HEREAFTER, IN A LATER WORLD THAN THIS?

Peter J. King

ABSTRACT

When making use of possible-worlds talk, even those who consider it to be no more than a heuristic device must be careful to treat possible worlds as if they were real; not to do so is to risk making use, not of possible worlds at all, but of some other, vague, and potentially misleading notion. I argue that transworld temporality is one danger area of this kind, and try to bring this out by examining John Bigelow’s use of possible worlds to defend the reality of time against McTaggarian arguments. I conclude that Bigelow’s defence fails because of his appeal to temporal relations between possible worlds.

The framework of possible worlds has become one of the most useful tools available to philosophers — including those who allow them no ontological status, only a heuristic rôle. Even such a sceptical user, however, must be careful when using the language of possible worlds; even the staunchest modal anti-realist must treat worlds as though they were real. As a heuristic device, possible worlds only function if one treats them as genuine worlds, distinguished from ours in certain ways. If they’re not treated seriously, with due care and attention, then there is a danger that one won’t be using the notion of possible worlds at all, but some other, ill-defined notion. One area of frequent misuse concerns the rôle of time, and it is with this that I shall be concerned here.

Transworld Temporality

Many philosophers have been guilty of talking as if possible worlds were temporally related to each other. For example, in a discussion of the counterfactual analysis of causation Jonathan Bennett makes such an assumption, at one point writing:

If event e occurs at world W at a certain time, and e* occurs at W* at the same time, it may well be that each has the other as a counterpart. ([1], p.384; my italics)

Of course, not all references to times at worlds involve this error. Peter van Inwagen, for example, discussing the issue of genuine contra-causal free will, writes:

there are possible worlds in which things were absolutely identical in every respect with the way they are in the actual world up to the moment at which [a thief decides not to steal...] and in which he takes the money. ([4], p.128)

Quantum-theoretical, branching worlds would of course be temporally related to each other; however, such worlds would not be merely possible in the sense needed for a philosophical account of modality. I shall discuss branching possibilities later in this paper.
Here there is no commitment to the notion that an event at one world occurs at the same time as an event at another, only a reference to comparable temporal series of events at different worlds (I shall have more to say later about this sort of innocent talk of worlds and times).

Now even in cases such as that of Bennett, the sin is generally venial; it leads to no serious philosophical errors, and what the writers are saying could often still be expressed in possible-worlds terms without the offending notion (as in the van Inwagen example). The possible-worlds enthusiast clicks the tongue in mild annoyance and passes on. Occasionally, however, the issue of transworld temporality is at the heart of things, as for example in a discussion of temporal relations between possible worlds. His approach depends upon there being ‘a series of worlds, each containing the same thing, and differing only in which of those things are past, which are present, and which are future.’ ([(3), p.11]) He represents such worlds by sequences of letters, thus:

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abcdefghijkLmnopqrstuvwxyz
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Capitals represent present events, boldface past events, and italics future events. Thus, at the first world, event 1 is in the future, at the second world it is in the present, while at the third world it is in the past. The details of Bigelow’s use of this schema don’t concern me here, though it will be useful to offer one other example of the way he talks about worlds in terms of inter-temporality:

I will assume [...] that if a thing a is present in world w, then there is a world in w’s past for which a is future, and there is a world in w’s future for which a is past. ([3], p.13)

Here we see explicit talk of worlds and their contents existing in each other’s past and future. Now, I have argued in [5] that it is not possible to use spatiotemporal isolation as a criterion for the distinctness of possible worlds (because it is possible for there to be two or more spatially distinct spatial regions or two or more temporally distinct temporal regions of a single world). Nevertheless, although it is not a sufficient condition on possible worlds that they be spatiotemporally isolated, it must remain a necessary condition; anything, any event that is related to me either in space or in time is not a mere possibility, but is actual, is part of my world.

This might seem odd, especially with regard to time, for don’t we talk about possibilities in our pasts and futures? When I say, for example, that England might win the Ashes next time, I’m surely talking about a possible event in the future, so if I’m to capture that in possible-worlds talk, I shall have to talk about worlds at which England win the Ashes in the future. If possible worlds aren’t temporally related to each other, then so much the worse for possible worlds — they clearly aren’t up to the job.

The example from van Inwagen, which I quoted above, indicates the direction of my response: possibilities are not temporally related to us, though they can relate to, or refer to, our past, present, and future. At the moment, for example, talk of England winning the Ashes concerns the future; after the event, that same possibility will concern the past. That is, the possibility is not now in the future — it is not a future possibility — it is about the future. In possible-worlds terms, whether I raise the possibility of England winning the Ashes before or after the event, I’m referring to the same possible world, not to one world at which the Ashes series is in the past and to another at which it’s in the future.

Bigelow, however, is concerned with a slightly different sort of claim: ‘What is actually present could have been future and could have been past.’ ([(3), p.9]) Assuming for the sake of argument that these are genuine possibilities, do such claims demand temporal relations between possible worlds? No; if e is a present event in our world, then the possibility that it have been a future event can be analysed as follows: in the actual world, e occurs at the same time as events f, g, h, ... n, and there is a possible world in which e’s counterpart, e’, occurs later than f, g’, h’, ... n’ (and the same, mutatis mutandis, for the possibility that e have been past). Those who favour transworld identity can omit the term ‘counterpart’, etc.

In fact Bigelow would reject this analysis, because it depends upon presentness being defined relative to other events; he argues that one can define e’s property of being present as intrinsic to the pair, e and a frame of reference:

Within a frame of reference, some things are present and others are not, and their possession of this property of presentness relative to the frame of reference need not be construed as simply their being simultaneous with some contextually supplied further entity. ([3], p.8)

I have something of a problem with this, in so far as I have no idea how to make sense of it. However, I think that my alternative approach can be applied to it: present event e could have been future in that, in the actual world, e is present relative to frame of reference F, and there is a possible world in which e’ is future relative to F’.

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1In fact, of course, I’m referring to the set of those possible worlds that include the situation with which I’m concerned (England’s winning the Ashes), and which are close enough to the actual world to be of interest to me.
possible histories that such worlds represent. To refer to this sort of position as a branching-world model would therefore be misleading.

Might it be argued, on the other hand, that it’s the world itself which does the branching, each branch representing a different possibility? In other words, different worlds would share an initial segment (‘overlapping worlds’ as David Lewis calls them in [8]). I find such a view unintuitive, to say the least. First, it means that we have multiple futures, each having the same status; the many different possible outcomes of the next Boat Race, for example, are all equally part of the future, so that wondering which of them will occur is pointless — they all will. Thus, as Lewis concludes: “Branching, and the limited overlap it requires, are to be rejected as making nonsense of the way we take ourselves to be related to our futures” (Lewis [8], p.208).

Secondly, on a branching-world model, how are we to distinguish between the possibility that the Everett interpretation of quantum theory, with its branching world, is correct, and the possibility that it isn’t? Indeed, how are we to distinguish between Everett-branches and merely possible branches? As I argued above, spatiotemporal (and causal) isolation is a necessary (though not a sufficient) condition for something to be another possible world rather than a part of our world. Everett-branches don’t meet this criterion, so are part of our world, but no branching worlds could meet the criterion; if England do win the Ashes, for example, the possibility that Australia win them is still in my future, is spatiotemporally and causally related to the present, and spatiotemporally related to all the other possible outcomes.

Indistinguishable Worlds

Bigelow’s diagram of the three worlds is curious in another respect; it suggests that the worlds represented are identical except for their temporal relationships with each other. That is, his diagram should look something like this:

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\begin{align*}
  w_1 & : \text{abcdefgijklmnopqrstuvwxyz} \\
  w_2 & : \text{abcdefgijklmnopqrstuvwxyz} \\
  w_3 & : \text{abcdefgijklmnopqrstuvwxyz}
\end{align*}
\]

If our world is \(w_1\), and event \(m\) is in our present, we can on this picture say that \(m\) is in the past at \(w_1\), and in the future at \(w_3\). But, as I’ve argued, nowhere in the picture (or out of it) is there an extra-worldly or meta-worldly scale against which the three worlds’ temporal relationship is measured. Without such a scale, we’re left with three identical worlds — and even if Bigelow is happy with the notion of distinct but indistinguishable worlds (as I am not), they surely can’t do the job that he requires of them.

In the Leibniz-Clarke debate over the notion of absolute time, Leibniz makes substantially the same point, complaining also that the existence of such indistinguishable possible worlds would offend against his Principle of Sufficient Reason — what reason could god have for choosing to actualise one rather than another? (See [7] L.III.5–6.)

Conclusions

I’ve argued that Bigelow is wrong to talk of possible worlds as being temporally related — but does it matter? After all, I’ve already admitted that such talk can be harmless, being easily recastable in acceptable terms. Well so it can, but not in cases like this. Bigelow’s concern is to counter McTaggart’s argument that time is unreal; he calls upon possible worlds in an attempt to show that McTaggart’s B-series (the earlier/later series) can be defined in terms of the A-series (the past/present/future series). However, unless possible worlds are temporally related, both the A-series and the B-series make sense only at worlds; they cannot be applied over worlds. There can, therefore, be no definition of the B-series in terms of the A-series, and McTaggart’s argument remains to be refuted. (My own view is that taking possible worlds seriously leads one to accept McTaggart’s position, but arguing for that would go well beyond the aims that I’ve set myself here.) Bigelow’s arguments fail because he has fallen into the trap of using possible-worlds talk without taking sufficient care to treat possible worlds genuinely as worlds.

Of course, Bigelow isn’t a modal realist, but a combinatorialist; he analyses possible worlds in terms of combinations of orderings of individuals, properties, and relations (see, for example, [2]), so am I fair to demand that he take into account the sort of Lewisian realist talk about possible worlds upon which I seem to have been relying? Well, it’s difficult to see how Bigelow’s combinatorialist position can make any more room than modal realism can for the notion of worlds distinguishable only (or even primarily) by their temporal relationships to each other. Indeed, whatever ontological theory of possible worlds one adopts, two of the constraints upon it must be: first, that when we’re using, rather than analysing, possible-worlds language, we talk about possible worlds as if they were genuinely worlds, and secondly, that such talk make sense of our normal modal intuitions, as far as possible. (There is some leeway with regard to the latter constraint, if only because one of the benefits of possible worlds is that they can help us to spot inconsistencies and confusions in our modal intuitions.)

The same goes even for the user of possible-worlds language who acknowledges no ontologcal commitment, regarding such language as no more than a useful device for talking and thinking more clearly about possibility and necessity. We need only ask such a person if she considers it possible that our space-time be shifted a minute forwards or backwards; unless she has some notion of a greater space-time against which ours can be measured, then the notion makes no sense — and neither, I submit, does Bigelow’s notion of relatively temporally shifted worlds.\(^1\)

Brasenose College
Oxford OX1 4AJ

Peter J. King

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References


