

Chapter 7

Experience, Thought, and the Metaphysics of Time

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1. Introduction

In this chapter I shall give what may be a rather unexpected point of view on the philosophical debate concerning the reality of tense and the related notion that time passes, and its bearing on the correct semantics for tense. I shall suggest that there can be no mental representation of objective ‘tensed’ features of reality of the kind that might be thought to occur when we experience time *passing* or think of times as *past*, *present* or *future*, whether or not such features are part of mind-independent reality. This, I hold, has important consequences for metaphysics; but (as will be most relevant to this volume) it is also likely to have important consequences for a correct semantics for tense. In a nutshell, no correct semantics for tense can treat what philosophers call ‘A-properties’ (such as real *pastness*, *presentness* or *futurity*, as explained below) as semantic values.

The major philosophical debate over the metaphysics of time is between various version of the *A-theory* (also known as the *tensed* theory) of time and the *B-theory* (or *tenseless* theory) of time. The ‘A’ and ‘B’ designations refer to the *A-series* and *B-series* described by John McTaggart (1908, 1927). These are two different kinds of time series. In an A-series, one time is *present* while other times are ordered by their degrees of *pastness* or *futurity*. *Pastness*, *presentness* and *futurity* are seen as irreducible properties of times; they are not relations. I shall follow standard usage and call these properties *A-properties*; though (perhaps confusingly) they are sometimes also referred to by philosophers as *tenses*, or *tensed properties*. A B-series, by contrast, involves no A-properties; times (or events) are ordered by the relations of *being earlier than*, *being later than* or *being simultaneous with*, but no time is objectively *past*, *present* or *future* (for ease of

exposition I shall tend to gloss over the distinction between times and events in what follows, though for some metaphysical purposes it does matter).

It is often held to be part of our ‘common sense’ view of the world that times have A-properties, and that these *change* as time *passes*. Thus, as I write, the publication date of this article is *future* but, by the time you read it, that same publication date will have been momentarily *present* and is now becoming ever more *past*. McTaggart claimed that such changes led to contradiction; no time can have more than one A-property, yet if time passes then every time has *every* A-property. There has been much debate over whether the apparent contradiction can be removed by appealing to the fact that no time is simply *past*, *present* and *future*, but instead can only be described in more complex ways, for example by saying that my writing this line is *now present*, but *will be past* (i.e. in the *future*) and *was future* (i.e. in the *past*).

McTaggart held that change (understood as above) was essential to time. Consequently his somewhat radical response to his alleged paradox was to conclude that time is unreal. Few have followed him. Instead, philosophers have divided over whether change, as construed above, is essential to time. A-theorists answer in the affirmative; according to the A-theory, there is real, *dynamic* change (or temporal *becoming*) and, at least on some versions of the A-theory, time should be understood as an A-series that is in constant flux as time passes. The B-theory, by contrast, denies that there is dynamic change of the kind described by the A-theorist. According to the B-theory, times are ordered only as a B-series; no time is objectively *past*, *present* or *future*, and the apparent passage of time is an illusion. Nothing really *changes* in the dynamic, A-theoretic sense; B-theoretic ‘change’ consists only in the world being in one state at one time and in another state at another time – much like variation across space, where there is one state of affairs in one place and another state of affairs in another place.

The A-theory comes in several variants. The traditional ‘moving spotlight’ A-theory, according to which the present is like a spotlight that ‘moves’ along a time series all parts of which are equally real, is no longer popular, perhaps in part because of difficulties in responding to McTaggart’s paradox (though this is controversial). An alternative, though still with relatively few advocates, is the ‘growing block’ theory according to which reality consists of all past and present times, while the future is seen as ‘open’, and not yet real.¹ As future times become present, more of reality comes into existence; the present is the ‘edge of becoming’. There are several other

variants of the A-theory, and I shall not attempt to list them all. The most popular version of the A-theory today, however, is *presentism*, according to which reality consists entirely of the present, and the past and future do not exist. Although many B-theorists have regarded presentism as a bizarre view, it must be said that it has a certain plausibility insofar as it captures the common sense view that although Socrates once existed he does not exist now (not even in a remote, inaccessible region of space-time), and the first child to be born in the twenty second century will exist, but does not exist yet (again, not even in a remote, inaccessible region of space-time).

Presentism gives us a quite different picture of the world from other A-theories; according to presentism, nothing ‘moves’ along a series of existing times, but rather there is a single reality whose nature *changes*. Strictly speaking it is unclear that presentism should posit A-properties at all; nothing exists that could instantiate *past* and *future* A-properties, and to ascribe *presentness* to the one reality is thus redundant (though presentists do nonetheless hold that past- and future-tensed utterances can be true, and there has been much debate over how this could be so).² Presentism is nevertheless usually described as an A-theory because most versions hold that time *passes* and there is real, dynamic *change*.

One can, if one wishes, separate A-properties from *change*. One could define an A-theory as any theory that posits A-properties, and a *dynamic* theory as any theory according to which time *passes* and there is dynamic *change* (it is probably safe to regard passage and dynamic change as equivalent, however, and I shall do so in what follows). There is nothing obviously incoherent about a theory according to which times have objective, irreducible A-properties, yet time does not pass.³ But such views have rarely been held; it is normally assumed that the A-properties relevant to the A-theory carry with them the dynamic notions of *change* and *passage* (even though, as presentism shows, the converse need not be true). In any case, I shall adopt the common practice of using ‘A-theory’ to mean any dynamic theory according to which time passes and there is dynamic change.

In what follows I shall argue that our apparent experience of the A-theoretic passage of time is an illusion; we cannot be aware of, or perceive, time passing. I shall then argue that this makes the A-theory implausible and quite possibly unintelligible; the discovery that the relevant aspects of experience are illusory leaves us with no way to grasp what it is that the A-theorist is claiming to be true. If I am right, then any attempt to account for the temporal features of experience, thought or language

should proceed as though the B-theory were true. After outlining an argument for this view I shall then discuss the projects that arise from it, along with some possible steps forward. My discussion will move rather quickly, describing some of the views and arguments in outline and glossing over many details (though more detailed versions of some of the arguments can be found in Prosser 2006, 2007, forthcoming a, forthcoming b). Rather than getting into the technicalities, important though they are, my main purpose here is to motivate, and begin to outline, a much-neglected project – the project of accounting for experience, thought and language from a B-theoretic point of view.

2. Is it possible to perceive the A-theoretic passage of time?

One of the main reasons – perhaps *the* reason – for accepting the A-theory is that it seems to best vindicate our experience of the world. It just seems to us as though time is passing; we seem, in other words, to be *aware* of time passing (I shall speak interchangeably of *being aware* of something and of *perceiving* it; and these should be taken broadly, with no restriction to the five standard sensory modalities). This is perhaps most apparent in the experienced dynamic nature of change and motion, though there also seems to be an associated sense that one is ‘moving’ through time toward the future (though clearly ‘moving’ must be a metaphor). Numerous A-theorists have appealed to this in defence of their view. The A-theory has often been seen as the obvious, common sense view, while the B-theory has been seen as counterintuitively denying what is manifest; and it has therefore been assumed that the onus is on the B-theorist to explain away the features of experience that seem to support the A-theory.

My view, however, is that although the B-theorist must indeed provide a satisfactory account of experience, much of the debate over the A-theory rests on a largely unexamined yet highly problematic assumption that the passage of time is the kind of phenomenon that it is possible to perceive. Once this assumption is examined, however, it becomes clear that the passage of time, or any associated A-properties, cannot be perceived – they belong to the wrong metaphysical category to be possible objects of perception. Consequently, contrary to the apparent nature of our

experience, and whether or not time really passes, we are not aware of it passing. I shall now sketch an argument to that effect.⁴

It is important to keep in mind that what is being denied is that we are aware of the passage of time *as construed by the A-theory*. This does not require the rejection of everyday thought and talk about the passage of time. The B-theorist does not deny that everyday statements such as ‘I am aware that a great deal of time has passed since I first became a student’ can be true, but insists that they must be interpreted in accordance with the B-theory. So, for example, a B-theorist might hold that the everyday utterance just mentioned is true if and only if the speaker is aware that the time at which the speaker became a student is much earlier than the time at which the utterance occurs. (Note the use of the B-theoretic ‘earlier than’ in the truth conditions. This is just a very rough example; different B-theorists will give different specific semantic accounts.) The A-theorist, by contrast, should interpret the same utterance as asserting an awareness of real passage; something not reducible to the B-relations of ‘earlier’ or ‘later’.

Before sketching the argument I must introduce some terminology. Let the *phenomenal character* of an experience be the subjective nature of the experience, often described by philosophers as ‘what it is like’ to have the experience. Thus the phenomenal character of a visual experience of something red is the subjective quality of the experience that differs from that of a visual experience of something blue.

Now, whenever one is aware of something, there is an associated phenomenal character. When one sees a physical object, for example, there is a variety of visual phenomenal characters corresponding to the object’s colour, size, shape, and so on. When one is aware that one’s stomach is empty by experiencing a feeling of hunger there is another phenomenal character, and so on. So we should expect that an awareness of the passage of time should be associated with a specific phenomenal character; indeed it would seem baffling if someone were to claim to be consciously aware of time passing yet claim that there is no phenomenal character, nothing that it is like for them subjectively, by virtue of which they have this awareness. Indeed, the literature on temporal experience is full of vivid descriptions of this phenomenal character.⁵ It need not be claimed that this phenomenal character can exist apart from other phenomenal characters, or that one can be aware of passage without thereby being aware of something else. It may be, for example, that time seems to pass

because of the way in which we experience change (in fact I shall suggest below that this is at least part of the story).

To perceive something is to stand in a specific kind of relation to it. I shall call this a *perceptual relation*. Is it possible for a person to stand in a perceptual relation to the passage of time? I shall argue that it is not. Consider a person in some typical perceptual state; they have, for example, visual experiences of a variety of objects of different shapes and colours, auditory experiences of various different sounds, and so on. For every feature of the world perceived by a given subject at a given time, the subject's experience has a phenomenal character. Different phenomenal characters allow the subject to perceive different features; if the phenomenal character of a perception of something red did not differ from the phenomenal character of a perception of something blue then the subject could not discriminate red from blue, and would thus perceive neither.

Hence, for a given subject at a given time, there is a unique (one-one) mapping between phenomenal characters and perceptually discriminated features of the world. Now, for all perceived features *other* than the passage of time (or associated A-properties) we have at least some idea of how this unique mapping can obtain. When I see a ripe tomato in front of me, an image of a specific shape, colour and brightness is projected onto my retina. This stimulates only those retinal cells upon which the image falls; and stimulates those cells differentially according to the intensity and wavelength distribution of the light. This, in turn, produces an effect on the configuration of my brain. A different effect would have occurred if there had been a different pattern of retinal stimulation. My brain is thus reconfigured by the perceptual stimulus, and the resulting brain configuration either is, or at least causes, a perceptual experience with a given phenomenal character. A different brain configuration would have produced an experience with a different phenomenal character. Consequently different perceived features produce different phenomenal characters, at least for a given subject at a given time. Something similar is true for all known forms of perception. It is not plausible that unique mappings of this kind are brute facts; they occur for the kinds of reasons just described.

My argument thus takes the form of a challenge to the A-theorist to explain how the passage of time could map uniquely onto a specific phenomenal character. In other words, if the passage of time is experienced, it must be explained what it is that makes the experience in question an experience of the passage of time, rather than of

something else; and it must be explained why no other experience (i.e. no experience with a different phenomenal character) constitutes an awareness of the passage of time. I think that there are good reasons to doubt that this challenge can be met. The effect of A-theoretic features (A-properties or the passage of time) on the physical world, insofar as they could be said to have any effect at all, would not be like the effect of one part of the physical world on another. The ripe tomato in front of me has a differential effect on the configuration of my brain, as described above. But the A-theoretic passage of time, or indeed the event of a time acquiring one A-property rather than another, would not have any comparable effects on the configuration of my brain; and consequently no comparable, *differential* influence over the phenomenal characters of my experiences. At best it might be argued that passage is an essential element of all physical causation; but this would apply to all phenomenal characters equally. In the light of this, it seems very hard to see how an A-theoretic feature of the world could stand in a unique perceptual relation to an element of my experience. It is therefore very hard to see how the phenomenal character that we associate with the awareness of passage could really be an awareness of passage.⁶

Unless some satisfactory response can be given we must take it that whatever the subjective nature of experience, it does not constitute an awareness of time passing. This signals big trouble for the A-theorist; not only does experience fail to provide any support for the A-theory but, as I shall argue in the next section, there is a serious danger that the A-theory is rendered unintelligible.

3. Can A-theoretic properties figure in thought or language?

There has been much debate about the semantics of temporal indexicals and of linguistic tense, and sometimes these discussions have been linked to debates over the metaphysics of time. There are two different kinds of approach that one can take, in this regard. Firstly, on the more conservative approach, one can consider what the implications would be for linguistic semantics if one or other metaphysical theory of time were correct.⁷ Thus, to mention one rather specific example, one might be interested in the extent to which *I*, *here*, and *now* are interdefinable. One might, for example, hold that *here* is the place where *I* am *now*; and *I* am the person who is *now here*. This is true insofar as I can only be in one place at a given time. But it is less clear

whether *now* can be defined in terms of *I* and *here*. According to all theories other than presentism, I exist at more than one time. In that case, *now* cannot simply be the time at which *I* am *here*, for I may be here at many times. If I am made up of temporal parts, then we can at least say that *now* is the time at which *this temporal part of me* is *here* (though the reference to *here* would be redundant if my temporal parts are located at their times essentially). On the other hand, if presentism is true then I only exist at one time (*now*), so *now* is simply the time at which *I* exist; or, more succinctly, *now* is *the time at which I am*, just as, given presentism, *here* is *the place at which I am*.

The second, bolder approach tries to draw metaphysical conclusions from the semantics. Thus, historically, debates between A- and B-theorists sometimes focused on whether B-theorists could give tenseless translations of tensed utterances, though for the last thirty years or so the emphasis has been more on whether B-theorists can give tenseless truth-conditions, rather than translations, for tensed utterances. This has been an important part of the defence of the B-theory. Attempts to give positive arguments for metaphysical theories from semantic considerations have, however, proven more difficult. Moreover, drawing metaphysical conclusions from linguistic form strikes many philosophers as a perilous exercise.⁸

Rather than add directly to these debates, however, I would like to draw attention to what I think is a questionable assumption behind any approach that either assumes the A-theory or attempts to defend it in the above ways. This is the assumption that A-properties, or the passage of time, *could* figure in the semantic values of linguistic utterances. If the above argument concerning the perception of passage is sound then genuine A-theoretic features of time are not reflected in experience in any way. This raises a problem. To put this in very simple terms: if the features of time posited by the A-theory cannot be perceived, then this raises a *prima facie* concern about whether such features can be referred to. One might perhaps give what appears, from the point of view of linguistics, to be a perfectly satisfactory semantics for tensed expressions, or for sentences involving passage (such as the everyday sentence mentioned above, or expressions such as ‘a year has gone by...’), by assigning A-properties as semantic values. Provided one pays attention only to the assigning of semantic values to expressions in the construction of a semantic theory, and one does not think about how such entities could get to *be* the semantic values of expressions, the theory might appear acceptable. But, if what I am suggesting is correct, A-

properties could never be semantic values, and any such semantics would therefore be incorrect.

There are, of course, many imperceptible entities to which we can refer. We refer to abstract objects (such as shapes and numbers), to future events and objects, and so on. But arguably in each such case it is possible, at least in principle, to state some condition that is uniquely met by the entity referred to. Thus, for example, no one has seen a perfect circle or square, but we know how to define those shapes; and no one has seen the first film to be shown in the 22nd century, but we know what it would take for something to be that film. Hence, when faced with the question: ‘which entity are you talking about?’, we have some idea of how to give an answer.

When faced with the question: ‘which features of time are you talking about?’, what can the A-theorist say about putative A-theoretic features of time such as *passage* or *pastness*, *presentness* or *futurity*? If the argument given above is sound then the A-theorist cannot answer that they are the features with which we are all acquainted in experience. Neither can they be identified as the features referred to by tensed linguistic expressions, for we wanted to know which features those are. Neither would it really help to describe the A-series and explain the role of, say, *pastness* in this series relative to *presentness* and *futurity*. For this would only tell us that there are some properties of times that can be arranged in a specific temporal order; it still would not tell us *which* properties they are. What goes for language goes for thought; if we cannot refer to A-properties or passage then we cannot think of them either.

I expect these claims to be met with incredulity by many. It is very tempting to find it obvious that one knows, in one’s own case, what one is thinking of, or talking about, when one thinks or talks of A-properties or passage, and consequently it is tempting to think that arguments such as that given above need not be taken seriously. If so, however, one should examine the source of one’s supposed understanding of these notions. Although I have argued that the A-theoretic passage of time cannot be perceived, I have not denied that there are features of experience that give rise to our illusory sense of time ‘passing’. The danger, I think, is that when one thinks of passage, or the associated A-properties, one merely performs an off-line simulation of passage experience (just as, arguably, one neurologically simulates red-perception when asked to think of the colour *red*, or cat-perception when asked to think of a cat). But if passage-experience cannot be a genuine perception of passage, then putative A-

theoretic concepts formed in this way fail to have genuine A-theoretic properties as semantic values.

If all of this is correct then the A-theory is unintelligible; it cannot even be made clear what the A-theorist claims about the nature of time. Different ontological claims, such as the presentist claim that only the present exists, may be clear enough; but the ontological claims alone, with no notion of passage, do not seem plausible. In any case, it is the A-theoretic claims that are my target here, rather than the ontological claims associated with specific versions of the A-theory.

4. Experience and the illusion of passage

If the conclusions of the last two sections are correct then the nature of temporal experience, along with temporal thought and the meanings of utterances containing terms such as *past* and *future*, must all be accounted for without appeal to A-properties or the passage of time. This is also largely true if the B-theory is accepted for any other reason. So those who reject the A-theory must embark on a substantial project, to explain the features of experience, thought and language that have made the A-theory seem appealing. This project has been rather neglected by B-theorists, perhaps because, despite its obvious importance for metaphysics, it is a project concerning mind and language, not metaphysics. In the rest of this paper I shall sketch some possible steps forward in this project. As well as any interest these steps might have in themselves, however, I hope that what follows will indicate something of the nature of what is, in my view, an important and much neglected project. In this section I start by considering temporal experience.

The question before us, then, is why conscious experience has a phenomenal character that seems to lend support to the A-theory even though, if the above arguments are correct (or if the B-theory is anyway true), experience does not involve an awareness of the passage of time. Giving a full answer to this question is a substantial project; not only must the phenomenal character of temporal experience be accounted for, but the way in which this phenomenal character interacts with our thought about time must also be explained. Here I shall do far less; I shall make a methodological proposal, then I shall put forward a suggestion regarding just one piece of the puzzle.⁹

The methodological proposal derives from recent work in the philosophy of perception. In recent years *intentionalism* has become an increasingly popular view. According to intentionalism, all experiences have *representational contents* (they represent the world as being one way rather than another, and are correct or incorrect according to whether the world is as represented). Most intentionalists hold, further, that for a given subject at a given time the phenomenal character of the experience is determined wholly by its representational content. Consequently, I suggest, if we wish to explain why an experience has the phenomenal character that it has, it will be sufficient to state the representational content associated with that phenomenal character and to explain why it has that content. This is, in fact, more or less what cognitive scientists usually do when explaining illusions. If, for example, one wishes to explain why it is that, in the Hering Illusion, one experiences a visual phenomenal character of the kind most naturally described as being of two curved lines (which occurs when looking at two straight lines superimposed upon a background of angled lines of various sorts), then one starts by stating that the experience represents two curved lines. One then sets out to explain why the lines are represented as curved, given that they are in fact straight. The assumption that the illusion is to be explained in terms of representation (or, rather, misrepresentation) is so automatic as to easily go unnoticed. There is, of course, a deeper question in the philosophy of mind concerning why an experience with a given representational content has the phenomenal character that it has, or indeed why it has a phenomenal character at all; but one need not answer this kind of question in order to explain illusions such as the Hering illusion, and I suggest that the same is true for the illusion of time passing. There will, of course, be some mechanism that accounts for the occurrence of the illusion, just as there is for the Hering illusion; for the latter, this will concern facts about the way in which straight lines interact with the background upon which they are superimposed. But before we can consider such a mechanism for the illusion of passage (which would, in any case, be a job for empirical cognitive science) we must first know the representational content of the illusion; just as, before looking for a mechanism for the Hering illusion, we must know that the illusion consists in the two straight lines being represented as curved.

What, then, might our experiences represent, such that time seems to us to pass? The obvious answer would seem to be that experience represents *that time passes*, but does so falsely. If the B-theory is true, however, then I do not think this answer can be

correct. One reason is that if our thoughts or language cannot have genuine A-theoretic features as semantic values, as argued above, then it seems implausible that our experiences could have those semantic values either. But we can cast further doubt on the experiential representation of A-theoretic features by noting that most B-theorists hold not merely that the A-theory is false, but that it is *necessarily* false (i.e. there is no possible world in which it is true). I haven't the space for a full defence of the claim here, but I think that there are reasons for doubting that a necessarily uninstantiated but non-compositional feature such as the passage of time could be represented by an experience.¹⁰

Rather than dwell on arguments against the experiential representation of temporal passage, however, I shall instead put forward a tentative positive hypothesis. There are two main philosophical accounts of the persistence of objects through time. According to one view, objects persist by *perduring*; that is, by being made up of temporal parts that are located at different times. According to the other view, objects persist by *enduring*; that is, by existing in their entirety at each time at which they exist at all, and thus have no temporal parts. Broadly speaking, while there are certainly exceptions, B-theorists tend to be perdurantists while A-theorists, and especially presentists, tend to be endurantists.

I think that the association between endurance and the A-theory is a very natural and intuitive one, and I think it may hold the key to at least one part of our puzzle. Although obviously metaphorical, our notion of temporal passage seems to involve ourselves, and perhaps other objects, 'moving' *through* time, and persisting *through* changes, while remaining one and the same entity. The idea of having a part in state S_1 at time t_1 , and a part in state S_2 at time t_2 , somehow falls short of capturing the way we imagine a *change* between states S_1 and S_2 . We imagine change as involving *the very same thing* being in one state, then another; not merely a succession of different entities, with different properties, that happen to compose to form a temporally extended whole. So our intuitive, A-theoretic notion of change seems better captured in terms of the endurance theory than the perdurance theory. And, similarly, when we think of time passing or, equivalently, of ourselves or other objects as 'moving' through time towards the future, we imagine *the very same object* being at one time, then at another. The idea of a single identity being at a succession of different times seems somehow essential to our notion of 'moving' through time.¹¹

My hypothesis, then, is that part of the explanation for our natural inclination toward the A-theory is that, whether or not objects really endure, our minds have a tendency to represent objects, perhaps including ourselves, as enduring. I doubt very much that the hypothesis that I have described provides a complete explanation of the way we experience time as passing; if nothing else, it tells us very little about the experienced *direction* of time. But it may at least help.

Here I can only speculate about the mechanism that gives rise to the representation of endurance, and about whether our minds could have represented the world differently. Perhaps, for the reasons of computational economy that I describe below, this was the only way our minds could have represented objects over time. Or perhaps there are possible alien creatures whose minds would not represent objects in this way, and whose experience of time would therefore be very different from our own. Perhaps they would experience the world as B-theoretic. It is hard for us to imagine what this would be like; our difficulty may only reflect our being locked within our own way of experiencing time due to contingencies of our cognitive architecture, or it may reflect a deeper necessity to our own way of experiencing time. There is much more to be said about these issues; I shall not attempt to settle them here, though I shall make some further tentative suggestions.

Let us suppose that experience does indeed represent objects as enduring rather than as perduring. It is necessary to make it clearer what this amounts to. What would be the difference between a mental representation of an object as enduring and a mental representation of it as perduring? After all, endurantists and perdurantists agree that it will be the same object at different times. The two theories do disagree concerning whether what is represented as occupying a particular time is the whole object or only a part of the object. So, when an object is seen, for example, the endurantist should say that the object is seen in its entirety whereas the perdurantist should say that only a part of the object is seen.

Our question concerns not the real nature of the perceived object, but the nature that it is represented as having. How could we settle the question of whether experience represents objects as enduring or perduring? I do not have a knock-down argument, but offer the following in support of the plausibility of a hypothesis that should ultimately be judged by its role in an overall explanation of our experience of time. My suggestion is that human perceptual systems are *lazy* – they tend to represent the world in the simplest, most computationally economical way that helps the

perceiver negotiate the perceived environment. An example of this is the way we perceive solid objects. Solid objects are, as we know, made up of many small particles (for example, atoms in a crystalline structure); but their surfaces *look* solid and continuous. Consider a visual perception of an object with no discernible parts, with no visible surface texture or patterns. Does visual perception represent the object as a single individual (with no parts), or as an object with parts, or is it neutral between these possibilities? We must be careful here; no parts are represented, but an absence of a representation of parts does not entail a representation of the absence of parts. Nevertheless I shall argue that something close to this might be true.

It does not seem correct to say that the object looks (to the subject) as though it is divisible when no parts are perceived. Provided they had the same macroscopic properties, a divisible object and an indivisible object need not look any different from one another; so there seems no reason to think that a divisible object with no discernible parts is represented as divisible. One should be careful not to conflate what is represented by the phenomenology with contents available to the subject in thought, however; someone who knows that an object is made of a fragile material may well say that the object looks as though it could be smashed, and therefore looks divisible. But since an indivisible, unbreakable object need look no different, it is not clear that the phenomenology represents the object as divisible in such cases. Perhaps one might focus attention on just one spatial region of an object, treating this region as an entity distinct from other regions of the object, and one may thus perceive the object as having parts (the temporal analogy would be that someone who understands the perdurance theory might focus attention on what they currently perceive and, understanding that what they see is just a temporal part, separate this in thought from other temporal parts of the object). But, again, it does not follow that the object *looks* as though it has parts (in either the spatial or temporal case), but only that one can pay selective attention to what one *takes* to be a part of the object. Note that an object does not have parts just in virtue of occupying distinct regions of space; the notion of a spatially extended object with no parts is perfectly coherent.

None of these considerations seems decisive. But rather than opt for the conclusion that objects are neither represented in perception as having parts, nor represented as lacking them, I suggest that the most plausible story is that one's perceptual system forms a representation of an object by combining simple representations of features such as its shape, colour etc., and that the simplicity of these representations suggests

that the object itself is represented as simple. There has, of course, been great progress in the empirical study of object perception and it would be instructive to go into some details of this, but for now it will suffice to note that plausible accounts tend to describe the visual system as building representations from simple elements – regions of space are marked as straight edges, or as surfaces, or a whole two-dimensional plane is simply marked as having a given colour, and so on. When faced with a surface with no discernible texture, for example, it seems plausible that the surface is marked as *flat*, rather than as having an unknown status between perfect flatness and currently invisible texture. An oversimplified representation – the surface is flat and continuous – makes sense from the point of view of computational economy. So my suggestion is that on the whole, where no structure is explicitly represented in experience, the object is represented as unstructured. In the temporal case, I assume that there is just a representation of an object – perhaps via some kind of mental file, whose contents are updated as changes are observed – and that since no temporal parts are represented, we should view this as a representation of an object with a constant identity, and no parts. To repeat, I do not claim to have shown this decisively, but put it forward as the most plausible hypothesis.

I have claimed that one part of the reason why time seems to pass is that objects (perhaps including ourselves) are represented in experience as enduring through changes. But perhaps it will not yet be clear why this kind of representation should make the world seem to us to be an A-theoretic world, incompatible with the B-theory. If the B-theory allows the possibility of enduring objects (as is sometimes claimed), then it is unclear why a world of enduring objects should not strike us as compatible with the B-theory. The answer, I suggest, lies in the way change is represented. Again I shall have to gloss over some details and leave many possible objections unanswered here, but the general idea is as follows.¹² When an object, *O*, is observed as first having a property *F*, then no longer having that property, there is a representational content at t_1 of the form ‘*O* is *F*’, followed by a representational content at t_2 of the form ‘*O* is not *F*’. These representations contradict one another. Moreover, in order for change to be represented it is not sufficient that there merely be a change in what is represented. The change itself must be represented; and, arguably, this requires a single representation that includes *both* of the conflicting contents.¹³ In that case there is a representation with a contradictory content; a single object is represented as both *F* and not *F*. If the world is represented in a way that is in

fact contradictory it is not surprising that that the world should seem to us quite unlike a B-theory world, which holds no obvious inconsistencies. The world thus represented does not *seem contradictory*, of course. I speculate that this is because in addition to our taking the world to be one in which objects endure, we are also inclined to take the world to be much as the presentist thinks it is, where each moment in time constitutes a complete reality, so that different moments in time are distinct realities which cannot conflict with one another.

We thus arrive at the idea that experience represents the world as one in which objects endure *through* changes while retaining their identities (that is, an object remains the very same object); the object exists though a succession of differing realities and we, as objects, move through time in the same way. This, I suggest, is an important part of the explanation of time seeming to pass, though I stress that there is more to add, at the very least in order to capture the experienced *direction* of time. There will, no doubt, be many objections to the above arguments, not least in relation to the claim that the representation of change in enduring objects is contradictory. There is some considerable debate among metaphysicians over whether the possibility of change makes endurance contradictory (see Lewis 1986 for an argument for perdurance based on the supposed contradiction), and many of the moves made there might seem applicable to the question of whether the experiential representation of change is similarly contradictory. For responses to some such moves see Prosser forthcoming b.

5. Thought, language and the A-theory

Our project of explaining away the appeal of the A-theory goes beyond the explanation of those aspects of phenomenology that make time seem to pass. It is also necessary to explain a number of features of our thoughts about time, and of related linguistic representations. Ultimately what we say about thought and what we say about experience must be integrated; the relation between our experiences and our thoughts must be explained. Here I shall touch on just one important issue relevant to this.

One of the best-known puzzles concerning temporal thought is Arthur Prior's (1959) 'thank goodness' argument. Suppose that at time t_2 you have an appointment

at the dentist for painful root canal surgery. At time t_1 , the day before the surgery, you experience feelings of dread when you think: ‘my root canal is tomorrow’. But at time t_3 , the day after the surgery, you experience feelings of relief, and think ‘thank goodness my root canal is over!’ Now, if the B-theory is true then the facts don’t change. It is eternally true that your utterance of ‘my root canal is tomorrow’ occurs one day earlier than the appointment, and it is eternally true that your utterance of ‘my root canal is over’ occurs one day after the appointment. The two most popular B-theoretic accounts of the semantics of temporal indexical terms like ‘tomorrow’ and ‘over’ analyse their contributions to truth conditions in terms of relations to either tokens or times. Thus, on a token-reflexive account, the utterance ‘my root canal is tomorrow’ is true if, and only if, my root canal occurs one day later than my uttered token of ‘tomorrow’; whereas, on a ‘date’ account, my utterance is true if and only if my root canal occurs one day later than t_1 . But why, Prior asked, should it make sense to dread, or thank goodness for, states of affairs such as those? Why should I thank goodness, at t_3 , for the fact that my utterance occurs a day later than the root canal, when this was equally true at t_1 (the time at which, in fact, I dreaded the root canal)? Prior concluded that the B-theorist could provide no satisfactory answer, and that this phenomenon provided support for his version of presentism. Given an A-theory, perhaps it makes sense to thank goodness for the root canal event being *past*; and it certainly makes sense to thank goodness for the root canal event not existing (though it must be noted that the presentist who adopts the latter explanation must then explain why it doesn’t make sense to thank goodness prior to the root canal, given that (according to presentism) it doesn’t exist then either).¹⁴

The correct response for the B-theorist lies, I think, in recognizing that truth conditions can be stated in different ways for the purposes of different explanatory projects. Consider, by analogy, an utterance U , said or thought by me, of ‘there is a ferocious tiger near here’. Suppose that U occurs at location L . Here are three ways to state the truth conditions of U :

U is true if, and only if:

1. There is a ferocious tiger near to location L
2. There is a ferocious tiger near to where U occurs
3. There is a ferocious tiger near to where I am

It makes sense for me to fear the state of affairs expressed by U . But clearly the reason for this cannot be captured by either (1) or (2); neither the fact that a ferocious tiger is near some particular place, nor the fact that a ferocious tiger is near to where an utterance occurs, are in themselves reasons for fear. It is only (3) that really gives me a reason for fear. There may be explanatory purposes for which (1) or (2) give better accounts of the truth-conditions of U ; but when we want to explain the subject's fear, (3) gives captures the truth conditions in the right way.

In case it should be objected that it is (1) or (2) that captures the truth conditions of U and that (3) merely indicates a fact that the subject can infer from 'I am the utterer of U ', it should be noted that there are some utterances containing indexical expressions for which it would be hard to state truth conditions without reference to the subject. Consider, for example, U_{left} : 'a ferocious tiger is to the left'. Since places and utterance tokens do not have left-hand sides it is impossible to state truth-conditions for this utterance in the same manner as (1) and (2). In many cases it is the speaker or thinker's own left-hand side that is relevant to the truth conditions of U_{left} ; this would invariably be the case when U_{left} is a token thought. So there are many cases in which the truth conditions are more usefully stated, and some cases in which they *have* to be stated, in what we might call *person-reflexive* terms.

If the B-theory is correct then monadic predicates such as 'is past' or 'is future' are used in dealing with relations rather than properties. The 'thank goodness' problem only bites if the truth conditions for utterances containing these predicates must be given by the date or token-reflexive accounts, which are analogous to (1) and (2). If, instead, we adopt a person-reflexive account a solution is possible. Once again, however, the metaphysical issues interact with the semantic issues. Consider again my utterances of 'my root canal is tomorrow' at t_1 and 'my root canal is over' at t_3 . Call these U_1 and U_3 respectively. If persons endure then the person-reflexive truth condition for U_1 would have to be along the lines of 'the root canal occurs the day after the time at which I exist' and for U_3 it would have to be along the lines of 'the root canal occurs prior to the time at which I exist'. But if the B-theory is true then these are inadequate, for if I endure, and the B-theory is true, then I exist at many times. This seems to provide a further reason why representing objects (including persons) as enduring might make the B-theory seem false, pushing our notion of time toward an A-theory.

If, instead, we assume that persons have temporal parts, however, then we can give truth conditions for U_1 and U_3 in terms of these parts. Suppose I have temporal parts S_1 and S_3 at times t_1 and t_3 respectively. Then U_1 is true if and only if the root canal occurs the day after S_1 exists, whereas U_3 is true if and only if the root canal occurs earlier than S_3 's existence. S_1 and S_3 would have to understand these truth conditions in a first-person manner, otherwise they would state facts that could equally be accepted by S_1 and S_3 . Given that causation is always directed toward the future, there might be good reasons for S_1 and S_3 to differ in their attitudes toward the root canal. S_1 , being located prior to the root canal, still has a chance to prevent it; whereas S_3 , being located after the root canal, can do nothing about it. So if the truth conditions are stated in person-reflexive terms that make reference to temporal parts of persons, then we can make sense of the differing attitudes of the different temporal parts of a person to the same event. In effect, Prior's challenge to the B-theorist was to state a fact (a truth-condition) that S_1 had reason to dread, and a fact (a truth-condition) that S_3 had reason to thank goodness for. We can answer that challenge by saying that the fact that S_1 is located earlier than the root canal gives S_1 (but not S_3) a reason for dread; whereas the fact that S_3 is located later than the root canal gives S_3 (but not S_1) a reason for relief.¹⁵

Perhaps if words like 'past' and 'future' wore their semantics on their sleeves, such that we could not fail to recognize that they imply relations to temporal parts of persons, we would find the B-theory easier to accept. The A-theorist who posits A-properties thinks that such words *do* wear their semantics on their sleeves; according to them the predicate 'is past' ascribes the A-property of *pastness*. It may be that the surface form of these predicates naturally helps mislead us into supposing that there are A-properties of this kind, thus lending further intuitive support to the A-theory.¹⁶ But the B-theorist should hold that the semantic properties of 'is past' are analogous to those of 'is to the left'; in terms of surface form they are one-place predicates, but we use them to deal with two-place relations to temporal parts of persons.¹⁷

6. Conclusions

I hope that the above arguments, brief though they were, suffice to show something of the different challenges faced by the A-theorist and the B-theorist in giving a

satisfactory account of temporal experience, thought and language. The major challenge for the A-theorist, as I see it, is to explain how the features of experience that are so often used to motivate the A-theory could possibly constitute an awareness of A-theoretic features of time such as temporal passage. I have briefly described a reason for doubting that this can be done. Failing this, A-theorists must explain how to motivate their theory, and indeed how to render it intelligible, without recourse to the nature of experience; and I have suggested, again, that this looks like a very hard challenge to meet.

The major challenge for the B-theorist, by contrast, is to explain away the features of experience to which the A-theorist appeals, and to give a satisfactory B-theoretic account of those elements of thought and language that might also seem to support the A-theory, such as the differing attitudes we take to the same events at different times. These attitudes must be integrated with an account of the contents of experience. There are many further related questions that have not been touched on above; for example, the question of whether perceptual contents have to be present-tensed in order to motivate actions, and the question of how the contents of perception (whether or not explicitly present-tensed) subsequently come to be represented in memory with constantly updated degrees of pastness.

My suggestion that objects, including persons, are represented in experience, and often in thought, as enduring rather than perduring, may offer a small step forward. But what I hope to have shown overall is something of the variety of interlocking issues that must be addressed in a satisfactory account of temporal experience, thought and language.

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¹ The moving spotlight theory was discussed, though rejected, by C. D. Broad (1923), who instead advocated a growing block theory. For a more sympathetic recent discussion of the moving spotlight theory see Skow 2009; and for a more recent growing block theory see Tooley 1998.

² For a survey of the latter debates over presentism see Caplan and Sanson 2011.

³ See Parsons 2002 for one possible development of such a theory. If I understand correctly, the 'four-dimensionalist tensism' described by Peter Ludlow in his chapter in this volume, involving perspectival properties but no 'movement' of the *now* along the time line, is another.

⁴ For a fuller defence of the argument sketched below see Prosser forthcoming a.

⁵ For just a few of the countless examples of descriptions of this phenomenal character by both A- and B-theorists, see Le Poidevin 2007: 76; Schlesinger 1991: 427; Davies 1995: 275; van Inwagen 2002: 64.

⁶ Whether veridical or illusory, the phenomenal character is, of course, an awareness of *something*, and the B-theorist should explain what this is. For my own thoughts on this see below, section 4, and also my forthcoming b.

⁷ See for example Ludlow 1999 for discussion of the implications of presentism for the semantics of tense.

⁸ For an example of an A-theorist drawing metaphysical conclusions from the nature of language see Smith 1993. For scepticism about arguments of this kind see Dyke 2007.

⁹ For more details see Prosser forthcoming b.

¹⁰ Again, for a more detailed argument see Prosser forthcoming b.

¹¹ David Velleman (2006) has made a similar suggestion about the importance of our idea of ourselves as enduring in explaining the illusion of time passing; as he puts it, in order to have a sense of the future coming *toward* us, there has to be a ‘fixed point’, whose identity does not change, for the future to come toward. The idea that something must always persist through a change was put forward by Kant (see the First Analogy in his 1929/1781-7), though there is no clear reason to think that he had the endurance/perdurance distinction, or anything like the A/B-theory debate, in mind. See also Merricks 1995, 1999 for arguments that presentism and endurance are natural partners; though see also Parsons 2000 for one way that endurance might be reconciled with the B-theory. For some ideas about experience related to those described here see Paul (forthcoming).

¹² For full details of possible objections and the relation of the argument to debates over the *problem of temporary intrinsics*, see Prosser forthcoming b.

¹³ The idea that a change of representation is not sufficient for a representation of change is one of the chief motivations for the *specious present*, the doctrine that our experience of the present encompasses an extended period of time. For present purposes I need take no view on whether there is a conscious experience of an extended period or a consciousness of the present moment combined with a short-term memory (in fact I am sceptical about whether there is a clear distinction between these options, despite frequent discussion of them in the literature on time consciousness). For more details on the specious present and its rivals, see James 1890; Broad 1923, 1938; Dainton 2000, 2001, 2008; Gallagher 2003; Tye 2003; Kelly 2005; Le Poidevin 2007; Phillips 2010.

¹⁴ See also Jaszczolt, this volume, on the symmetry problem.

¹⁵ See Maclaurin and Dyke 2002 for a similar claim about the differing attitudes of temporal parts.

¹⁶ Smart (e.g. 1967) suggests something of this sort, as do I in Prosser 2006 (where I also discuss temporal parts of persons as unarticulated constituents of temporal indexical thoughts).

¹⁷ In Prosser 2006 I describe this in terms of John Perry’s (1986) notion of *unarticulated constituents*.

For an entirely different approach to explaining away A-theoretic intuitions in terms of linguistic semantics see Jaszczolt 2009.