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A DEFENSE OF McTAGGART'S PROOF OF THE UNREALITY OF TIME

McTAGGART'S celebrated argument to prove that time is unreal runs as follows. There are two kinds of temporal fact concerning events: (a) that an event M is past, present, or future; (b) that an event M is before, at the same time as, or after another event N. Now facts of kind (a) cannot be reduced to facts of kind (b); and if there were no facts of kind (a), there would not genuinely be any time at all. For time essentially involves change: but change comes in only in connection with facts of kind (a). With facts of kind (b) there is no change at all: if an event M precedes an event N, it always will be true that M preceded N, and it always was true that M would precede N. There is change only in virtue of the fact that we can say of some event M, for example, that it has ceased to be future and is now present, and will cease to be present and become past.

But, McTaggart argues, the predicates "past," "present," and "future" involve a contradiction: for on the one hand they are incompatible predicates, and on the other to every event all three apply (or at least two of them). Someone will naturally reply that the predicates which apply are not the simple "past," "present," and "future," but rather, for example, "*will be* past," "*is* present," and "*was* future," and that these three predicates are not incompatible. But, McTaggart claims, this move advances us no further. Instead of three, we now have nine predicates, each of which still applies to every event and some of which are incompatible, for example, the predicates "was past" and "will be future." Admittedly the objector may again reply that the predicates which really apply to the same event are "is going to have been past" and "was going to be future," and that these are again compatible. But McTaggart can counter this move as before, and so on indefinitely.

It is not at once clear where the victory lies. Every contradiction McTaggart points to the objector can dispel, but at every stage *a* contradiction remains. On examination, however, we see that the

objector has not found an adequate reply to McTaggart's argument. Let us call "past," "present," and "future" "predicates of first level." If, as McTaggart suggests, we render "was future" as "future in the past," and so forth, then we have the nine predicates of second level:

$$\left\{\begin{array}{l}\text{past}\\\text{present}\\\text{future}\end{array}\right\} \text{in the} \left\{\begin{array}{l}\text{past}\\\text{present}\\\text{future}\end{array}\right\}$$

Similarly there are twenty-seven predicates of third level:

$$\left\{\begin{array}{l}\text{past}\\\text{present}\\\text{future}\end{array}\right\} \text{in the} \left\{\begin{array}{l}\text{past}\\\text{present}\\\text{future}\end{array}\right\} \text{in the} \left\{\begin{array}{l}\text{past}\\\text{present}\\\text{future}\end{array}\right\}$$

and so on. But at any level the three predicates

$$\left\{\begin{array}{l}\text{past}\\\text{present}\\\text{future}\end{array}\right\} \text{in the present in the present in the} \ldots \text{in the present}$$

are equivalent to the first-level predicates "past," "present," and "future," so that if there is a contradiction connected with the predicates of first level, the contradiction is not removed by ascending in the hierarchy.

An objection of a different kind has sometimes been raised. It has been argued that McTaggart's argument is vitiated by being in terms of events. It is quite unnecessary, the objection runs, for our language to contain expressions denoting events or devices for generalizing about events; everything we want to say could be said using only names of and generalizations about the objects which figure in the events. This view involves some difficulties (for example, whether every event consists of something happening to an object) and needs to be supplemented by an account of how the introduction of events as entities gives rise to McTaggart's paradox; but in any case it fails as an objection to McTaggart's argument, since this argument could have been stated as cogently, if not as elegantly, in terms of objects. Time involves change, and if there is change, then, at least on the present view, some objects must have different predicates applying

to them at different times; here indeed we may have to count "is no more" and "is not yet" as predicates. But this just means that to one and the same object incompatible predicates apply; for example, the paper was white and is yellow, so the incompatible predicates "white" and "yellow" apply to the paper.

One has a strong natural impression that McTaggart's argument is a sophism based on a blindness to the obvious properties of token-reflexive expressions. A token-reflexive expression is one like "I," "here," "now," whose essential occurrence in a sentence renders that sentence capable of bearing different truth-values according to the circumstances of its utterance—by whom, when, and where it is uttered, to whom it is addressed, with what gestures it is accompanied, and so forth. Then it seems that an adequate objection to McTaggart may run as follows. If we say of a predicate in which a token-reflexive expression occurs essentially that it "applies" to an entity if there are any circumstances in which it may truly be asserted of that entity, and if we call two such predicates "incompatible" when there exist no circumstances in which they can both be truly asserted of any one entity, then it is possible for two incompatible predicates to apply to one and the same entity. It seems therefore that we may conclude that McTaggart has not really unearthed a contradiction at all.

This objection is intended as a reformulation of the first, unsuccessful objection which we considered. The first objector held that a contradiction which arose at any level of our hierarchy could be resolved by ascending one level. From the standpoint of the present objection, what the first objector was trying to do was specify the circumstances in which the predicate was asserted of the event; he failed because his specification was itself by means of a token-reflexive expression, and hence he succeeded only in constructing new predicates of the same type, by means of which the same pseudo-paradox could be generated.

It is because people suppose that McTaggart can be refuted by some such objection as that which we are now considering that they do not take him very seriously, but I believe that this solution rests on a grave misunderstanding. If it gave a correct account of the matter, then only stupidity could explain Mc-

Taggart's failure to use a quite analogous argument to show the unreality of space and the unreality of personality. Every place can be called both "here" and "there," both "near" and "far," and every person can be called both "I" and "you": yet "here" and "there," "near" and "far," "I" and "you" are incompatible. It would be no use for an objector to say that London is nearby far away, but far away nearby, or that it is "here" there but "there" here, since it can also be called "nearby nearby" and " 'here' here," and so on. Similarly, it would be no use an objector saying "You are 'you' to me, but 'I' to you," because everyone can be called both " 'you' to you" and " 'I' to you." McTaggart does not, however, display the slightest inclination to apply his argument in this way to space or to personality: indeed, in arguing for the unreality of time, he repeatedly contrasts space with time. It follows that the refutation we are considering must have missed an essential part of his argument.

McTaggart's argument is divided into two parts. In part one he attempts to establish that there would be no time if there were no facts of kind (a), on the ground that time involves change and change is possible only if there are facts of kind (a). Part two attempts to show that the existence of facts of kind (a) involves a contradiction. Part two depends upon part one: it is because the analogue of part one does not hold for space or for personality that the analogue of part two for space or for personality has no force. We must therefore beware of passing over part one with little attention, for it contains the heart of the argument.

To see what it means to say that there would be no time if there were no facts of kind (a), we may ask what it means to deny the analogue of this for space. Facts of kind (a) are facts into the statement of which temporally token-reflexive expressions enter essentially. By contrast, the use of spatially token-reflexive expressions is not essential to the description of objects as being in a space. That is, I can describe an arrangement of objects in space although I do not myself have any position in that space. An example would be the space of my visual field. In that space there is no here or there, no near or far: I am not in that space. We can, I think, conceive, on the strength of this analogy, of a being who could perceive objects in our three-dimensional

physical space although he occupied no position in that space. He would have no use for any spatially token-reflexive expressions in giving a description of the physical universe, and yet that description might be a perfectly correct description of the objects of the universe as arranged in space.

McTaggart is saying that on the other hand a description of events as taking place *in time* is impossible unless temporally token-reflexive expressions enter into it, that is, unless the description is given by someone who is himself in that time. Suppose someone who can observe all events which take place in our universe, or some region of it, during some period of time. We may first suppose that he observes them successively, that he cannot choose which events he will next observe but can observe them only in the order in which they take place. Then even if he knows both what he has observed and what he is going to observe, he cannot give a complete description of his observations without the use of temporally token-reflexive expressions. He can give a complete narration of the sequence of events, but there would remain to be answered the question, "And which of these events is happening *now*?" We can indeed avoid this by putting the observer's thoughts and utterances into the description, but now we have merely made the original observer part of the region observed, and the point may be made again for an observer who gives a description of this enlarged region.

If instead we now imagine the observer as able to survey the whole course of events at once, or at least as able to observe the events at will in whatever order he chooses, then we can conceive of him as observing a static-dimensional configuration, one dimension of which represents time. (Of course, this is not quite accurate, since not every event which takes place in time is a physical event.) It is now clear, however, that what he observes can only be a model of the sequence of events in our three-dimensional space, not that sequence of events itself. We can, of course, make a static three-dimensional representation of the course of events over a finite period of time on a changing two-dimensional surface. But it makes no sense to suppose that that course of events is identical with some static three-dimensional configuration. This is evident from the fact that there is an element

of convention in the three-dimensional representation: we lay it down that the axes are to be chosen in a certain way, that such-and-such an axis represents time, and that such-and-such a direction along this axis represents the direction earlier-to-later; these conventions cannot be shown in the model. This remains true even if there in fact is such a three-dimensional configuration.

Imagine a cylinder made of glass with irregular internal coloring like a child's marble. A two-dimensional surface, in shape roughly a shallow cone without its base, moves through the cylinder so that its vertex travels at a uniform rate relative to the axis of the cylinder, the base of the cone remaining perpendicular to this axis. If we now replace the cylinder and the surface of the cone by their analogues in four-dimensional space, we get something like what we are sometimes inclined to conceive that our world must in fact be like. That is, we are sometimes inclined to suppose that what we observe at any one time is a three-dimensional segment of a static four-dimensional physical reality; but as we travel through the four-dimensional structure we observe different three-dimensional segments at different times. But of course the fourth dimension can no more be identified with time than the road down which someone travels can be identified with the time that passes as he travels down it. If our hypothetical observer observes only the four-dimensional configuration without observing our movement—the movement of our consciousness—through it, like someone observing the road but blind to the traveler, he does not see all that happens. But if he also observes our passage through it, what he is observing is no longer static, and he will again need token-reflexive expressions to report what he observes.

Granted, then, that part one of McTaggart's argument establishes that what is in time cannot be fully described without token-reflexive expressions, how does part two enable us to pass from this to the assertion that time is unreal? Might not part one of the argument be taken rather as demonstrating the reality of time in a very strong sense, since it shows that time cannot be explained away or reduced to anything else? In particular, does not the objection we considered—that McTaggart's attempt to uncover a contradiction rested on a neglect of the obvious

properties of token-reflexive expressions—at least invalidate part two of the argument?

I think the point is that McTaggart is taking it for granted that reality must be something of which there exists in principle a complete description. I can make drawings of a rock from various angles, but if I am asked to say what the real shape of the rock is, I can give a description of it as in three-dimensional space which is independent of the angle from which it is looked at. The description of what is really there, as it really is, must be independent of any particular point of view. Now if time were real, then since what is temporal cannot be completely described without the use of token-reflexive expressions, there would be no such thing as the complete description of reality. There would be one, as it were, maximal description of reality in which the statement "The event *M* is happening" figured, others which contained the statement "The event *M* happened," and yet others which contained "The event *M* is going to happen."

I personally feel very strongly inclined to believe that there must be a complete description of reality; more properly, that of anything which is real, there must be a complete—that is, observer-independent—description. Hence, since part one of McTaggart's argument is certainly correct, his conclusion appears to follow that time is unreal. But this conclusion seems self-refuting in something of the way in which, as McTaggart himself points out, the view that evil is an illusion is self-refuting: that is, if there is no evil, the illusion that there is evil is certainly evil. To say that time is unreal is to say that we apprehend relations between events or properties of objects as temporal when they are not really temporal at all. We have therefore to conceive of these events or objects as standing to one another in some non-temporal relation which we mistake for the temporal one. But just what does our "apprehension of these relations as temporal" consist in? Which apprehension is McTaggart thinking of—I mean, the apprehension at which time? Clearly, even if the world is really static, our apprehension of it changes. It does not help to say that we are even mistaken about what we think we see, because the fact would remain that we still make different such mistakes at different times.

If this last piece of reasoning, to the effect that the belief that time is unreal is self-refuting, is correct, then McTaggart's argument shows that we must abandon our prejudice that there must be a complete description of reality. This prejudice is one that lies very deep in many people. I shall not here attempt to explore it further, to find out whether it can be supported or what mistakes, if any, it rests on. It is enough if I have succeeded in showing that it is to this prejudice that McTaggart is implicitly appealing, and that it is this which must be extirpated if his conclusion is not to be accepted, and above all that his argument is not the trivial sophism which it at first appears.

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