

The Pervasive Paradox of Tense*

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The debate between the A-theory and the B-theory of time is the progeny of an argument put forward by McTaggart, which was designed to prove the unreality of time.¹ The argument has two constituent theses: a positive and a negative thesis. The positive thesis is that time is intrinsically tensed, or, in McTaggart's terminology, that time necessarily involves an A-series. The negative thesis is that the notion of tense, or the A-series, is inherently self-contradictory. If both of these theses are true, then it follows that time does not exist. The debate that has emerged from this argument centres around the truth or falsity of each of these theses. A-theorists accept the positive and reject the negative thesis, drawing the conclusion that, since there is no contradiction in the notion of tense, time exists and is intrinsically tensed. B-theorists accept the negative and reject the positive thesis, concluding that the notion of tense is inherently self-contradictory, but since time is not intrinsically tensed, time exists and is tenseless.

All this will not be news to anyone familiar with recent (and not-so-recent) work in the philosophy of time. Let me explain my position and focus in this paper. According to the above classification I am a B-theorist; I think the argument against tense is sound, but time is not intrinsically tensed, so time exists and is tenseless. McTaggart, I believe, has successfully proved the unreality, not of time, but of tense. However, McTaggart's negative thesis, which

has come to be known as McTaggart's paradox, is dreadfully obscure. This obscurity has tended to blunt the force of the argument which, though sound, has not been as successful as it should have been in persuading people of the unreality of tense. I will outline McTaggart's paradox in McTaggart's terms (making no apologies for lack of clarity). I will then recast the paradox in my own terms. My intention is that the obscurity clouding it will be dissipated, and the full force of the paradox will emerge. I will show that, no matter how one construes the notion of tense, it is fatally infected with the contradiction that McTaggart first diagnosed.

1. McTaggart's paradox in McTaggart's terms

McTaggart's paradox has become notorious, and for a number of reasons. Partly, it is because its conclusion denies what seems to be one of the most obvious and basic facts of our existence; that time flows. But the main reason for its notoriety, I think, is that its force is so obscure. Indeed, at first glance it often appears quite obviously unsound. McTaggart notes that past, present and future are incompatible determinations of events. As temporal locations, or as characteristics of events, they are mutually exclusive. If an event is past, it cannot be present or future; if it is present, it cannot be past or future, and so on.² However, it is also the case that every event has all three of these characteristics. That is, every event *is* past, present and future. Every event *is* yesterday, today and tomorrow. So we have a straightforward contradiction: every event is and is not past, present and future.

The usual response to the contradiction expressed in this way is that no event has more than one of these characteristics at the same time, and there is no contradiction in something's having incompatible characteristics at different times. An event *is* present, *will be* past, and *has been* future. In response to this McTaggart asks "But what is meant by 'has been' and 'will be'?" (McTaggart (1927) 21). We mean, says McTaggart, that an event is

present at a moment of present time, past at some moment of future time, and future at some moment of past time. But every moment of time, as well as every event, is past, present and future, and so the problem arises again. McTaggart goes on: 'If M [an event] is present, there is no moment of past time at which it is past. But the moments of future time, in which it is past, are equally moments of past time, in which it cannot be past.' (McTaggart (1927) 21).

That is McTaggart's paradox in McTaggart's terms. I will not go over all the defences and responses that have been put forward over the years. My point is that the contradiction, as stated, is obscure. But despite the obscurity, the contradiction is there. It is my intention to remove the obscurity, and reveal the contradiction with which the notion of tense is shot through.

2. The notion of tense

The contradiction, I maintain, lies at the heart of the notion of tense, and a careful examination of this notion will reveal it. What, then, is involved in our notion of tense? First of all, it involves a distinction between past, present and future. To say that time is tensed is to say that this distinction is a constituent of temporal reality, and is not merely dependent on the temporal perspective of a given observer. There are also finer distinctions of tense. An event can be one day past, this year, or next century. To ascribe a tense to an event in this way (or, in McTaggart's terminology, to locate it at some A-series position) is to qualify it absolutely. Tenses are not merely relative to some other temporal location, such as that of a given observer. For example, if an event is past, it is absolutely past, and not merely past relative to, say, 31 December 2001. Secondly, the notion of tense involves the passage, or flow, of time. Events and moments are not eternally classifiable as either past, present, or future. In McTaggart's terminology, events change their A-series positions. A past event was

not always past; it was once present. A future event will not always be future; it will become present and then past.

The notion of tense is thus a dual-faceted one. And furthermore, I argue, it is essentially so. To say that time is tensed is to say that it has both of the features outlined above. To suppose that time has just one of these features generates a description of time that is either false or incoherent. If there is an objective distinction between past, present and future, but no passage of time, then a static, “snap-shot” picture of tensed time emerges. The distinction between past, present and future that obtains would never change. The events that are present would always be present, and would always have been present; the end of World War II would always be 56 years ago, and would always have been 56 years past; The Athens Olympics would always be three years hence, and would always have been three years hence. My guess is that, at the very least, surviving World War II veterans and the organizers of the Athens Olympics would dispute this. Clearly, our temporal experience refutes this account of tensed time. It is simply false.

On the other hand, to suppose that time flows but there is no distinction between past, present and future generates an incoherent picture of tensed time. What is it for something to flow in the ordinary, spatial sense of the word? To say that a river flows is to say that the contents of the river moves (smoothly and continuously) along the river channel. A crowd flows into a room; blood flows through one’s veins; money flows through the economy. The concept of flow seems to imply smooth and continuous movement through something, or in respect of something. But through what, or in respect of what does time flow? There seem to be, intuitively, two possible answers to this question. Either time flows from earlier to later moments, or the present flows towards the future and away from the past. The first answer can only describe flow if there is *something* that flows from earlier times to later times, since

without this there would only be a fixed sequence of times or events ordered by the relations ‘earlier than’ and ‘later than’. The only plausible candidate for this ‘something’ is the present moment. But introducing the present moment introduces the distinction between past, present and future. If the second answer is correct, then clearly, the distinction between past, present and future is directly introduced into the picture. So, the supposition that time flows requires the distinction between past, present and future in order to make sense.

The notion of tense is thus essentially dual-faceted. It involves both an objective distinction between past, present and future, and the flow or passage of time. To take tense seriously is to suppose that these two features of tense are also features of time. I have argued that the two features of tense are intimately connected with each other; time cannot have one but not the other. In what follows I will argue that they are also inherently incompatible with each other, generating a contradiction at the heart of the notion of tense, thus proving that tense is unreal. The contradiction arises no matter how one construes the notion of tense, and I will illustrate this by revealing essentially the same contradiction in a number of different accounts of tensed time.

3. McTaggart’s paradox restated

I think that McTaggart’s paradox can be reconstructed in terms of the notion of tense presented above. There are two essential features of tense and, in order for tense to be real, both of them must be features of time. But they are incompatible with each other, so they cannot both be features of time, so time cannot be tensed. I submit that this incoherence is essentially the same as the paradox first outlined by McTaggart.

McTaggart argued that past, present and future are incompatible determinations of events, but that every event has them all. He concluded that the determinations, and the

change in respect of them that events undergo, are not part of reality. I have argued that the notion of tense essentially involves two features: the distinction between past, present and future, and the flow of time. In terms of this characterization of tense, the paradox arises because time cannot be such that there is *both* a distinction between past, present and future *and* a flow of time. To put it briefly, the distinction between past, present and future can only be maintained if the flow of time is omitted from the picture; any attempt to incorporate the flow of time into the picture results in the collapse of the distinction between past, present and future. In the rest of this paper I will show how this same incompatibility arises in a range of different accounts of the nature of tensed time.

4. Tense as properties acquired and lost

The first account of tensed time that I shall consider gives the following account of the two features of tense: it construes the distinction between past, present and future as consisting in the distinct existence of the monadic tensed properties of pastness, presentness and futurity, and it construes the passage of time as the continual change in respect of these properties that events and times undergo.³ An event or a time first possesses the property of futurity, which it then loses and, fleetingly, acquires the property of presentness. After losing the property of presentness, it acquires the property of pastness.⁴

What are the extensions of these tensed properties? The extension of the property of pastness is the set of all events that occurred earlier than the present moment; the extension of the property of presentness is the set of all events that are occurring now; and the extension of the property of futurity is the set of all events that will occur later than the present moment. So far, the ontological distinction between past, present and future is preserved. However, in order to complete this picture of tensed time, we must introduce its account of the passage of

time. On this theory then, events continually change in respect of the tensed properties they possess. It then follows that every event successively possesses every tensed property. But as soon as the flow of time is introduced into the picture, the extensions of the three tensed properties turn out to be identical with each other, thus collapsing the distinction between past, present and future. The extension of the property of pastness is the set of all things that have been, are, and will be past. But this is identical with the set of all things that have existed, exist and will exist. The set of all things that have been, are, and will be present, and the set of all things that have been, are, and will be future are also identical with the set of actual existents. So, the introduction of the second feature of tense results in the collapse of the distinction between past, present and future.⁵

The response to McTaggart's paradox at this point is that no event has the three incompatible characteristics simultaneously, but only successively, and there is no contradiction in something's possessing incompatible properties at different times. However, this response fails to circumvent the problem, and in the terms in which I have characterized the contradiction, it fails in the following way. Defenders of tensed time object to the assumption that past, present and future apply to each event nonsuccessively. If we will only recognize that these mutually incompatible tense determinations apply *successively*, they argue, we avoid all contradiction. This is true. However, the price of avoiding the contradiction in this way is to sacrifice the only means we have of maintaining the distinction between past, present and future. This is because, as soon as we admit that the properties of pastness, presentness and futurity have different extensions at different times, we lose our means of preserving the absolute distinction between them. This distinction collapses unless we relinquish the change in tense that events and times undergo (the passage of time). It

seems we can have one or other of the two features of tense, but not both. However, as we saw earlier, neither feature of tense can apply to time without the other.

A defender of tensed time might respond that the extensions of pastness, presentness and futurity only merge into one at this point if the notion of ‘extension’ is interpreted as a tenseless notion.⁶ If ‘extension’ is interpreted tenselessly, then something is in an extension if it is in it at some time or another. Because time flows, everything is past at some time, present at some time, and future at some time, so the tenseless extensions of pastness, presentness and futurity are identical. But if we insist on a tensed interpretation of the notion of extension, the defender of tensed time will argue, we can preserve the distinction between pastness, presentness and futurity. This is because, while every event is in each of the three extensions, it is in them at different times. However, as we shall see, the problem cannot be avoided by insisting on a tensed interpretation of the notion of ‘extension’.

The defender of tense might argue that *at any time* the extensions of pastness, presentness and futurity are distinct, and also, as a result of the flow of time, that they are different *at every time*. What the defender of tense requires is that we relativize each event’s membership in an extension to a time in the A-series. Thus, for some event, E, which is a member of the set of present events, E *was* a member of the set of future events, and E *will be* a member of the set of past events. But this description has not succeeded in making room for both features of tense. All we have here is a description of how things are now, which is a static, “snap-shot” picture of tensed time. It is now the case that, for example, winter is a present event, it was a future event, and it will be a past event. There is no temporal flow in this description at all; this is simply how things are now. Thus, the distinction between past, present and future is upheld, but there is no flow of time. In order to make room for the flow of time, the defender of tensed time will have to acknowledge that, for any event E, it was, is

and will be a member of the set of past events, it was, is and will be a member of the set of present events, and it was, is and will be a member of the set of future events. So the distinction between past, present and future breaks down once more.⁷

This picture of tensed time is ultimately untenable. In order to characterize time as tensed it must incorporate the distinction between past, present and future, and the passage of time (i.e. both components of the notion of tense) into the picture. However, the distinction between past, present and future can only be maintained if the extensions of these three properties are anchored to a particular time. The set of all things that are now past is distinct from the set of all things that are now present and the set of all things that are now future. However, the distinction between all things past, present and future that obtains now is not the distinction that will always obtain. By specifying a time at which the extensions of these properties are determined, we are effectively omitting from the picture the second component of tense: the passage of time. If we include the passage of time, then we lose the distinction between past, present and future. If we maintain the distinction between past, present and future, then we lose the passage of time. The notion of tense essentially requires both of these features, but as it turns out, they are incompatible with one another.

4. Tense as a moving now

The account of tensed time that involves a moving now gives a rather different interpretation of the two features of tense from the previous account. It involves an entity (the now, or the present moment) which continually and smoothly slides along the series of moments and events ordered by the relations 'earlier than' and 'later than' in the direction from earlier times to later times. Events become momentarily more real as they are embraced by the now, so it bestows a privileged ontological status onto the events and moments with

which it successively coincides. The first feature of tense, the distinction between past, present and future, is determined by the temporal location of the now. Those events which coincide with the now are present, those which have already coincided with it are past, and those which have yet to coincide with it are future. The second feature of tense, temporal passage, is of course constituted by the movement of the now.⁸

There are many problems with this picture of tensed time,⁹ but I will focus only on how the paradox of tense emerges on this view. The difference between this account and the previous one is that the distinction between past, present and future is specified not in terms of properties attributed to events and moments, but in terms of the relation that events and moments stand in to the now. Past events are those located earlier than the now; present events are those simultaneous with the now, and future events are those located later than the now. Since the now moves along the series of events, every event will, at some time or another, stand in each of these relations to the now. Thus, the distinction between past, present and future can be maintained only when the now is located at one particular moment. Anchoring the now to a particular moment, however, results in giving up the movement of the now, which is one of the essential components of tense. So, once more we can have either a distinction between past, present and future or temporal passage, but not both.

The difficulty with this account of tensed time can be illustrated by examining a particular event and its various relations with the now. Consider the event of Neil Armstrong landing on the moon. As I write, this event is 32 years earlier than the now. 32 years ago it was simultaneous with the now. 33 years ago it was later than the now. At different times this event stands in each of the three relations to the now. But by describing the movement of the now in relation to a sequence of temporal reference points, the moving now seems to have vanished from the picture altogether. All we have is an event, (Neil Armstrong's landing on

the moon) occurring in 1969, and thus being later than 1968 and earlier than 2001.

Furthermore, this description tells us nothing of whether that event is past, present, or future. So, a general consideration of this picture of tensed time (i.e. one which makes no reference to a particular event) shows that it can retain one or other of the components of tense, but not both. But a more specific consideration that makes some reference to a particular event, shows that ultimately it cannot retain either of the components of tense.

A defender of the moving now conception of tense might object at this point that the distinction between past, present and future only collapses because the location of the now is described in tenseless terms. If we can specify the location of the now in tensed terms, the defender of tense will urge, the distinction between past, present and future can be maintained, together with the flow of time. However, as we shall see, this is not the case.

The defender of tense might argue that *at any time* the location of the now keeps pastness, presentness and futurity distinct from each other, and also, as a result of the flow of time, what counts as past, present and future is different *at every time*. What the defender of tense will insist on is that we relativize the location of the now to times in the A-series. Thus, for some event, E, which is now present, E *was* future (ie, later than the now), and E *will be* past (ie, earlier than the now). But this description has not succeeded in making room for both features of tense. All we have here is a description of how things are now, which is a static, “snap-shot” picture of tensed time. It is now the case that winter is present (it coincides with the now), it was future (later than now), and it will be past (earlier than now). There is no temporal flow in this description at all; this is simply how things are now. Thus, the distinction between past, present and future is upheld, but there is no flow of time. In order to make room for the flow of time, the defender of the moving now conception of tensed time will have to acknowledge that, for any event E, it was, is and will be now, (present), it was, is

and will be earlier than now, (past) and it was, is and will be later than now, (future). So the distinction between past, present and future breaks down once more. The conception of tense as a moving now, like the previous conception of tense, is unable to accommodate both features of tense, but must do so if it is to be an account of tensed time.

5. Tense as a temporal succession of worlds

In an effort to present an account of tensed time that avoids McTaggart's paradox, a new approach to the defence of tensed time has recently been offered. This approach can be seen as a response to the problems facing the moving now theory of tensed time. In the previous section it was seen that some kind of reference point was needed relative to which the now, or the present moment, moves. Employing times for this purpose reduces the account to one that does not involve tensed change at all. Proponents of this new approach have responded to this impasse by suggesting that the reference points we use should be, not times, but worlds. We might call this approach "worldly becoming." It has been put forward by John Bigelow (1991) and George Schlesinger (1991). I will examine John Bigelow's treatment.

Bigelow accounts for the first feature of tense, the distinction between past, present and future, by postulating a series of worlds, each containing the same things and events, and differing only in which of those things and events are past, which are present, and which are future. Being past, present, or future in Bigelow's tensed conception of time, consists in possessing the intrinsic, tensed properties of pastness, presentness, or futurity. In each world, there is an absolute and unchanging distinction between past, present and future. Bigelow represents the contents in the following way:

abcdefghijkl*Klmnopqrstuvwxyz*

abcdefghijklLmnopqrstuvwxyz

abcdefghijklMnopqrstuvwxyz

The boldface type represents those sets of events with the property of pastness, the capital letter represents the set of events which are present, and the italic script represents the sets of events which are future. Each successive world has a sequentially different distribution of pastness, presentness and futurity.

How does Bigelow account for the second feature of tense, the passage of time? He states that his model of tensed time is intended to make sense of the passage of time, which he takes to be understood as involving the truth of claims like ‘What is present was future, and will be past.’ On his modal analysis, the truth conditions for this claim consist in there being a world in which what is present in the actual world is future, and a different world in which what is present in the actual world is past. However, the mere existence of these worlds is not enough to account for the passage of time. If all Bigelow is suggesting is that such worlds exist, then he has done nothing more than present a “snap-shot” picture of tensed time, where the distribution of past, present and future over all temporal entities that obtains in the actual world is fixed and unchanging. In other words, he has only incorporated the first feature of tense into his account. Bigelow refers to the actual world in contrast to past and future worlds (worlds containing all and only the same things, but whose distribution of past, present and future is sequentially different), which suggests that the passage of time consists in the successive becoming actual of the series of worlds.

Let us suppose then, that the passage of time in Bigelow’s tensed “multiverse” consists in each world successively becoming actual. Now, each world has exactly the same

population as every other world, apart from its unique distribution of the properties of pastness, presentness and futurity. Furthermore, every event has every tensed property in some world or another. If each world passes from mere possibility to actuality and then back to mere possibility again, then it follows that every event is *actually* past, present and future. Thus, the distinction between past, present and future collapses as soon as the passage of time is introduced into the picture. In order to retain this distinction, we must designate just one world as the actual world, and forego the successive becoming actual of worlds which, on this picture of tensed time, just is the passage of time.

In response to this objection Bigelow could argue that no event is *actually* past, present and future in the same world, but only in different worlds, and there is no contradiction in an event's having different properties in different worlds. This response closely mirrors the initial response to McTaggart's paradox. If an event is present in some world, W_2 then it is not past or future in *that* world. Rather, it is future in some world, W_1 , which is in W_2 's past, and past in some world, W_3 , which is in W_2 's future. Since there is no contradiction in an event's possessing incompatible properties in different worlds, the contradiction is avoided. However, this response fails to resolve the paradox because each of these worlds successively becomes absolutely actual, so it is still the case that every event in the tensed "multiverse" is actually past, present and future. In order to isolate an event's possession of these mutually incompatible properties from each other, (and thus preserve the distinction between past, present and future) we must somehow be able to distinguish between the actuality of each world. We must be able to distinguish between the actuality of W_1 , in which event E is past from the actuality of W_2 , in which event E is present. Otherwise, there is no way to avoid concluding that E is (actually) both past and present. It seems to me that there are two ways in which this might be done. One could say, for example, that W_1 is

actual at time t_1 , and W_2 is actual at time t_2 . It then follows that E is past at t_1 and present at t_2 . By taking these steps to avoid the original contradiction, we have reduced the account to one that no longer involves the passage of time. Actuality has been relativized to times, and so, consequently, has the possession by events of the properties of pastness, presentness and futurity. As we saw in section 4 above, describing the flow of time in terms of the temporal relations that events stand in to times results in the flow of time dropping out of the picture altogether.

Alternatively, one could relativize the actuality of each world to different times in the A-series. One could say that W_2 *is now* actual, W_1 *was* actual and W_3 *will be* actual. But again, this merely states how things are now, and thus fails to make room for the flow of time. In order to make room for the flow of time, the defender of this conception of tense must allow that each of these worlds is, was and will be actual. But now, the distinction between past, present and future actuality has collapsed. Just like the conceptions of tensed time already considered, this one is unable to accommodate both features of tense, but must do so if it is to be an account of tensed time at all.

6. Tense as an accretion of facts

The next account of tensed time that I will consider involves what has been referred to as a “lop-sided ontology” (Bigelow (1996) 40) as it incorporates the reality of the past and the present, but rejects the reality of the future.¹⁰ An eloquent statement of this position is given by C.D. Broad as follows:

It will be observed that such a theory as this accepts the reality of the present and the past, but holds that the future is simply nothing at all. Nothing has happened to the

present by becoming past except that fresh slices of existence have been added to the total history of the world. The past is thus as real as the present. On the other hand, the essence of a present event is, not that it precedes future events, but that there is quite literally *nothing* to which it has the relation of precedence. The sum total of existence is always increasing. (Broad (1923) 66-67)

How does this account of tensed time incorporate the two essential features of tense? The objective distinction between the past and the present on the one hand, and the future on the other, is quite clearly an ontological one. The past and the present exist, and the future does not. The past and the present are not quite so obviously distinguished from each other, however. I propose the following definitions as illustrative of the distinction, on this view, between past, present and future:

1. x is present =Df x is at the limit of existing reality
2. x is past =Df x exists and is not at the limit of existing reality
3. x is future =Df x does not exist

There is an initial difficulty with the third definition, in that we need to be able to distinguish between what does not exist in virtue of being future, and what does not exist in virtue of being, say, fictional, impossible, or contingently nonexistent. However, even if this difficulty could be overcome, there is a far more serious problem, which arises once we introduce the passage of time into the picture. Every temporal entity is, at the dawn of its existence, present. Thereafter it is past. Thus, every temporal entity is both present and past, so the distinction between these two tense determinations collapses. In order to preserve the

distinction, we must designate a moment at which a particular distribution of past and present obtains. Making that move, however, effectively halts the continual increase in reality in which the passage of time consists. Once more, the two features of tense cannot both be features of time, but time cannot have one without the other.

A defender of the accretion of facts conception of tense might object, once more, that the distinction between past and present only collapses because the possession of these tense determinations is described in tenseless terms. If we can specify the possession of tense determinations in tensed terms, the defender of tense will urge, the distinction between past and present can be maintained, together with the flow of time. However, as with the parallel move considered in relation to previous conceptions of tense, this is not the case.

The defender of tense might argue that *at any time* the events to which the determinations of pastness and presentness apply are distinct from each other, and also, as a result of the flow of time, which events are past and present is different *at every time*. What the defender of tense requires is that we relativize the possession of these two tense determinations to times in the A-series. Thus, for some event, E, which is now present, E *will be* past. But this description has not succeeded in making room for both features of tense. Once more, all we have here is a description of how things are now. It is now the case that winter is present and it will be the case that winter is past. There is no temporal flow in this description at all; this is simply how things are now. Thus, the distinction between past and present is upheld, but there is no flow of time. In order to make room for the flow of time, the defender of this conception of tensed time will have to acknowledge that, for any event E, it was, is and will be present, and it was, is and will be past. So the distinction between past and present breaks down once more. The conception of tense as an accretion of facts, like the

previous conceptions of tense, is unable to accommodate both features of tense, but must do so if it is to be an account of tensed time.

7. Tense as the present moment

Another account of time that aims to preserve the distinction between past, present and future, and the passage of time is currently undergoing something of a revival, and has been dubbed presentism.¹¹ According to presentism, only what is present exists. Prior put the point well when he said, “The present simply is the real considered in relation to two particular species of unreality, namely the past and the future.” (Prior (1970) 245).

How does presentism incorporate the two features of tense into its account of the nature of temporal reality? Intuitively, the distinction between past, present and future consists in the fact that while present things and events exist, past things and events do not exist, but did exist, and future things and events do not exist, but will exist. So, the present is ontologically distinct from the past and the future. Furthermore, despite the fact that past and future are alike insofar as neither exist, they can be distinguished from each other because the past involves nonexistent things that did exist, and the future involves nonexistent things that will exist.

How is the passage of time to be accounted for according to presentism? If the above account of the distinction between past, present and future is correct, then all that has been described so far is a “snap-shot” picture of tensed time. What exists absolutely is present, but what is present now was once future and will become past. The passage of time must consist in the change of things and events from future-nonexistence (hereafter F-nonexistence) to existence, and then to past-nonexistence (hereafter P-nonexistence). However, since the passage of time is continual and inexorable, every event is F-nonexistent, existent, and P-

nonexistent, but these are incompatible states of being (or nonbeing). Thus, the distinction between F-nonexistence, existence and P-nonexistence collapses, because everything falls into each of these categories. The distinction between these categories can only be retained if the passage of time is left out of the picture. Hence, presentism is no more immune from the paradox of tense than any other account of tensed time that has been examined here.

A presentist might object that the distinction between past, present and future only collapses because the categorization of temporal entities into F-nonexistence, existence and P-nonexistence is described in tenseless terms. If we can specify what belongs to each category in tensed terms, the defender of tense will urge, the distinction between past, present and future can be maintained, together with the flow of time. However, as we shall see, this objection, like its counterparts considered in relation to earlier accounts of tensed time, fails.

The defender of tense might argue that *at any time* the categories of F-nonexistence, existence and P-nonexistence are distinct from each other, and also, as a result of the flow of time, what belongs to each category is different *at every time*. What the defender of tense requires is that we relativize the extensions of each category to times in the A-series. Thus, for some event, E, which now exists, E *was* F-nonexistent, and E *will be* P-nonexistent. But this description has not succeeded in making room for both features of tense. Once again, this just describes how things are now. It is now the case that winter exists, winter *was* F-nonexistent, and it *will be* P-nonexistent. There is no temporal flow in this description; this is simply how things are now. Thus, the distinction between past, present and future, on this presentist conception, is upheld, but there is no flow of time. In order to make room for the flow of time, the defender of presentism will have to acknowledge that, for any event E, it was, is and will be existent, it was, is and will be P-nonexistent, and it was, is and will be F-nonexistent. So the distinction between past, present and future breaks down once more. The

presentist conception of tense, like the previous conceptions of tense, is unable to accommodate both features of tense, but must do so if it is to be an account of tensed time.

Before leaving presentism, as a generic theory of tensed time, I will examine one particular version of it, which was put forward by John Bigelow (1996). Bigelow outlines and then develops the Stoic account of presentism, according to which, once more, only the present exists, but there are presently existing, past and future tense true propositions. For example, suppose it is presently the case that dinner is now being served. Two other constituents of the present are the past tense true proposition ‘It was the case that dinner is now being prepared,’ and the future tense true proposition ‘It will be the case that dinner is now being cleared away.’ Bigelow’s refinement of the Stoic position is to identify propositions with properties of the world taken as a whole. He writes:

The past no longer exists; yet there is a sense in which the past can never be lost: the world will always be one with the property of having once been thus and so. Likewise the future does not exist yet; yet there is a sense in which the future will be what it will be: the world has always been one with the property of being a world which is going to be thus and so. (Bigelow (1996) 47)

How are the two features of tense incorporated into Bigelow’s presentist picture of temporal reality? The distinction between past, present and future is, once again, an ontological one. The present exists; the past consists in presently existing world properties which describe the way the world was, and the future consists in presently existing world properties which describe the way the world will be. A clue as to how Bigelow intends the

passage of time to be incorporated into his account of presentism is given by the following quotation:

At any time you can collect all the truths about what was, is or will be. Truths about what was were once truths about what will be; and truths about what will be will eventually be truths about what was; and so truths about past, present and future keep changing. (Bigelow (1996) 47)

The passage of time consists in there being, at different times, different sets of true propositions about past, present and future states of the world. Let's analyse this proposal a little more closely. Suppose there is to be a production of Shakespeare's *Othello* today. It follows from what Bigelow says above that the collection of all the truths about what was, is or will be that obtains now includes the truth 'There is a production of Shakespeare's *Othello* today'. Yesterday that proposition was false, and a future tense proposition 'There will be a production of Shakespeare's *Othello* tomorrow' was true in its place. It will be false again tomorrow, and a past tense proposition 'There was a production of Shakespeare's *Othello* yesterday' will be true in its place. These three propositions are mutually inconsistent; they cannot all be true. But in Bigelow's presentist world they are all true. In order to isolate their different truth-values from each other, they must be relativized to the times at which they are true. For example, the future tense proposition is true on Friday, the present tense proposition is true on Saturday, and the past tense proposition is true on Sunday. Making this move, however, reduces the account to one in which the passage of time has once more dropped out of the picture. All we have left is an event standing in different temporal relations to different times, and this situation is captured by different tensed propositions being true at different

times. Relativizing the truth-values of these propositions to tensed times fails to resolve this problem. Bigelow might argue that the proposition ‘There is a production of Shakespeare’s *Othello* today’ is now true, while it was false yesterday and it will be false again tomorrow. But this response merely captures how things are now, and thus fails to make room for the passage of time. In order to do that, he must concede that it also is false, was true and will be false, and it also was false, will be true and will be false. Now Bigelow is in trouble, because all propositions, whether past, present or future tensed, turn out to be true *and* false, which is obviously unacceptable. The only way of ensuring that there is just one truth-value to a proposition, and thus of maintaining the distinction between past, present and future, is to relativize each proposition’s possession of a truth-value to a time, but this halts the flow of time. The presentist, it seems, faces the same paradox as any other tensed theorist when attempting to incorporate the two features of tense into his or her picture of temporal reality.

8. Conclusion

My investigation into the notion of tense has taken me around what seems, on the face of it, a remarkable variety of tensed theories of time. What I hope I have shown is that this apparent variety is merely specious. The notion of tense harbours an inherent contradiction no matter how it is described. It essentially involves two features: the distinction between past, present and future, and the passage of time, but they are irreducibly incompatible with each other. If time is tensed it must have both of these features, as it cannot have one without the other yet, I have argued, any attempt to incorporate both features into an account of temporal reality inevitably results in paradox. The paradox of tense that McTaggart first revealed is indeed all-pervasive. It follows that time is not intrinsically tensed, so if time exists, it is tenseless.

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¹ The argument first appeared in McTaggart, (1908). A fuller version appeared in McTaggart, (1927).

² This incompatibility also holds for finer distinctions of past, present and future. If an event is two days ago, then it cannot also be three days ago.

³ Philosophers who have held tensed theories of time such as this include Gale (1968), Smith (1993), and Markosian (1993).

⁴ As well as the general tensed properties of pastness, presentness and futurity, there are more specific tensed properties such as the property of being three weeks hence, or two days past. If an event possesses the property of being two days past, then presumably it also possesses the general property of being past. In order to simplify my discussion I will only refer to these more general properties, but my argument applies equally to the more specific tensed properties.

⁵ It might be objected that these sets won't be identical if there is a first or a last moment of time, since the first moment of time would never be future, and the last moment of time would never be past. However, my argument would still go through if this were the case, since the property of presentness would be co-extensive with the disjunctive property of 'being past or future'.

⁶ I am grateful to an anonymous referee for the GPS for bringing this objection to my attention.

⁷ This move in my argument is equivalent to McTaggart's iterative move in his original argument against the reality of time.

⁸ A philosopher who has defended this view is Schlesinger (1980, 1983).

⁹ For some arguments against this view see Smart (1949).

¹⁰ A variation on this view of tensed time has recently been propounded by Tooley (1997).

¹¹ This view has been defended by Prior (1970), Bigelow (1996), Hinchliff (1996), and Craig (1998).