

# 'THANK GOODNESS THAT'S OVER': THE EVOLUTIONARY STORY

Heather Dyke and James Maclaurin

University of Otago

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## Abstract:

If, as the new tenseless theory of time maintains, there are no tensed facts, then why do our emotional lives seem to suggest that there are? This question originates with Prior's 'Thank Goodness That's Over' problem, and still presents a significant challenge to the new B-theory of time. We argue that this challenge has more dimensions to it than has been appreciated by those involved in the debate so far. We present an analysis of the challenge, showing the different questions that a B-theorist must answer in order to meet it. The debate has focused on the question of what is the object of my relief when an unpleasant experience is past. We outline the prevailing response to this question. The additional, and neglected, questions are, firstly—'Why does the same event elicit different emotional responses from us depending on whether it is in the past, present, or future?' And secondly—'Why do we care more about

proximate future pain than about distant future pain?' We give B-theory answers to these questions, which appeal to evolutionary considerations.

## I. Introduction

In 1959 Arthur Prior issued the following challenge to the B-theory of time:

Half the time I personally have forgotten what the date is, and have to look it up or ask somebody when I need it for writing cheques, etc.; yet even in this perpetual dateless haze one somehow communicates, one makes oneself understood, and with time references too. One says, e.g. 'Thank goodness that's over!', and not only is this, when said, quite clear without any date appended, but it says something which it is impossible that any use of a tenseless copula with a date should convey. It certainly doesn't mean the same as, e.g. 'Thank goodness the date of the conclusion of that thing is Friday, June 15, 1954', even if it be said then. (Nor, for that matter, does it mean 'Thank goodness the conclusion of that thing is contemporaneous with this utterance'. Why should anyone thank goodness for that?) (1959, p. 17)

As it stands, this challenge is directed at the old B-theory according to which tensed sentences can be translated by tenseless sentences without loss of meaning. The claim of translatability fails, according to Prior, because to say 'Thank goodness the conclusion of that thing is Friday, June 15, 1954' is not to say 'Thank goodness that's over!'. These two sentences do not mean the same thing. And of course Prior is quite right. However, despite the fact that the new B-theory of time rejects this translatability claim, it does not thereby avoid the problem identified by Prior.

## II. Prior's two challenges to the B-theory

The problem for the new B-theory of time can be articulated precisely by considering an example. Suppose I emerge from a particularly unpleasant visit to the dentist and I say 'Thank goodness that's over!' What am I thanking goodness for? According to Prior, I am thanking goodness for the fact that my unpleasant visit to the dentist is now past; it has ceased to be a present event, and so it is no longer an unpleasant visit to the dentist. According to the new B-theory however, there is no such fact as the fact that my visit to the dentist is past. My judgement that 'My visit to the dentist is past,' is both true and irreducibly tensed, according to the new B-theory, but there is no irreducibly tensed fact in the world corresponding to it. The fact that serves as the truthmaker for my judgement is the tenseless fact that the

conclusion of my visit to the dentist occurs earlier than the judgement itself. So, if there is no such fact as the fact that my visit to the dentist is past, what am I thanking goodness for when I say 'Thank goodness that's over!'?

Clearly, no tenseless fact will do. As Prior rightly points out, I am not thanking goodness for the fact that the conclusion of my visit to the dentist occurs at noon. For one thing, it is a fact at all times that events have the dates that they do, so if this is the fact that I am thanking goodness for, there seems to be no explanation of why it is only appropriate to thank goodness for it after the event in question and not before. I might have known all morning that I would be out of the dentist's by noon, but I wouldn't thank goodness for it until after noon. Neither am I thanking goodness for the fact that the conclusion of my visit to the dentist occurs earlier than my utterance of 'Thank goodness that's over!' As Prior so aptly put it, why would anyone thank goodness for that?

Thus, there are two problems for the new B-theory of time embedded within Prior's challenge. Firstly, it must identify the fact for which we thank goodness when we say 'Thank goodness that's over!', but it seems that no tenseless fact will do. Secondly, it must provide an explanation of why it is only appropriate to utter this expression of relief just after, and not before or during, the painful experience. A response to the first problem has emerged from a debate on this issue, whose main protagonists are MacBeath (1983), Garrett (1988), Oaklander (1992) and Mellor

(1998). The second problem, however, has received no attention from B-theorists beyond the claim that, even if the B-theory is unable to answer it, the A-theory is equally unable to do so (Garrett 1988, pp. 204-05 and Mellor 1998, p.42). Even if this is true, it is hardly satisfactory. Next, we will outline the prevailing response to the first problem. Then, we will present our response to the second problem.

### III. The prevailing response to problem one

The question of what it is we thank goodness for when we say 'Thank goodness that's over!' has a wider and more general application than has been suggested by the discussion so far. We seem to have a wide variety of emotional responses to the tenses of events and states of affairs. For example, we can be excited, anxious, fearful, or hopeful about future events, and we can be embarrassed, relieved, distraught or nostalgic about past events. For convenience we will call such emotional states or responses 'tensed emotions'. A tensed emotion is an emotion directed at a past, present or future event or state of affairs. This definition is to be taken as neutral between an A-theory and a B-theory explanation of tensed emotions. Furthermore, it is pertinent to note that the same event may elicit different tensed emotions from us, depending on whether it is a past, present or future event. Take my visit to the dentist. I feel fear or dread when the event is

future, pain and anguish when it is present, and relief when it is past. But just as in Prior's example, there seems to be no tenseless fact that can serve as the object of these emotional responses. Our emotional responses are directed towards tensed facts, or towards the tensedness of a fact. How can the B-theory of time account for this phenomenon?

Emotional attitudes, just like other propositional attitudes, have intentional objects. The intentional object of my relief is the fact that my pain is past. But intentional objects, as MacBeath remarks 'connect not with what is the case, but with what is believed ... to be the case,' (1983, p. 86). The object of my relief is the same as the object of the irreducibly tensed belief that I hold: the belief that my pain is past. So, I believe that my pain is past, and the object of my relief is the content of this belief. It is important to note that MacBeath is not claiming that what I am relieved about is the fact that I believe that my pain is past; it is not that my belief is the object of my relief. Rather, the content of my belief (i.e. that my pain is past) is also the intentional object of my relief. The B-theory, recall, does not try to eliminate tensed beliefs and sentences from our systems of language and thought. Indeed, it recognises that most of our language and thought is irreducibly tensed. What it does claim, however, is that the truthmaker for any tensed judgement is a tenseless fact. My belief that my pain is past, if true, is made true by the tenseless fact that the cessation of my pain is earlier than my belief about it.

Belief reports generate non-extensional contexts. I can believe that George Orwell wrote 1984 and not believe that Eric Blair wrote 1984 even though George Orwell is Eric Blair. Reports of emotional responses are just like belief reports in this respect. The operator 'Thank goodness for the fact that... ' generates a non-extensional context (Garrett 1988, pp. 203-04). I can thank goodness for the fact that my pain is past, and not thank goodness for the fact that the cessation of my pain is earlier than my judgement that my pain is past. As it turns out, the fact that makes true my belief that my pain is past is the fact that the cessation of my pain is earlier than my judgement about it. But this is an important distinction, because we can sometimes have emotional responses to states of affairs that we believe to be the case, but which in fact aren't. MacBeath gives the example of a man who feels relief at the fact that he will never sit another examination. The object of his relief is the content of his belief that he will never sit another examination. If the belief is true, it is made true by the tenseless fact that he sits no examinations after the time at which he holds the belief. But his belief may be false. If so, we would not say that his relief is inappropriate. What is crucial to our tensed emotions is the tensed beliefs we have about what was, is, or will be the case, not whether those beliefs are true. This, then, is how the new B-theory of time responds to the first problem generated by Prior's challenge.

#### IV. A new response to problem two

We turn now to the second problem generated by Prior's challenge. Suppose I have a visit to the dentist scheduled for 11am until noon. I have good reason to believe all morning that this visit to the dentist will be particularly unpleasant. All morning I feel fear and anxiety about my forthcoming appointment with the dentist. I express this emotional attitude by saying 'I'm dreading my forthcoming dentist's appointment.' At noon, I leave the surgery feeling slightly numb, but greatly relieved. I express this emotional attitude by saying 'Thank goodness my dental appointment is over!' The intentional object of my dread is the fact that my unpleasant experience is future. The intentional object of my relief is the fact that my unpleasant experience is past. The corresponding irreducibly tensed beliefs that I hold are made true by the tenseless temporal relations that obtain between my dentist's appointment and my beliefs about it. My belief that my pain is future is made true by the fact that the belief is held earlier than the experience of pain. My belief that my pain is past is made true by the fact that the belief is held later than the experience of pain. But something remains unexplained by this B-theory explanation of my emotional attitude to past and future pain. Why is dread only appropriate before the pain, and relief only appropriate after it?

This aspect of Prior's challenge has recently been articulated and reissued against the new B-theory of time by David Cockburn (1997, see also his 1998).

Cockburn argues that the new B-theory must ultimately be committed to a radical revision of our emotional lives, since it cannot square our different emotional responses to past, present and future events with the claim that they are all equally real. The B-theory, according to Cockburn, faces an unhappy dilemma. It must provide an explanation for the different kinds of significance that we attach to past, present and future events (something he believes it is unable to do). Alternatively, it must urge that we abandon our usual emotional responses to past, present and future events in favour of a pattern of responses whereby all events are equally significant. According to Cockburn, unless the B-theory can provide a rational justification for our asymmetric emotional attitudes, it is forced to take the revisionary alternative. We think this is a false dilemma, since a causal explanation for our asymmetric emotional attitudes is available, which we develop and defend below. Furthermore, once the causal explanation is combined with the predominant response to problem one, outlined above, a satisfactory rationale for our emotional attitudes emerges.

The second horn of Cockburn's dilemma is particularly unattractive, since it would entail that there is only one emotional response appropriate to an unpleasant visit to the dentist. Furthermore, whatever that response is, it would be appropriate whether the visit was yet to occur, had already occurred, or was occurring right now. Another consequence would be that the grief felt over the death of a loved one

should not soften with time. If grief is appropriate, then it is as appropriate twenty years after the death as it is a week after the death. Indeed, it should be equally appropriate before the death.

Cockburn concludes that the B-theorist is committed to taking this revisionary line by arguing that the alternative is blocked, and so, unavailable to her. He argues that the B-theorist's ontological commitment to the reality of all times and their contents also commits her to the conclusion that they are all of equal significance (1997, p. 19). But if all times and their contents are of equal significance, then there is no explanation for the way our emotional response to an event varies depending on whether that event is in the past, present or future, or on whether it is in the distant or proximate future or past. He supports this move by comparing the fact that a particular pain is very intense with the 'fact' that it is happening now. The first fact, he argues, confers a special status on the pain. It gives us a reason to be concerned about it, and a reason to act, presumably to avoid the source of the pain. But according to the B-theory, the fact that a particular pain is happening now is not really a fact about the pain at all, and so it cannot confer any special status on it. He writes:

To say that the pain is happening now is not to ascribe some further property to the pain; the role of the word 'now' is simply to indicate that

the pain is occurring at the same time as the utterance of the words. And that, presumably, cannot be regarded as conferring any special status on the pain considered in itself; any more than the fact that a man is suffering 'here' confers any special status on the suffering considered in itself. (1997, p. 19)

We are not altogether sure what Cockburn means by 'special status', but presumably it is whatever warrants what we would take to be an 'ordinary' or 'appropriate' emotional response to an event. If a pain is intense then it has special status as it warrants a good deal of concern on the part of the person whose pain it is. But if being now is not a property that a pain (or anything else) can have, then it cannot warrant the same sort of concern or provide us with a reason to take evasive action. Furthermore, Cockburn's conclusion generalises to apply to past and future events. If being past is not a property that an event can have, then it cannot warrant grief or relief, or any other past-directed emotion. If being future is not a property that an event can have, then it cannot warrant anticipation, hope or fear. Cockburn's challenge to the B-theory is to explain how it is that we can have emotional responses to the tenses of events, when in reality events do not possess these tenses, but rather, all have the same ontological status. In the next section we tell an evolutionary story about why this is the case.

## V. Temporal Chauvinism

As has already been suggested, we think that the ‘Thank goodness that’s over’ problem is just one example of a more widespread temporal chauvinism. The relief that follows a dental appointment and the dread that precedes it are two tensed emotions. There are many more. And thus we accept that the defender of the B-theory may need to provide an explanation for the existence of other tensed emotions as well as relief and dread. It should be noted though that the onus of explanation for some of these emotions falls on those who oppose the B-theory. Clearly the B-theorist does need an explanation of her feeling of relief at the cessation of a dental appointment. But an A-theorist for whom the past has ceased to exist (ie, a presentist) needs to explain his anger at a childhood bully whose taunts have long since ceased. If the B-theorist is apparently irrational to feel relief about the cessation of a pain that is as real as it was when it was being felt, then the presentist is apparently irrational still to be angry about a bully’s taunts which, by his lights, no longer exist.<sup>1</sup> A full investigation of such cases is properly the subject of a much larger work. This is especially so given the variety of theories of time which oppose the B-theory. Different explanations of the tensed emotions will be needed from those who think that only the present exists,<sup>2</sup> from those who think

that only the past and the present exist,<sup>3</sup> and from those who think that past, present and future exist, but each has a different ontological status.<sup>4</sup> However, our chief concern here is to defend the B-theory's ability to respond to Prior's challenge, although we do think that the solutions we propose have wider applicability.

We do though, propose to address a second type of potential problem for the B-theorist that, to our knowledge, has so far received scant attention. I dread my visit to the dentist, which may well include a painful procedure lasting many minutes. But I do not at the same time, and to the same degree, dread dying. The latter experience may well be more painful. It is apparently inevitable and if I believed it to be imminent, I would doubtless consider it more frightening. The difference between these two experiences is believed temporal proximity, which is a property that affects the expression of many of the tensed emotions. Just as my dread increases as my dental experience draws nigh, so does my excitement increase along with my temporal proximity to a long awaited holiday. Again, the B-theorist is seemingly in need of an explanation. If all the events in my future are equally real, why do I not view future events that I expect to be equally pleasurable with equal anticipation? Again, our emotional commitment does not seem to fall neatly into line with our ontological commitments.

Thus, we take the problem of temporal chauvinism to be twofold, covering not merely chauvinism with respect to tense, but also with respect to temporal

proximity. We think that both these phenomena are plausibly explained by tenseless facts about our temporal perspective coupled with tenseless facts about our evolutionary history.

## VI. Time and Evolution

We will argue that our expressions of tensed emotions are adaptations<sup>5</sup> or are plausible consequences of the existence of other behaviours or mental capacities that are themselves adaptations. But first let us be clear about the purpose of advancing an argument based upon evolutionary principles.

A common charge made against evolutionary hypotheses is that they are inevitably 'just so' stories. Behaviour, of course, doesn't fossilise, nor can we return to the distant past to make the observations that would allow us to falsify such hypotheses. However, even concerning hypotheses that are equally untestable, some are more plausible than others.

Thornhill and Thornhill's hypothesis (1992) of the existence of a gene for rape really does seem to rely upon the existence of a selective advantage gained by our distant ancestors who engaged in forced mating. The claim that this behaviour did confer that selective advantage is possibly true, but we have reasons to doubt its plausibility. The offspring of such matings may have been abandoned. Those

engaging in forced matings may have been expelled from social groups or punished in other ways. We just don't know, and it seems we can't find out.

But contrast the Thornhills' hypothesis with the claim that predators tend to have worse peripheral vision than prey because it is more calamitous for the latter to be surprised than it is for the former. Of course, this hypothesis also depends upon the facts. There could be some currently unknown factor, which better explains differences in facial structure between carnivores and herbivores. Nonetheless, it seems very likely that in a large number of environments there would be a strong selection pressure on prey species to maximise peripheral vision. In short then these two evolutionary hypotheses differ greatly in plausibility. Indeed, given the limitations on our ability to test evolutionary hypotheses, it is only a high degree of plausibility that saves many evolutionary hypotheses (particularly those concerning behaviour) from being no more than evolutionary 'just so' stories.

So in proposing evolutionary explanations concerning the expression of tensed emotions our aim is to provide plausible explanations. Such hypotheses constitute what Dennett approvingly dubs 'Darwinian reverse engineering' (1995), p. 212). We begin with the temporal asymmetry between dread and relief.

## VII. Why do we care differently about the past and the future?

One answer to this question is immediately obvious. Horwich suggests the following explanation:

[A]n organism that wanted its future selfish desires to be satisfied would flourish relative to an organism that didn't care; however there is no particular advantage in wanting past desires to have been satisfied. (1987, p. 197)

Dread, fear and anticipation are all tensed emotions that might plausibly have evolved to make us better able to avoid dangerous experiences and maximise beneficial ones. Dreading danger in ancestral environments may have caused us to work out ways of avoiding conflict or to devise safer hunting techniques. Fear leads to increased alertness as part of the 'fight or flight' response, which is obviously adaptive in organisms faced with dangerous predators or indeed dangerous prey. Obviously none of these emotions is adaptive if directed toward past events precisely because we lack causal influence over those events.

This observation is the evolutionary equivalent of 'there's no point crying over spilt milk'. We care about future pain in a way that we don't care about past pain because we can avoid future pain. If our guiding principle is to minimise the total

amount of pain in our lives then the best we can do at any particular time is to minimise future pain. We dread painful experiences, because we are hard-wired to do so, and occasionally this works to our detriment. Dental dread is so strong in some people that they never go to the dentist. Those suffused with dental virtue believe that these people consign themselves to a great deal of pain in the somewhat more distant future. The difference between our emotional response to proximate and distant future pains will be discussed in the next section. For now, suffice it to say that in calling dread an adaptation, we are not suggesting that it is an optimal solution to the problems it addresses.

So the B-theorist can be satisfied that our dread at the prospect of future pain (and not past pain) has a good evolutionary explanation which does not rely upon there being tensed facts. Our failure to dread pains in our past is not caused by a tensed fact, viz, that those pains no longer exist. Rather, it is caused by an, untensed physical fact, viz, that we cannot affect past pains. This can be wholly explained by the fact that the predominant direction of causation is from earlier to later.

But what of emotions that we take to be properly directed at past events<sup>6</sup>: grief, relief, embarrassment and so on. Surely the fact that I cannot alter the past makes it seem odd that I should engage in such past-directed emotions. The answer to this problem is complex.

We begin by noting that although we do not fear past pain, we do care about it. Because we see it as unavoidable, our caring does not take the form of tensed emotions associated with avoidance (such as nervousness or fear). Instead, the past-directed emotions such as relief, bitterness, satisfaction, resignation, nostalgia, regret etc. have a very different flavour to them.

It's interesting to note that, prima facie, almost all these emotions pose problems for the B-theory's opponents rather than for the B-theorist. Take presentism, for example. If the past does not exist, why do we feel bitter, satisfied, resigned, nostalgic or regretful about past events? We do not take this to be an exhaustive list of the past-directed emotions. However we do feel entitled to note that, in choosing relief as posing a problem for the B-theory, Prior has settled on an emotion that is unrepresentative of the past-directed emotions as a group. Thus we could at this stage, give a simple (and we think simplistic) answer to Prior and his followers. We could argue that when we look at the tensed emotions as a whole, the A-theorist appears to have a lot more explaining to do than the B-theorist. Followers of Prior could hardly claim that this response was illegitimate. Nonetheless we think that it would be of little value because we doubt that good explanations of tensed emotions will be essentially ontological. In part this is because, as MacBeath tells us, the object of our tensed emotions is not the past but rather the content of our beliefs

about the past. In part it is because there are good evolutionary explanations for our feelings of nostalgia, relief etc.

The explanation of past-directed emotions is not, though, as simple as the explanation for future-directed emotions that we have just discussed. So what would be the selective advantage for an organism that indulges in relief, grief, embarrassment etc? We think there are two plausible hypotheses. One is to say that they are forms of learning. They are part of a system by which we catalogue our experiences so that we know in future which ones to avoid, which ones to court and which ones to treat with appropriate caution.

This seems like a very good story for some types of experience. Embarrassment teaches us not to drink too much in the wrong company. Perhaps despair teaches us that almost anything is better than war. But surely we don't want to say that grief teaches us that we would have been better off not having had any loved ones in the first place. We can partly answer this problem by reiterating the fact that to say that an emotion is an adaptation is not to say that its expression is always advantageous. For a trait to be an adaptation it need only have been advantageous most of the time over much of our history. Nonetheless grief still seems problematic because of its apparently destructive nature. We speak approvingly of working our way through the grieving process but surely we think that our lives would be better if grief were somewhat less traumatic and debilitating.

Similarly, it is not obvious exactly what selective advantage we gain from our ability to display relief at the conclusion of unpleasant experiences. Perhaps it teaches us to be stoic in future during painful experiences of limited duration. Perhaps it reminds us that some experiences to which we had become inured, were in fact unpleasant and so are to be avoided in future. Thus people sometimes say that they hadn't realised how destructive a relationship was until it finally ended. Both these evolutionary hypotheses are plausible but they do rely on relatively untestable claims about the existence of selection pressures. What if there hasn't been sufficient selection pressure either for stoicism or for the evaluation of unpleasant environments?

Even if relief does not turn out to be an adaptation we think that it can still be explained without having to resort to claims about tensed facts. Both relief and grief may be best explained by noting that not all characteristics of evolved organisms are adaptations. Some are merely evolutionary spandrels<sup>7</sup>—side effects of the evolutionary process.

We think it a plausible hypothesis that grief and relief are not adaptations, but rather, side effects of (1) having emotions which do confer selective advantage and (2) having a highly developed memory, which confers selective advantage because it is a prerequisite to certain types of problem solving. We grieve because we are capable of forming strong social and reproductive bonds. We express relief because

we have a highly developed sense of danger. Indeed most of us are built to avoid danger. We don't though avoid past danger. Thus at the time at which a fearful experience is past, from our temporal perspective, we then no longer have to expend great amounts of adrenaline trying to avoid it. It is this contrast which we interpret as relief. So, when we look back at our dental appointment and say —'Thank goodness that's over', we are not thanking goodness for the fact that a fearful experience no longer exists. Rather we are thanking goodness for the fact that we no longer have to deal with the fearful experience in question.

#### VIII. Tensed emotions and temporal proximity

Why do we care more about proximate future pain than distant future pain? We think there is a straightforward answer to this question. Temporal chauvinism is a form of evolutionary cost cutting.

We care more about proximate future pain than distant future pain for the same reason that herbivores care more about proximate predators than they do about distant ones. Ideally, an antelope on the Serengeti plains wants to avoid being eaten by any lion, not just by lions that are presently nearby. Given this fact, should we expect antelopes to evolve some means of tracking and avoiding the total lion population rather than just avoiding the lions that are presently nearby? After all,

'Run from local lions' seems like a good strategy, unless it leads you to run into a portion of the plain that is positively lion-infested. So, what would be a better strategy? Clearly, an omniscient antelope would navigate its way round the plains so as to put maximal distance between itself and each and every lion. But of course real antelopes do not do anything so sophisticated for two obvious reasons.

Firstly, tracking distant lions is much more difficult than tracking local ones. It is hard enough to detect a predator in long grass at close range. Detecting lions at a great distance would require the evolution of spectacular sensory equipment along with the neurological machinery that would be needed to make sense of such detailed sensory information. The head, which housed such super-computing abilities and spectacular sensory capacities, would probably be so large as to preclude comfortable movement. Not surprisingly, real antelopes do not possess such capacities.

Secondly, the problem of predicting the behaviour of large numbers of organisms all interacting with one another is computationally 'hard'. Let's assume that you know where all the lions are and you have an appropriate grasp on their psychology. Still, you would require spectacular cognitive abilities to use that knowledge to predict which parts of the plain were likely to be lion-infested at particular points in the future. If this is right, then perhaps the antelope's best bet really is to use a strategy such as 'Avoid local danger'. We think there is a strong

analogy between the avoidance of spatially distant danger and the avoidance of temporally distant danger.

I don't now worry about having a car accident when I'm sixty-five because nothing I can do now will reliably guard against such an outcome. Perhaps I could vow that I will never again travel in cars once I turn sixty-five, but I have no guarantee that future events will not cause me to renege on that promise. And the further ahead I attempt to predict such possible future events the more am I thwarted by combinatorial explosion in possible futures. As with the spatial case, the costs of predicting temporally distant events outweigh the benefits.

Of course, in positing that we are somehow built to worry more about the near future than the distant future, we are not suggesting that such behaviours are totally determined by our inherited characteristics. Activities such as bungy-jumping would be simply impossible if we were not able to ignore clear physiological warnings about the danger of imminent plummeting. By the same token, it obviously is possible for us to engage in strategies designed to minimise distant future pain. What we are claiming is that our psychologies make it harder for us to be blasé about the present or worried about the distant future. When we succeed at putting that bit aside for a far distant rainy day it seems we do so despite the lure of more pressing proximate pains and pleasures.

Thus we care more about proximate future pain than we do about distant future pain because of the prohibitive evolutionary costs of doing much about distant future pain. If that is true then, pace Cockburn, temporal proximity does confer special status on proximate future pain.

### IX. Conclusion

Prior's challenge to the B-theory, with which we started this paper, is far more multi-faceted than it first appears. Most of the literature which it has generated has focused on just one aspect of this challenge: it has attempted to provide a B-theory answer to the question 'What is the object of the relief I feel when pain is past?' The prevailing response to this question is that the object of my relief is the content of my irreducibly tensed belief that my pain is past. But this response leaves a number of other questions unanswered. Why is it that our temporal perspective gives us such beliefs? Why do they affect our emotions in the way that they do? This has lead Cockburn to issue a much broader challenge—'Why, if all events are equally real, do our emotional lives not represent them as equally significant?' We have sought to answer that question by splitting it into two further questions. Firstly —'Why does the same event elicit different emotional responses from us depending

on whether it is in the past, present, or future?’ And secondly—‘Why do we care more about proximate future pain than about distant future pain?’

Our answer to the first question focused on the emotions of dread and relief with respect to an unpleasant visit to the dentist. Why is it that dread is focused on future events and relief is directed at past events? Future-directed emotions have evolved to help us avoid harmful experiences and to court beneficial ones. The special character of past-directed emotions flows from the fact that we are unable to affect the states of affairs that are the objects of those emotions. There could be no reproductive (and thus no selective) advantage in trying to do so. Past-directed emotions play a different role. Some of them, such as embarrassment and nostalgia, teach us valuable lessons about which experiences to avoid and which to embrace in the future. Relief may confer selective advantage, but we think it is at least as probable that it is an evolutionary spandrel—a side effect of the great selective advantage that we gain by having a powerful memory and an acute sense of danger.

As regards the second question, we think there is an obvious answer as to why we are more concerned about proximate future pain than we are about distant future pain. We used a spatial analogy to illustrate this. Prey species avoid local predators. Their reproductive prospects would undoubtedly be enhanced if they could avoid all predators, not just those that are nearby now. However, the metabolic and ecological costs of such a strategy would far outweigh its benefits.

For this reason evolution produces cheaper, compromise strategies such as 'Avoid local danger'. By the same token, our emotional responses have developed to make us more concerned about the proximate future, because (for much of our evolutionary history) the costs of trying to predict and influence the distant future have far outweighed the benefits.

These responses to the questions that we have addressed do not require an A-theory conception of time and events. They claim merely that we experience the world from a given temporal perspective, and our temporal relation and temporal proximity to certain events affects the way we feel about them.

To return to Cockburn's argument, he thinks that being 'past', 'present', or 'future' cannot confer special status on an event if no event is really 'past', really 'present' or really 'future'. An event has special status if it warrants an 'appropriate' emotional response from a person. So, unless the tenses are real properties of events, they cannot warrant the sorts of emotional response that we actually do have towards them. We think this is wrong, and our examination of Cockburn's spatial analogy illustrates why. According to Cockburn, the fact that a person is suffering 'here' does not confer any special status on the suffering considered in itself. We disagree. There is a difference between how I feel about spatially local and spatially distant suffering. I feel more acute concern about suffering that is occurring in my spatial vicinity than I do about suffering that occurs at a great distance from me. The

reason for this is that I can do more about spatially local suffering than I can about spatially distant suffering. In the spatial case, relational properties can perform the role of conferring special status on events by warranting specific emotional responses, and by giving us reasons to act in particular ways. The same is true, we submit, in the temporal case. The fact that a pain is simultaneous with my judgement about it gives me a reason to feel concern and take evasive action then. Similarly, the relational properties 'earlier than' and 'later than' can give one reason to feel different emotions about a given event or state of affairs. If pain is earlier than one's belief about it one will feel a different emotion than if pain is later than one's belief about it. Once again, the reason for this is that I can do something about the latter, but I can do nothing about the former.

Cockburn's conclusion is a non sequitur. He moves from the B-theory's claim that all events are equally real to the conclusion that all events are equally significant and deserving of equal emotional response. But there are no grounds to support this inference. Cockburn gives no consideration to the possibility that relational properties such as 'being in the same vicinity as' and 'being at the same time as' might confer 'special status' on an event or state of affairs. If such relational properties can warrant particular emotional responses, or can give us reasons to act in certain ways, then the B-theory is exonerated. In other words, Cockburn has not ruled out a B-theory explanation for the diversity of our emotional responses to

events in the past, present and future, where being in the past, present and future is a feature of our temporal perspective on those events, and not an intrinsic feature of the events themselves. We submit that relational properties can indeed confer 'special status' on events in the way Cockburn requires. Furthermore, we can provide a causal explanation for this phenomenon, as can be seen by our responses to the above questions.

In conclusion then, temporal relational properties can confer special status on an event. According to the B-theory of time, while time itself is tenseless, our experience of it is tensed. We can only experience one moment at a time, so our experience of the world is necessarily from a given temporal perspective. With this feature of our experience of the world as a given, there are plausible explanations, appealing to evolutionary considerations, as to why our emotional lives have the pattern that they do. None of these explanations require that time be as the A-theory says it is.

Of course, the evolutionary hypotheses we have put forward are in the end empirical and we cannot hope by argument alone to prove that they explain human temporal chauvinism. What we do claim is that the hypotheses we put forward are very plausible and that that plausibility removes from the B-theorist the onus of explanation placed upon her by Prior, Cockburn and many others.

PO Box 56  
Dunedin  
New Zealand

Heather.Dyke@stonebow.otago.ac.nz  
James.Maclaurin@stonebow.otago.ac.nz

## REFERENCES

- Bigelow, John, 'Presentism and Properties', in James E. Tomberlin (ed.) Philosophical Perspectives, 10, Metaphysics (Oxford: Blackwell Publishers Ltd., 1996)
- Cockburn, David, Other Times: Philosophical Perspectives on Past, Present and Future, (Cambridge: Cambridge University Press, 1997).
- Cockburn, David, 'Tense and Emotion', in Robin Le Poidevin (ed.) Questions of Time and Tense, (Oxford: Clarendon Press, 1998): 77-91.
- Dennett, Daniel, Darwin's Dangerous Idea. (New York: Simon and Schuster, 1995).
- Garrett, Brian J., "'Thank Goodness That's Over" Revisited', The Philosophical Quarterly 38: (1988) 201-05.
- Gould, Stephen J., and Lewontin, Richard, 'The Spandrels of San Marco and the Panglossian Paradigm: a Critique of the Adaptationist Programme', Proceedings of the Royal Society of London B 205: (1979) 581-98.
- Horwich, Paul, Asymmetries in Time: Problems in the Philosophy of Science (Cambridge, Mass.: MIT Press, 1987).
- MacBeath, Murray, 'Mellor's Emeritus Headache', Ratio 25: (1983) 81-88.
- McCall, S., A Model of The Universe: Space-Time, Probability, and Decision (Oxford: Clarendon Press, 1994).
- Mellor, D. H., Real Time II (London: Routledge, 1998).
- Oaklander, L. Nathan, 'Thank Goodness It's Over', Philosophy 67: (1992) 256-58.
- Prior, A. N., 'Thank Goodness That's Over', Philosophy 34: (1959) 12-17.

Smith, Q., Language and Time (New York: Oxford University Press, 1993).

Thornhill, R. and Thornhill, N., 'The Evolutionary Psychology of Men's Coercive Sexuality',  
Behavioural and Brain Sciences 15: (1992) 363 - 421.

Zeilicovici, David, 'Temporal Becoming Minus the Moving-Now', Noûs 23: (1989) 505-24.

### Footnotes

<sup>1</sup> We should add that we think both of these charges are unfounded because the explanation for our relief or anger is to be found in our evolved psychology rather than in our particular metaphysical conception of time.

<sup>2</sup> For example, J. Bigelow (1996).

<sup>3</sup> For example, D. Zeilicovici (1989).

<sup>4</sup> For example, S. McCall (1994), Q. Smith (1993).

<sup>5</sup> By “adaptation” we mean that the behaviour or capacity has conferred reproductive advantage upon the species in question for some large portion of its history. For those with a technical interest in evolutionary theory, we do not here distinguish between adaptations and exaptations (behaviours or capacities that have arisen for one purpose but have been co-opted to a second).

<sup>6</sup> Actually, the way in which such emotions are temporally directed is somewhat ambiguous. My grief for a long lost friend appears to be past-directed and yet it could as easily be focused upon the fact that I can no longer hope to meet and interact with them. Seen that way the emotion appears to be future-directed. Despite this ambiguity we accept that some tensed emotions are genuinely past-directed. Relief makes no sense without the belief that some unpleasant experience has now ceased. Thus we accept that the ambiguity noted here will not, on its own, provide a solution to Prior’s challenge.

<sup>7</sup> The term “spandrel” comes from the now famous paper—S. J. Gould and R. C. Lewontin ‘The Spandrels of San Marco and the Panglossian Paradigm: a Critique of the Adaptationist Programme’(1979). This is the locus classicus for the now widely accepted view that not all characteristics of evolved organisms will themselves be adaptations. The standard example is the human chin, which is presumed to confer no selective advantage, but rather to be a by-product of two other adaptations—having jaws and standing upright.