

Time, Tense, and Causation

by Michael Tooley

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Most philosophers of time buy one of two metaphysical and semantic package deals. On one, our temporal language is tensed because time is tensed, i.e. everything in time flows from future to present to past. Simple statements of fact are statements of present fact, of what is the case now. Statements of non-present fact, if true at all, have truthmakers, and hence meanings, which include the pastness or futurity of whatever they are about. This is the traditional tensed view of time and its semantics. On the rival, tenseless, view, nothing flows in time, since nothing is in reality ever future, present or past; and statements of temporal fact need not be tensed, i.e. need not imply that what they are about is future, or present, or past. Of course statements *can* be tensed; but when one is, as when I say that I am typing *now*, what makes this true is not the tensed fact that my typing is present but the tenseless fact that I am typing as I speak. All truthmakers are tenseless, and the meanings even of tensed statements, while they differ from those of tenseless ones, can all be stated in tenseless terms.

Michael Tooley's book argues forcefully and in detail that the dispute between promoters of these two package deals rests on a false dichotomy. On the one hand he shares the tenseless view that all 'states of affairs' (his truthmakers) are tenseless; so that, as he puts it, tensed facts supervene logically on tenseless ones, not the other way round. On the other hand he thinks the world is 'dynamic rather than static' because the number of actual facts increases over time. Thus by defining present facts as the *latest* facts he can, while admitting only tenseless states of affairs, accept the common tensed view that to become present is to come into existence.

This is at first sight an attractive combination of the best features of tensed and tenseless views of time. But Tooley has other reasons also for adopting it. The main one is the close link between causation and time defended in his 1987 book *Causation: A Realist Approach*. There he argues that the direction of time (the difference between being earlier than something and being later than it) not only depends on the direction of causation (the difference between causing something and being caused by it) but can be defined by it. To this he now adds the claim that the key properties of causation, as a relation between events, can only be satisfied in a dynamic world. In particular, he thinks that the asymmetry of causation, as he defines it, requires 'an ontological asymmetry' between cause and effect which can only obtain in his kind of dynamic world, i.e. one where the past and present exist but the future does not.

There are however less appealing aspects of Tooley's theory, and among his many virtues is his scrupulous exposition and careful defence of these. The most important of them is his theory's need to distinguish the states of affairs that will eventually exist from those that exist 'as of a time', namely those which are no later than that time. With this distinction

goes that between propositions being true or false 'at a time' and their being true or false '*simpliciter*'. Tooley needs both kinds of truth, whereas his rivals need only one each: tensed theorists who think that only the present (and perhaps the past) exist only need his 'truth at a time', while orthodox tenseless theorists only need his 'truth *simpliciter*'. Tooley's need to have states of affairs coming to exist also requires him to hold, while accepting most of the special theory of relativity, that 'events in our world do stand in relations of absolute simultaneity'. This he argues can be so provided spacetime is absolute, i.e. is not 'reducible to spatiotemporal relations between events', and the special theory is, among other things, weakened to require light only to have an invariant average round-trip speed, not an invariant one-way speed.

These consequences, however unorthodox, must of course be taken as part of Tooley's whole theory. Provided they entail no contradiction, we should not reject them just because we can think of intuitively plausible counter-examples: we must resist the common but pernicious practice of, as a colleague once put it, 'wallowing in a featherbed of intuitions'. Nor should we dismiss Tooley's proposed modification to the special theory of relativity because he argues for it on metaphysical rather than physical grounds. Too many philosophers still connive with the self-serving positivism that makes most physicists deny any metaphysical constraints on physical theory, and Tooley's robust rejection of that sycophantic attitude toward physics is very welcome.

The real question is whether, taken as a whole, Tooley's is a better package deal than those of his rivals: does it provide a better account of the metaphysics and semantics of time? As one of his rivals, I naturally think it does not, although that is not just prejudice: a recently completed revision of my own theory included a lengthy study of an earlier draft of this book. But although it contains much that I agree with – its denial of tensed states of affairs, its use of causation to give time a direction – I remain unpersuaded of its key theses. While I cannot argue against them in detail here, I can at least sketch the main reasons for my disagreement.

First, while I fully endorse Tooley's contention that any theory of time, and especially of time's direction, must explain its link with causation, I deny that doing so entails accepting his dynamic world. That there is an ontological asymmetry between causes and affect is true: causes make their effects exist, but not vice versa. But for this asymmetry Tooley's dynamic world is neither sufficient nor necessary. Suppose for example that a fact C causes a later fact E. Then what Tooley's flow of time does, regardless of causation, is bring *either* E or \sim E into existence. (By this I simply mean that either E comes to exist or it does not.) What C does, if the causation here is deterministic, is ensure that it is E rather than \sim E which comes to exist. Thus the ontological asymmetry of causation lies not in the flow of time but in the fact that any world with truthmakers for the causal counterfactuals 'if C then (certainly) E' and 'if \sim C then (certainly) \sim E' will lack them for the counterfactuals 'if E then C' and 'if \sim E then \sim C'. Why this should be so is one of several points at which Tooley and I disagree about causation; without arguing my corner in detail, all I can do here is assert that this asymmetry

does not, as Tooley claims, require effects to come into existence. I therefore do not accept his main reason for holding that anything does.

I also disagree with Tooley's claim that his dynamic world is immune to McTaggart's arguments against such worlds. What after all does it mean to say that a tenseless state of affairs S – e.g. that a particular event e occurs, at a tenseless time t_e – exists at one time t and not at another? For Tooley it cannot mean that t is e 's (and hence S 's) temporal location t_e , since for him e and S exist at all $t \geq t_e$. What then *can* he mean by ' e exists at t '? He cannot mean that, at t , e exists *now*, or *in the past*, since these are tensed locations in which he does not believe. Nor can existence be for him an intrinsic property, like an object's shape, which e can have at some times and lack at others. For to have an intrinsic property at any time, an object must at least be located at that time. But then e 's existing at times t *later* than t_e cannot be such a property, since e is not *at* those later times to have that property.

Nor can existence be the sort of property, like being famous, which e can have or lack before or after t_e . For these are not really properties of – in the sense of constituents of truthmaking states of affairs containing – the entities we ascribe them to. What makes ' e is famous at t ' true for any t is, roughly, that many people at t think about e , and these are states of affairs which contain those people, but not e . This is what enables e to be famous without ever existing, like Sherlock Holmes's move into 221b Baker Street. But existence is not like this: states of affairs containing entities other than e and t will not make ' e exists at t ' true if states of affairs containing e and t do not.

Yet how can states of affairs containing t affect the truth value of ' e exists at t ' if, as we have agreed, this does not mean that t is e 's temporal location? If it did mean that, it would be like ' e exists at s ', which is true just when s is e 's spatial location s_e ; and if it does not, then t is no more relevant to e 's existence than s is. The *only* relevant existential proposition here is the temporally unqualified ' e exists', whose truthmaker is simply e itself. So if, as Tooley says, e both exists (at and after t_e) and does not exist (before t_e), then – McTaggart would say – ' e exists' must be both true and false, which is a contradiction.

To this of course the initial riposte is as obvious as that to McTaggart's argument against tensed states of affairs. Here the riposte is that Tooley's tenseless ' e exists' is not both true and false at the same time. It is true at and after t_e , when e exists, and false before t_e , when e does not exist, and there is no contradiction in that.

To see the reply to this riposte we must ask what gives tokens of a tenseless ' e exists' their truth values. Suppose that just before t_e I say ' e exists', meaning this tenselessly, and call this token of that proposition a . Then if what makes this proposition and its tokens true is e itself, a must change its truth value from false to true at t_e , when e comes into existence.

But once we distinguish propositions from their tokens, we can see that this must be wrong, even on Tooley's theory. For as the truth value of any token x of any proposition ' P ' must be the truth value ' P ' has for whomever produces x when and where they do so, to say *before* e that e exists, when it does not, is to produce a token of ' e exists' which is not, and never will

be, true.

Or is it? The arguments which I take to show that *a* cannot *become* true do not show that it *is* not true. On the contrary. For what *a*, like all tokens of ‘*e* exists’, says, with no temporal qualification, is that *e* exists. But then the fact that *e* *does* exist, at some time or other, must suffice to make the tenseless proposition that says so true at all times. And this in turn makes *a* and all other tokens of ‘*e* exists’ true, whatever their temporal location. But this means that it is a fact at all times that *e* exists, and similarly for all other events and the tenseless states of affairs which contain them: their number never changes. The universe may be expanding in the sense of being larger at later times than it is at earlier times; but it is not, as Tooley claims, growing by the continual coming into existence of tenseless states of affairs. Which is not to deny that all those who follow Tooley’s formidable and largely original arguments, whether or not they agree with them, will grow greatly in their understanding of time. On the contrary, no one can now hope to make a serious contribution to the philosophy of time who has not first read, marked, learned and inwardly digested the contents of this splendid book.

D. H. Mellor

Review of *Time, Tense, and Causation*

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