Back to the Present

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I

In this paper I want to return to one of the issues raised by McTaggart's famous discussion of the unreality of time, that of the relationship between the A-series and the B-series, between tenses and tenseless times.[1] McTaggart's best-known discussion of this matter occurs in chapter XXXII of *The Nature of Existence* (vol. II)[2]. But he had also presented his position many years earlier in a paper of 1908 called 'The Unreality of Time'[3], and it is worth looking back to this earlier paper since it contains some arguments which do not recur in the later chapter.

McTaggart's main argument in both 'The Unreality of Time' and *The Nature of Existence* for the unreality of the A-series is of course that, on the one hand, the A-series 'characteristics'—past, present, future—are incompatible, in that no event can be past, present, and future; and yet, on the other hand, if the A-series is to capture the way in which events change tense, which McTaggart regards as an essential feature of time, every event has to have all of these characteristics. Since these demands imply that the A-series is inherently contradictory, it follows that it is unreal. The obvious response to this argument, which McTaggart anticipates, is that the representation of change of tense within the A-series requires only

[1] In a recent paper. 'A Bergsonian Approach to A- and B-Time', *Philosophy* **73** (1998), 379–93, C. Williams has challenged the distinction between the A-series and B-series. Williams argues, drawing on themes from Bergson, that there should be a way of experiencing the distinction if it is to be valid at all. But this is a misapprehension: the distinction is in the first instance one between events as ordered with respect to tenses and events as ordered by a tenseless system of dates. Like other distinctions between egocentric and impersonal ways of ordering things, the validity of this distinction does not depend on our capacity to experience it. For our ordinary thought employs both ways of ordering events, and there are plainly truths of both kinds; the important questions concern the relationships between them.

[2] J. M. E. McTaggart (ed. C. D. Broad) *The Nature of Existence*, vol. II (Cambridge University Press, 1927).

[3] J. M. E. McTaggart, 'The Unreality of Time', *Mind* **17** (1908), 457–74. This paper is reprinted in J. M. E. McTaggart (ed. S. V. Keeling) *Philosophical Studies* (London: Arnold, 1934), 110–31, and my page references are to this edition.

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that a present event *was* future, *is* present, and *will be* past, and that these are compatible characteristics. McTaggart's reply to this point is that it fails because it sets up a 'vicious infinite regress'.[4] For, he maintains, similar contradictions can be generated once we consider the more complicated tenses on which the response depends.

The argument up to this point is usually expressed by using 'P', 'N' & 'F' for 'past', 'present' & 'future'. Then McTaggart's initial claim is that, although 'Pe', 'Ne' and 'Fe' are incompatible, the way in which events change tense implies that each event is such that 'Pe & Ne & Fe' is true. The standard response to this is that change of tense does not have this implication; instead, all that is required is the truth of 'PFe & NNe & FPe', which is a consistent combination. The 'regress' argument is now that if tenses are iterated in this way to express change, it has to be allowed that other iterations are equally legitimate and some combinations of these, such as 'PPe & NNe & FFe', are just as incompatible as the original trio of 'Pe & Ne & Fe'. The A-series theorist's response to this is, of course, that change of tense in the A-series does not commit one to accepting the joint truth of these iterated tenses: the only commitment concerning the FF/NN/PP combination which arises from change in the A-series is to 'PFFe & NNNe & FPPe'; but that is again a consistent combination.

For those familiar with the literature, this territory will be all-too-familiar[5]. But we can begin to enter new territory by observing that McTaggart's critic is assuming that iteration of tenses makes a difference, in the sense that 'PFe' does not entail 'Fe' etc. So we can ask this theorist about the conception of tense which validates this assumption. The notation employed here ('Fe' etc.) suggests that tenses are being conceived as qualities of events; but this conception does not fit well with the assumption identified above. For it is not clear how to make sense of the thought that an event's having one of these qualities is itself an event that can possess another quality (e.g. that an event's being future is itself a further event that can possess the quality of being past); and even if we can make sense of this, it is difficult on this conception to fault the inference from 'PFe' to 'Fe'. For if the past is just a quality of an event, how can it

[4] Op. cit., note 3, 125.

[5] For a lucid exploration of this territory, sympathetic to McTaggart, see D. H. Mellor, *Real Time* (Cambridge University Press, 1981), 92–8. More recent debates include E. J. Lowe, 'The Indexical Fallacy in McTaggart's Proof of the Unreality of Time', *Mind* **96** (1987), 62–70, R. Le Poidevin and D. H. Mellor, 'Time Change, and the "Indexical Fallacy"', *Mind* **96** (1987), 534–8, and E. J. Lowe, 'Reply to Le Poidevin and Mellor', *Mind* **96** (1987), 539–42.

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be truly predicated of the event represented by 'Fe' unless that event really obtains? It might be replied that this last point is question-begging: all that is required is that the event represented by 'Fe' *used* to obtain. But given the conception of tenses as qualities of events this is not right: if tenses are just qualities of events, then one cannot insist that they are also ineliminable aspects of the predication of these qualities.

The A-series theorist, therefore, needs a better conception of tenses and it is here that the material from McTaggart's 1908 paper can first be put to use: McTaggart, having himself rejected the conception of tenses as qualities, furnishes his critic, the A-series theorist, with the alternative he needs—namely that tenses are 'relations'.[6] This is the thesis that attributions of tense have a more or less tacit relational structure such that an event is past, present, or future only relative to some other event;—i.e. the 'logical form' of 'e is past' is not well captured by the usual 'Pe' notation, but requires instead something of the form: 'P(e, e_1)', where e_1 is an event relative to which e is past. There is, however, an important further element to be introduced: tenses involve not just a temporal relation such as relative 'pastness' between events; it is also usually required that one term of the relation be the subject's present thought. For when one speaks of an event as past, it is being described as past relative to one's present thought. In the case of complex tenses, as when one says that the battle of Waterloo was once future, a more complex relational structure is involved, in which Waterloo is said to be future relative to an event which is itself past relative to one's present thought. Furthermore, although events that are present are temporally present only relative to one's present thought, the presence of this thought cannot be just the same temporal presence of the thought to itself, since all events are in this way 'temporally present' to themselves. Thus the A-series theorist has to acknowledge, alongside the general relational conception of tenses, a further conception of the presence of a thought to its thinker whereby that thought provides an anchor for the temporal relationships which involve other events.

Let us now see how an A-series theorist who employs these concepts can deal with McTaggart's famous argument. The first point

[6] Op. cit., note 3, 123. It is of course also possible to construe 'F', 'N' and 'P' as sentence operators, as within standard formulations of tense logic. It is not however my aim to discuss that approach—I wish to explore the alternative of a relational treatment of tense. There is in fact no necessary opposition between the two approaches since extensional semantic theories for tense logic typically employ in the metalanguage what is in effect a relational conception of tense.

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is that there should be no grounds for the unwanted inference from 'PFe' to 'Fe'. Where '#' is used to denote the subject's present thought, 'PFe' abbreviates

$(\exists e_1)(P(e_1, \#) \& F(e, e_1))$

and there is clearly no way one should expect to be able to infer from this to 'Fe', i.e.—

$F(e, \#)$

The point here is obvious once it is made explicit: on the relational conception of tenses, iterated tenses involve more than one point of reference and their full expression involves interlocking quantifiers and variables. Not surprisingly, then, when the relational structure of tenses is made explicit, McTaggart's 'regress' argument appears to be just a muddle. The incompatibility of simple past, present and future tenses is an incompatibility only with respect to a single point of temporal reference: one cannot have

$F(e, \#) \& N(e, \#) \& P(e, \#).$

But this is not worrying, since changes in tense involve different points of temporal reference. The changes implicit in the old 'PFe & NNe & FPe' combination are represented by the complex formula:

$(\exists e_1)(P(e_1, \#) \& F(e, e_1)) \& (\exists e_2)(N(e_2, \#) \& N(e, e_2) \&$
$(\exists e_3)(F(e_3, \#) \& P(e, e_3))$

which is unproblematic. And as long as one sticks to the principle that changes in tense always involve different points of temporal reference there is no intrinsic incompatibility or 'vicious infinite regress' arising from such changes.

It appears, then, that McTaggart's famous argument for the unreality of the A-series is undermined by his own thesis that tenses are relations. The alleged incompatibility arising from changes of tense is no more a problem than the fact that I am a child, a husband, and a father. Of course I am not child of, husband of, and father of, one and the same person: but it is only by gratuitously helping oneself to the comparable assumption concerning the points of reference for determining different tenses that one could suppose that past, present and future are intrinsically incompatible.

II

Yet despite the fact that the A-series theorist who employs McTaggart's own relational conception of tense can dissolve his

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regress argument, there remains a difficulty in dealing with changes in tense. For, as McTaggart also observes in his early paper,[7] the temporal relation involved in the situation of the battle of Hastings being *past* relative to the battle of Waterloo is just as immutable as that involved in the untensed B-series situation of the battle of Hastings being *earlier* than the battle of Waterloo. Indeed it is obvious that the relation involved is the same in both cases. But how then can we account for changes in tense, e. g. the fact that the battle of Waterloo was once future but is now past? Unless there is a way out here, the A-series theorist is in serious trouble. For the following three propositions, which together constitute what I shall henceforth call 'McTaggart's second contradiction' (in order to distinguish it from the original allegation that changes in tense are inherently contradictory), are straightforwardly inconsistent:

(1) tenses depend on temporal relationships between events;
(2) tenses change;
(3) temporal relationships between events do not change.

The response to the regress argument rested on the claim that changes in tense involve the adoption of different points of temporal reference: the battle of Waterloo is now past relative to my present thought, but was future relative to an event which is past relative to my present thought. Thus McTaggart's second contradiction must be similarly defused by introducing different points of temporal reference, drawing on the role of the subject's present thought ('#') as a term in tensed temporal relationships. There are then two hypotheses to explore: one can either suppose that '#' denotes a distinctive *type of event*, or that it is a distinctive *type of description of events*. Let us consider first the hypothesis that one's present thoughts are a distinctive type of event. On this hypothesis, the inconsistency is to be defused by distinguishing types of event, so that (1), (2) and (3) are to be reformulated as:

(1a) tenses depend on temporal relationships between events which include a present thought as a term;
(2) tenses change;
(3a) temporal relationships between events which do not include a present thought as a term do not change.

The inconsistency has certainly now disappeared, and the suggestion here is one that is reminiscent of McTaggart's own proposal that the difficulty inherent in the contradiction implied by (1)–(3) might be overcome by supposing that 'the relations which form the

[7] Op. cit., note 3, 123.

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A-series, then, must be relations of events ... to something not itself in the time-series'.[8] His idea seems to be that changes of tense depend on temporal relationships between ordinary events and something altogether radically different, which we can take to be the thinker's present thought. For we have seen that change of tense depends on the changing identity of the thinker's present thought. But the question here is whether the thinker's present thought really is 'something not itself in the time-series', i.e. something altogether different in type from the events related within the time-series.

The difficulty with this hypothesis is that were one's present thought to be described in tenseless terms, a judgment concerning its temporal relationship to some other event, also referred to in tenseless terms, would be true at all times, if true at all, contrary to the implication of (1a) and (2) that temporal relationships involving a present thought as a term are liable to change. Hence this hypothesis implies that present thoughts cannot be referred to in tenseless terms. It follows that even when I am thinking at midday on 1 January 2000 that the battle of Waterloo was in 1815 the description of my present thought as 'TB's thought at midday on January 1 2000 that the battle of Waterloo was in 1815' does not refer to it uniquely. Yet this is absurd; for all that the tenseless description does is to draw on a tensed truth as to what the time is—i.e. a judgment which gives the time of my present thought in the terms of some tenseless temporal metric, such as the period that has passed between it and the start of the Christian calendar. Since the measurement of this period can be indefinitely refined, it is absurd to think that one cannot thereby obtain a description of the time of the thought which suffices, in conjunction with a specification of the thought's thinker and content, for a uniquely referring description of it.

This objection assumes that the identity of temporal relationships involving a present thought as a term is not affected when that thought is identified by means of a tenseless description of it. But the 'slingshot' arguments suggest that the substitutivity of names and descriptions in cases of this kind is problematic, that if this kind of substitution is permitted there is a slippery slope which will impel us towards the conclusion that all temporal relationships are just aspects of the one and only 'Great Fact'.[9] Fortunately it is possible to sidestep these arguments by treating the role of a uniquely referring description such as 'TB's thought at midday on January 1

[8] Op. cit., note 3, 123.

[9] See D. Davidson, 'True to the Facts' in his *Inquiries into Truth and Interperetation* (Oxford: Clarendon Press, 1984), 42.

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2000 that the battle of Waterloo was in 1815' as simply one of 'fixing the reference', to use Kripke's phrase,[10] of a name for the thought, say 'T'. Thus understood, 'T' does not abbreviate this description, so whatever restrictions one wants to place on the substitutivity of descriptions for names in order to block the slingshot do not apply to 'T'. But 'T' is nonetheless a tenseless name of the thought, for its reference is fixed by a tenseless description of it. So where 'T' names my present thought, the resulting description of a temporal relationship between that thought and some other event is tenseless and is therefore not liable to change in the way implied by (1a) and (2). In which case the objection to this way of attempting to dissolve McTaggart's second contradiction still stands.

It seems, then, that we must adopt the alternative supposition, which was to differentiate between descriptions of events, rather than events themselves. On this hypothesis, (1), (2) and (3) need to be reformulated as

(1b) tenses depend on temporal relationships between events whose description includes reference as such to one's present thought;
(2) tenses change;
(3b) temporal relationships between events whose description does not include reference as such to one's present thought do not change.

Again, McTaggart's second contradiction is removed. Since there is here no reason why one's present thought should not also be described in tenseless terms, the objection to the previous hypothesis is avoided, though where the thought is so described, the temporal relationship is not a tense. Hence, according to this hypothesis, the issue of whether a temporal relationship constitutes a tense depends on the way the terms of the temporal relation are described, and not simply on the terms of these relations themselves. Tense characterises temporal relationships only 'under a description'.

This may appear trivial, for tense is obviously a feature of language; but the important point here is that facts which admit of a tensed description also admit of a tenseless description. There are no facts to whose identity it is essential that they be tensed. In this respect there is an important difference between facts and judgments. For tense is an essential feature of the identity of tensed judgments: the belief at midnight that it is now midnight is distinct from the belief that at midnight it is midnight. Where truths are conceived of as true actual or possible judgments, it follows that

[10] See S. Kripke, *Naming and Necessity* (Oxford: Blackwell, 1980), 57–8.

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tense is equally an essential feature of the identity of tensed truths. So if, like Frege,[11] one were to take facts to be truths so conceived, tense would be an essential feature of the identity of tensed facts. But the conception of facts relevant to this solution to McTaggart's second contradiction is non-Fregean and comprises those aspects of the world in virtue of which truths are true, i.e. situations, states, relationships etc. No substantive correspondence theory of truth is here presupposed or ruled out: facts can be just truth-conditions if one wants. But the claim is that facts, thus conceived, are unlike judgments and truths in that they are not essentially tensed.

III

I shall return in the next section to further issues concerning the structure of temporal facts, but it is necessary first to elucidate briefly the semantics of tensed judgments in the light of the relational account of tense I have proposed. This account relies on 'my present thought' as a distinctive description of the point of reference for tensed relationships. The role of this description reflects the fact that tensed judgments express from the thinker's own perspective the temporal relationship between events and the thinker's thought of them. Hence an account of the truth-conditions of these judgments must take into account the identity of the judgment itself; such an account must be, as it is said, 'token-reflexive'[12]—it must include a reference back to the token judgment which is the point of origin for the thinker's temporal perspective. Consider then the judgment 'It was raining', construed as 'Past (Rain, #)': its truth-conditions can be given by the following rule

(R1) (∀x)(if x is a token judgment of the type 'Past (Rain, #)', then x is true iff Past (Rain, x))

Because different tokens of the same (type) judgment are here assigned different truth-conditions, they are liable to have different truth-values, which is what talk of an event's 'changing tense' rests on. A variant of (R1) comes into play when 'It was raining' is construed instead as 'Past (Rain, now)', with times (whatever they are)

[11] See 'Thoughts' in G. Frege, *Logical Investigations*, trans P. Geach and R. Stoothof (Oxford: Blackwell, 1977), 25.

[12] The term comes from Reichenbach's discussion in his *Elements of Symbolic Logic* (New York: Macmillan, 1947), §50. A recent discussion is Mellor op. cit., note 5, chapter 2.

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included as terms of the relation of relative pastness. On a construal of this kind the judgment is still token-reflexive, since the temporal reference in a thinker's use of 'now' is fixed by the time of his thought, and the truth-conditions for judgments of this kind are therefore given by a rule which picks up the time of the token judgment in the truth-conditions for the judgment:

(R2) (∀x)(∀t)(if x is a token judgment at t of the type 'Past (Rain, now)', then x is true iff Past (Rain, t)).

When one turns to tenseless judgments none of this applies. These are not judgments in which thinkers express from the perspective of that very judgment their temporal relationship to the events described; so an account of their truth-conditions should not involve reference to the token judgment, i.e. will not be token-reflexive. Thus, whether 'A' is a tenseless name of some event or of some time the truth-conditions of judgments of the type 'Past (Rain, A)' will be given by:

(R3) (∀x)(if x is a token judgment of the type 'Past (Rain, A)', then x is true iff Past (Rain, A))

In each of (R1), (R2) and (R3) the truth-predicate is 'absolute'—i.e. relativised neither to thinker, time or judgment. But because the truth-conditions in (R3) do not include reference to the token judgment of which truth is predicated, these are judgments which are such that if one token is true, then all are—which is why when they are employed, the situation is characterised in a way which does not admit change.

Despite this crucial difference between (R1) and (R2), on the one hand, and (R3) on the other, it is important to recognize that (R1) has the following instance, where 'T' is a tenseless name:

(R1T) if T is a token judgment of the type 'Past (Rain, #)', then T is true iff Past (Rain, T)

For although the truth-conditions of a token tensed judgment are here given in tenseless terms, it does not follow that the judgment is being treated as if it were tenseless: a different token of the same type would be assigned different truth-conditions. (R1T) is not an instance of (R3). Not that there is any general requirement that truth-conditions be specified in tenseless terms; another instance of (R1) is:

(R1#) if # is a token judgment of the type 'Past (Rain, #)', then # is true iff Past (Rain, #)

The equal acceptability of (R1T) and (R1#) just follows from the

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point established earlier, that facts, and thus truth-conditions, admit of both tensed and tenseless descriptions.

IV

What needs attention now is the significance of this relational conception of tense for the issue of the 'reality' of the A-series.

As with all questions concerning 'realism', many different interpretations of this question are possible. Since McTaggart took it that the unreality of the A-series followed from the fact it is inherently contradictory, one might hold that once McTaggart's arguments to the effect that there is a contradiction in the A-series have been defused, the reality of tenses is vindicated. But this is to assume that reality requires no more than consistency, and this assumption, though characteristic of Absolute Idealists such as McTaggart, is not easily defensible and certainly does not exhaust the content of most philosophical debates concerning realism. A different interpretation would be that the reality of the A-series implies the reality of some distinctively tensed events, properties or relations in virtue of which A-type truths are true. But we have seen, in rejecting the first attempt ((1a)—(3a)) at defusing McTaggart's second contradiction, that it is a mistake to postulate 'present thoughts' as distinctive A-type events involved in the truth of tensed judgments. Instead, the facts in virtue of which A-type tensed judgments are true can also be described in tenseless terms. A related way in which the issue of the reality of the A-series has been approached is through the question of whether the truth-conditions of judgments involving tenses should be given in specifically tensed terms.[13] But, as we have seen in discussing the merits of (R1T) and (R1#) as instances of (R1), the general rules (R1) and (R2) are neutral on this matter. There is no reason to rule out either tensed or tenseless specifications of the truth-conditions of particular tensed judgments.

The main thesis of the previous section was that whether a temporal relationship is tensed depends on the way the terms of the temporal relation are described, and not simply on the identity of the terms themselves. This, then, provides a further way of thinking about the question of the reality of the A-series: for one might say that this position implies that temporal relationships are not tensed 'in themselves', and thus that tense is not 'real'. I am not

[13] See Mellor op. cit., note 5, chapter 8; G. Priest, 'Tense and Truth Conditions', *Analysis* **46** (1986), 162–6; D. H. Mellor, 'Tense's tenseless truth-conditions', *Analysis* **46** (1986), 167–72.

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myself enthusiastic about these idioms, but the important question to which this suggestion gives rise is whether these is any asymmetry here with the B-series, i.e. whether by this criterion tenselessness is any more real than tense.

The simple view of the matter is that it is not: i.e. that just as tensed facts are identified as such not just by the events and relations involved but by their mode of description, the same is also true of tenseless facts: their identification as such requires a distinctively tenseless mode of description. So temporal facts are no more tenseless 'in themselves' than they are tensed in themselves. According to this simple view of the matter, to ask whether these facts themselves are tensed or tenseless is as misguided as asking whether they are Latin or Greek. On this view, therefore, the A-series and the B-series are equally 'unreal', since neither characterises temporal relationships 'in themselves'.

This simple view assumes that for any tenseless truth there is a tensed description of its truth-condition, which is not immediately obvious if one considers a tenseless truth such as that the battle of Hastings is earlier than the battle of Waterloo. But in fact all one needs to do is to reverse the technique used earlier to provide tenseless descriptions of tensed facts by employing a temporal metric that measures time from the present to generate tensed descriptions (e.g. involving phrases such as 'tomorrow', '100 years ago' etc.) of one of the events in question. Thus, since the battle of Waterloo is the battle 183 years ago between the armies led by Napoleon and Wellington, the fact that the battle of Hastings is earlier than the battle of Waterloo can at present be given a tensed description as 'the fact that the battle of Hastings is earlier than the battle 183 years ago between the armies led by Napoleon and Wellington'. The use here of a tensed temporal metric ('183 years ago') requires more complex metrical relations than the simple relations of relative pastness discussed so far, but the additional complexity involved raises no new matters of principle. What matters is that, by employing these metrical tense relations, one can substantiate the assumption of the simple view that, for any tenseless truth, there is a tensed description of its truth-condition, of the fact in which it consists. It is not of course implied that the semantics for tenseless truths can be given directly in tensed terms: there is no challenge here to (R3). The claim is only that the events referred to in the account of the truth-conditions for tenseless truths generated by (R3) and similar rules quite generally admit of tensed descriptions, and that these give rise to a tensed description of the temporal relationship characterised by the account of the tenseless truth's truth-conditions.

The basic assumption of the simple view, that there is symmetry

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between tensed and tenseless descriptions of temporal facts, can therefore be substantiated. Yet there remains a stubborn intuition that there is an asymmetry between the A- and the B-series, that in some other sense temporal facts are 'in themselves' tenseless and tensed only under a description.[14] Is it possible to legitimate this intuition, and thereby show that the simple view is too simple? Since the 'tensed/tenseless' distinction applies in the first instance to thought and language, to judgments and truths, this alternative, discriminating, view must be one according to which the way in which tenseless truths are true makes it appropriate to regard the facts in virtue of which they are true as, in some sense, tenseless, whereas the analogous thesis is not true of tensed truths. So what is the relevant difference? The hypothesis I shall consider, expressed at first rather imprecisely, is that what makes the difference is that tenseless descriptions of events, such as 'the 1997 British General Election' are temporally rigid, whereas tensed descriptions, such as 'the recent British General Election', are not. This difference implies that tenseless truths which concern a particular fact always concern the same fact, whereas the same is not true for tensed truths; and the suggestion is then that this asymmetry shows why it is not arbitrary to regard the fact in virtue of which a tenseless truth is true as itself tenseless while denying that there is an analogous tensed fact in virtue of which a tensed truth is true. But more needs to be said to clarify and justify this discriminating hypothesis.

The first point to be clarified is the application of the 'rigid'/'non-rigid' distinction to debates which concern time rather than modality. The obvious first thought is that a temporally rigid designator is a designator which designates the same thing at all times if it designates anything at all, and that a temporally non-rigid designator is one which designates different things at different times. But this classification fails to bring out an important distinction between tensed descriptions such as 'the recent British General Election' and what I shall call 'non-temporal descriptions', such as 'the British General Election', which are not qualified at all with respect to time. These non-temporal descriptions are clearly also not rigid designators; furthermore their significance is affected by temporal modifiers within whose scope they fall: in utterances in 1998 of the sentence 'In 1945, the propaganda techniques used in the British General Election were unsuccessful' the phrase 'the British General election' is to be understood as describing the election in 1945. This is not the case with tensed descriptions: in utterances in 1998 of 'In 1945, the propaganda techniques used in the

[14] The stubborn intuition belongs to Josh Mozersky and I am indebted to him for insisting that I do justice to it.

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recent British General Election were unsuccessful' the phrase 'the recent British General Election' is to be understood as describing the election which took place shortly before 1998.

This difference of course reflects the token-reflexiveness of tenses; but it also implies that the rigid/non-rigid distinction needs further refinement. Tensed descriptions are non-rigid in the sense that on different occasions utterances of the same type-description are liable to designate different things; but, on a given occasion, they are rigid in that, if they designate anything at all, they always designate the thing which stands in the appropriate temporal relation to their utterance—e.g. the election which occurred shortly before it. Hence, unlike non-temporal descriptions, their significance is not affected by the presence of temporal modifiers within whose scope they fall: thus although one cannot sensibly say things such as 'Tomorrow, today will be yesterday', one can say 'Tomorrow, today will be called "yesterday"'. In order to abbreviate this point I shall say that tensed descriptions are temporally *rigid in context* but *non-rigid outside context*. There is therefore a three-fold distinction:

Tenseless descriptions ('the 1997 British General Election') are:
rigid both in context and outside context
Tensed descriptions ('the recent British General Election') are:
rigid in context but non-rigid outside context
Non-temporal descriptions ('the British General Election') are:
non-rigid both in context and outside context

In one respect this still oversimplifies. For although tensed descriptions are normally rigid in context, they sometimes occur as non-rigid in context. Thus we can say such things as 'Past mistakes were once present traumas' and even, to express change of tense, 'What was once future will be past'; but this usage is somewhat idiomatic and arguably just abbreviates the metalinguistic mention of the appropriate phrases—as in 'What was once rightly described as "future" will be rightly described as "past"'. But there is another kind of case which we shall encounter later for which it is unquestionable that the thesis that tensed descriptions are rigid in context requires qualification.

Although I have been concerned here with questions of temporal rigidity and non-rigidity, the same phenomenon applies in the modal case. For so-called rigidified descriptions such as 'the actual inventor of bifocals' are normally modally rigid in context, but non-rigid outside context, in that utterances in different possible worlds are liable to designate different people.[15] So, assuming a Kripkean

[15] But in some cases descriptions of this kind are not rigid in context. See D. Lewis 'Postscripts to "Anselm and Actuality"' in his *Philosophical Papers*, volume 1 (New York: Oxford University Press, 1983), 22.

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account of names,[16] there is modal analogue of the three-fold distinction set out above:

Names ('Benjamin Franklin') are:
rigid both in context and outside context
Rigidified descriptions ('the actual inventor of bifocals') are:
rigid in context but non-rigid outside context
Ordinary descriptions ('the inventor of bifocals') are:
non-rigid both in context and outside context

The modal non-rigidity outside context of rigidified descriptions is, however, of little practical significance to us; *we* cannot use such descriptions in other possible world where someone else invented bifocals. But the temporal non-rigidity outside context of tensed descriptions is of great practical importance, for the feature of the context relevant to their designation is the occasion of their utterance, and we can certainly utter the same (type) sentences on different occasions.

So far I have just been clarifying the sense in which tenseless descriptions are temporally rigid whereas tensed ones are non-rigid; the important point is that the latter are temporally non-rigid outside context, whereas the former are rigid even outside context. This difference confirms the earlier suggestion that whereas tenseless descriptions of a particular temporal fact always describe the same fact, tensed descriptions are inherently liable to describe different facts on different occasions of their use, and it is this latter difference which, according to the discriminating hypothesis, makes it legitimate to hold that there is a sense in which temporal facts are 'in themselves tenseless' and not equally 'in themselves tensed', despite the fact that, for any tenseless truth, there is a tensed description of the fact in which its truth consists.

What is the relevant sense here of the expressions 'in themselves tenseless' and 'in themselves tensed'? I shall take it that for a temporal relationship to be in itself tensed, its being tensed in whatever way it is at some time must be a property of the relationship that is not dependent on the fact that it is described or thought about in some way or other, just as my being in myself extended implies that my being whatever shape I am at some time is not dependent on the fact that I am described or thought about in some way. This implies that it must be possible to employ tensed language to describe temporal relationships without the identity of the relationship thus described being dependent upon facts which concern the occasion of its description. It is this implication which conflicts with the

[16] See S. Kripke, *Naming and Necessity* (Oxford: Blackwell, 1980), 48.

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temporal non-rigidity outside context, and rigidity only in context, of tensed descriptions. For the non-rigidity outside context implies that, on different occasions, different tokens of the same type-description (e.g. 'the recent British General Election') designate different events, so that temporal relationships which are purportedly described by the use of tensed descriptions (e.g. 'Margaret Thatcher was Prime Minister until the recent British General Election') are not uniquely identified without further specification of a context. Although the rigidity in context of tensed descriptions implies that, given a context of utterance, sentences employing tensed descriptions to describe temporal relationships do have unique truth-conditions, as specified by (R1), (R2) and further variants of them, since a context is inescapably a context of utterance or thought, the need to introduce it in order to secure uniqueness undermines the requirement that the temporal relationship be tensed in itself.

One might then infer that, since temporal facts are not in this way tensed in themselves, then they must be tenseless in themselves. But this is too quick: after all, on the simple view, temporal facts are neither tensed in themselves nor tenseless in themselves, since they can be described either way. Hence if one is to vindicate the discriminating thesis that there is a sense in which they are tenseless in themselves it must be shown that their having whatever tenseless character they have is not dependent on the fact that they are described or thought about in some way or other. As before, this implies that it must be possible, in describing particular temporal relationships, to employ tenseless language without finding that the precise identity of the relationship thus described is dependent upon facts which, because they concern the occasion of its description are dependent upon the fact that it is being described. Since tenseless descriptions are rigid both in context and outside context, they do meet this condition. There are tenseless descriptions of temporal relationships which identify that relationship without the need to invoke any reference to a context of utterance (e.g. 'The battle of Hastings is earlier than the battle of Waterloo'). These descriptions imply, therefore, that the temporal relationships in which their truth consists have a tenseless character which is not dependent upon the manner or fact of their description. So they are tenseless in themselves.

I conclude, therefore, that the discriminating view that there is a significant asymmetry between the A-series and the B-series can be sustained. There is a sense in which temporal facts can be said to be in themselves tenseless in which they are not in themselves tensed despite the truth of the point which underlies the simple view of the

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matter, that temporal facts quite generally admit of both tensed and tenseless descriptions. I am not enthusiastic about summarising this conclusion as one to the effect that tense, or the A-series, is unreal in a way in which the B-series is real, for there is nothing second-rate about the status of tensed truths. But there is an implied metaphysical conception of change, time and identity which perhaps makes this idiom appropriate. According to this conception the fact that temporal facts are in themselves tenseless confirms McTaggart's thesis that temporal relations between events do not change. The appearance of changes in temporal relationships to which changes in the truth-value of tensed descriptions give rise is to be explained by the fact that tensed descriptions of events describe different events on different occasions (this is the temporal non-rigidity outside context of tensed descriptions). So the phenomenon of change of tense is not a change in the temporal relationships between events which are in themselves tensed; for there are no such events. Instead it is just a change in the identity of the events described by tensed descriptions.[17]

V

This relational account of tense implies that tensed judgments are grounded on the presence of thoughts to their thinkers, where this presence is not temporal presence, i.e. the trivial simultaneity of a thought with itself, but self-consciousness, the awareness by a thinker of the thought that he is then having. Because this self-referential consciousness fixes a point of reference for tensed temporal relationships it is not itself in the first instance temporally qualified. But the trivial simultaneity of a thought with itself —'N(T, T)'— warrants the transition from the non-trivial identity which is the content of self-consciousness 'T is the thought which I am conscious of having'—i.e. '(T=#)'—to 'T is the thought which I am conscious of having now'—i.e. 'N(T, #)'. So self-consciousness appears to us as temporal.

There are two reasons for unease concerning this approach which must now be addressed. The first is that this account of tensed thought demands too much; surely, it may be said, young children and perhaps higher mammals are capable of tensed thought, but they need not be conscious of their own thoughts. I will argue later

[17] It will be obvious that my discussion of the alleged 'unreality of tense' is much indebted to Mellor's presentation of this thesis in *Real Time* chapter 6 (op. cit., note 5). But my version of the thesis and arguments for it are not the same as his.

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that the capacity for tensed thought is indeed a fundamental one, so this point is serious: if the requirements for tensed thought are set too high, then such simple souls will be wrongly deemed not to be thinkers at all. One way to develop this objection is to say that the use of tensed judgments does not require reference as such by thinkers to their present thought; instead it is the role of 'now'-thoughts that is crucial, and one can have these thoughts without conceptualising them as thoughts concerning what is happening 'at present', i. e. at the time of one's present thought. Yet, as (R2) indicates, 'now' is token-reflexive: so a thinker whose use of tenses satisfies (R2) must somehow be sensitive to the fact that the time relevant to the truth-evaluation of 'now'-thoughts is the time of that thought itself. The thinker must be in some way aware of the thought, even if it is not explicitly conceptualised as his own present thought. Hence the way to deal with this objection is to distinguish between explicit and implicit self-consciousness. 'Now'-thoughts, and thus the tensed judgments of small children, higher animals, and indeed many of us much of the time, do not require the form of explicit self-consciousness which involves reference as such by thinkers to their thoughts: it is possible to conceptualise the events we are thinking of as past, present or future without spelling this out in terms of their temporal relationship to our present thought. Nonetheless this ability demands that the thinker register at some level of implicit or tacit self-consciousness the temporal relationship between its current thought and the events represented in that thought; for the ability to evaluate tensed judgments that are inherently token-reflexive requires an ability to keep track of this temporal relationship.

The other challenge to this account of tense arises from the role of tenses in specifying the content of propositional attitudes. The classic case here is that of C. D. Broad (and, following him, Prior) whose challenge concerns the content of one's feeling of relief when a pain ceases, as when one says 'Thank goodness that's over!' thereby expressing one's relief that one's pain is over.[18] For in this case a straightforward application of the rule (R1) to

I am relieved that ~N(my pain, #)

or rather, taking into account the present tense of my relief,

[18] The example comes from C. D. Broad An examination of McTaggart's *Philosophy*, vol. II (Cambridge University Press, 1938), 267. I think A. N. Prior must have forgotten the existence of Broad's discussion when, without any reference to Broad, he used the very same example for the title of his famous paper 'Thank Goodness That's Over', *Philosophy* **34** (1959), 12–17. The similarity is too close to be accidental.

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N(my relief that ~N(my pain, #), #)

will imply that the first occurrence here of '#' is just an indication of the occurrence in the thought of a term whose reference happens to be this very thought, as if the situation were simply one in which one is relieved that one's pain ceased before a certain event, namely, as a matter of fact, one's present feeling of relief. Yet this seems wrong: for it seems essential to one's present feeling of relief that it is relief that the pain has ceased shortly before this very feeling of relief.

What this case shows is that the principle that tensed descriptions are rigid in context needs to be qualified when a tensed description occurs within indirect speech. For in these contexts the characteristic tense indexicals, 'my present thought', 'now' and cognate terms such as 'over', may also function as reflexive terms whose value is given as thought of by reference to the thinker's own thought or its time. In these cases the role of these indexicals is therefore comparable to the role of 'he' in sentences such as 'John thinks that he is ill', which Castañeda identified as distinctively reflexive and held to be a term that has to be understood as referring back to the subject of the thought as such.[19] Castañeda marked this distinctively reflexive role of 'he' by 'starring' it—to form 'he*'—and one can similarly 'star' the occurrence of tense indexicals in indirect contexts in order to show that they are to be understood as reflexive terms that refer back to the thinker's thought or its time as such. So when I think 'Thank goodness that's over' my present relief will be described by

N(my relief that ~N(my* pain, #*) #)

where the second star shows that I am relieved that the pain I have been having has ceased before this self-same feeling.

In these reflexive cases, therefore, the presence of thoughts to a thinker is not just a matter of securing a point of reference for tensed temporal judgments. The self-consciousness of thoughts to their thinker which is normally only implicit becomes explicit as reference to them enters into their own content.

VI

An account of tenses in terms of temporal relationships makes it easy to see how B-series concepts might have evolved out of A-

[19] See H.-N. Castañeda, '"He": A Study in the Logic of Self-Consciousness', *Ratio* **8** (1966), 130–57.

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series ones. For if the A-series concepts already have a relational structure, then the explicit evolution of the B-series concepts requires no more than the recognition that these temporal relationships can obtain in the absence of the reference to the present thought or time that is characteristic of tenses. The context within which this development will surely have evolved is that of the establishment of a record of the past: for we want to know, not simply what is past relative to our own present, but what events are past relative to others—i. e. the tenseless temporal order of these events.

This account of the evolution of the B-series concepts assumes the psychological priority of tense over explicit use of the tenseless B-series concepts. This priority is intuitively plausible, and it suggests a stronger epistemological thesis—that a grasp of the tenseless temporal order as such requires the ability to insert oneself into that order as a thinker with a tensed temporal perspective. Although this sounds right, there is nothing incoherent in the attitude of a geologist concerned with the dating of ancient rocks for whom questions of human time, of fitting a human point of view into the timescale of his subject matter, are simply irrelevant. So one can ask whether a hypothetical geologist who lacks the concept of tense is thereby barred from his geological research. If one concentrates only on the geological subject-matter, it is not easy to see why: the B-series temporal relationships are connected to causal, spatial, and other relationships which, on the face of it, do not involve judgments involving tense; so it looks as though these relationships, and their connections with time, should be available to the hypothetical geologist.

If there is an argument here, it will have to operate at a more abstract level, by undermining the supposition that the hypothetical geologist who lacks the concept of tense is a thinker at all. What, then, is wrong with this supposition? A familiar point, made famous by Perry,[20] is that he cannot be a rational agent. For rational action requires beliefs and desires which provide the agent with reasons for doing something now or in the future, and such beliefs and desires are not available to the tenseless thinker: wanting to get a gift for my wife on her birthday does not give me a reason for doing anything if I have no beliefs about when her birthday is—i.e. its place in my A-series. One only needs to add to Perry's point a pragmatist conception of thought as a guide to life to draw the conclusion that the tenseless thinker, by being precluded from rational action, is also precluded from thought itself. I do not object to this line of argument. But it is a bit abrupt, and there is, I think, a better way of reaching the same conclusion: since the tenseless thinker is preclud-

[20] J. Perry, 'The Problem of the essential indexical', *Noûs* **13** (1979), 3–21.

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ed from rational action, he is, *ipso facto*, precluded from mental action; but thoughts are mental actions—so the tenseless thinker cannot think. By itself this line of argument is still too simple to convince fully. But it can be filled out by considering, respectively, empiricist and rationalist conceptions of thought.

For empiricists, the contents of thought are dependent upon methods of empirical inquiry. For mastery of a concept is said to depend on practical knowledge of its verification-conditions, and this practical knowledge involves empirical inquiries. Empirical inquiry, however, is not available to the tenseless thinker: it is a paradigmatic type of rational action, requiring beliefs about one's present situation as such in order to rationalise the investigative actions whose outcome is to provide answers to questions about the world. Things are not significantly better in the rationalist camp. Here the main issue concerns inference—another mental act. Although it may appear that the tenseless thinker can perform inferences concerning tenseless contents readily enough in, say, mathematics, he cannot rationalise these inferences in the form of explicit arguments with premises that record propositions he recognises that he currently believes and the conclusion as a proposition which he recognises that he should now believe. Thus although the tenseless thinker's thoughts can unreflectively follow patterns of valid inference, the thinker, being debarred from a rationalisation of them which exhibits them as inferences carried out because they were permitted, cannot give any sense to the inferential turnstile, to 'therefore'; in which case the changes in his thoughts are no more inferences, or reasonings, than his bodily movements are rational actions.

VII

The fatal defects of the condition of the hypothetical subject who lacks the concept of tense should now be clear. Such a subject cannot be a thinker at all. It follows that tense really does have an absolutely fundamental role in our 'conceptual scheme', and thus that the ability to give a tensed temporal order to one's experience of the world is presupposed by, among other things, a grasp of the impersonal, tenseless, temporal order of the world as such. Since tensed thought rests on the thinker's self-conscious awareness, explicit or implicit, of his own thoughts, this gives a larger role to self-consciousness in the constitution of an objective understanding of the world than is commonly acknowledged, though of course Kant held just this view for somewhat similar reasons.

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This conclusion balances that reached earlier: where the investigation into the metaphysics of time gave one kind of priority to the B-series, by leading to the conclusion that there is a sense in which temporal facts are in themselves tenseless, and not tensed, these epistemological considerations reverse the A/B priority: for they show that the ability to conceptualise temporal relationships as a tenseless B-series depends upon the ability to employ tensed A-series judgments properly. So whereas at the level of facts it is the B-series that has priority, at the level of judgment the A-series comes first.

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