus, and values of the past and the future. *Personality and Social Psychology Bulletin*, 38(8), 1030–1040.
- Hare, C. (2007). Self-bias, time-bias, and the metaphysics of self and time. *Journal of Philosophy*, 104(7), 350–373.
- Hare, C. (2009). *On myself, and other, less important subjects*. Princeton University Press.
- Hare, C. (2013). Time: The emotional asymmetry. In *A companion to the philosophy of time*. Wiley-Blackwell.
- Hausman, D. M. (2011). *Preference, value, choice, and welfare*. Cambridge University Press.
- Hoerl, C. (2015). Tense and the psychology of relief. *Topoi*, 34(1), 217–231.
- Ismael, J. (2007). Freedom, compulsion, and causation. *PSYCHE: an Interdisciplinary Journal of Research on Consciousness*, 13, 1–13.
- Jeffrey, R. (1983). *The logic of decision*. University of Chicago Press.
- Kant, I. (1992a). Concerning the ultimate ground of differentiation of directions in space. The Cambridge edition of the works of Immanuel Kant In D. Walford & R. Meerbote (Eds.), *Theoretical philosophy* (pp. 1755–1770). Cambridge University Press.
- Kant, I. (1992b). On the forms and principles of the sensible and intelligible world [Inaugural Dissertation]. The Cambridge edition of the works of Immanuel Kant In D. Walford & R. Meerbote (Eds.), *Theoretical philosophy* (pp. 1755–1770). Cambridge University Press.
- Kant, I. (2004). *Prolegomena to any future metaphysics that will be able to come forward as science [with selections from the critique of pure reason]* (G. Hatfield, Ed.). Cambridge University Press.
- Korsgaard, C. M. (2009). *Self-constitution: Agency, identity, and integrity*. Oxford University Press.
- Martin, M. G. F. (1999). Desire in time. Unpublished.
- Mellor, D. H. (1981). *Real time*. Cambridge University Press.
- Mellor, D. H. (1998). *Real time II*. Routledge.
- Munoz-Dardé, V. (2016). Puzzles of regret. *Philosophy and Phenomenological Research*, 92(3), 778–784.
- Parfit, D. (1984). *Reasons and persons*. Oxford University Press.
- Paul, L. A. (2010). Temporal experience. *Journal of Philosophy*, 107(7), 333–359.
- Peterson, J. (2019). A puzzle about desire. *Synthese*, 196(9), 3655–3676. <https://doi.org/10.1007/s11229-017-1606-6>
- Phillips, C. K. (2021). Why future-bias isn't rationally evaluable. *Res Philosophica*, 98(4), 573–596.
- Phillips-Brown, M. (2021). What does decision theory have to do with wanting? *Mind*, 130(518), 413–437.
- Prior, A. N. (1959). Thank goodness that's over. *Philosophy*, 34(128), 12–17.
- Russell, J., & Hanna, R. (2012). A minimalist approach to the development of episodic memory. *Mind and Language*, 27(1), 29–54.
- Samuelson, P. A. (1937). A note on measurement of utility. *The Review of Economic Studies*, 4(2), 155.
- Skow, B. (2015). *Objective becoming*. Oxford University Press.
- Soteriou, M. (2000). The particularity of visual perception. *European Journal of Philosophy*, 8(2), 173–189.
- Stroud, B. (1968). Transcendental arguments. *Journal of Philosophy*, 65(9), 241–256.
- Suhler, C., & Callender, C. (2012). Thank goodness that argument is over: Explaining the temporal value asymmetry. *Philosophers' Imprint*, 12, 1–16.
- Sullivan, M. (2018). *Time biases: A theory of rational planning and personal persistence*. Oxford University Press.
- Thoma, J. (2021a). Folk psychology and the interpretation of decision theory. *Ergo: an Open Access Journal of Philosophy*, 7(34), 904–936.
- Thoma, J. (2021b). In defence of revealed preference theory. *Economics and Philosophy*, 37(2), 163–187.
- Wollheim, R. (1999). *On the emotions*. Yale University Press.
- Yehezkel, G. (2014). Theories of time and the asymmetry in human attitudes. *Ratio*, 27(1), 68–83.