

theory of testing is a preliminary to his theory of corroboration, and that this latter theory is a solution to the problems: how do we know and what should we believe? But Popper tries to solve the problem: how do we learn? His answer is: by criticizing our errors. The idea that anything we say can be a subject for a critical examination is the core of Popper's philosophical attitude. Mr. Stove views Popper's recommendation of the critical attitude as a part of his theory of corroboration, and he tries to see whether it is a necessary or an eliminable part of it. He is thus putting the cart before the horse. Popper takes the critical attitude as fundamental. Corroboration, according to him, is one sort of happening in the history of science which results from this attitude and to which, in turn, this attitude should be applied. Mr. Stove takes it for granted that, to Popper, a corroborated theory is corroborated because it is true or likely to be true or credible. As I understand it, Popper's philosophy contains the idea that we should take notice of a well-corroborated theory and try to explain the fact that it was corroborated—and a variety of explanations may be available, each of which should be critically examined. Undoubtedly, Popper's philosophy is connected with a long-standing tradition; but it is the critical tradition of Galileo and Boyle, of Kant and Whewell, rather than the inductivist tradition of Bacon, Newton, and Mill.

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THREE QUESTIONS FOR PRIOR ON TIME

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Professor A. N. Prior's views on Time are as thought-provoking as anyone's since McTaggart claimed to unravel the contradictions of temporal talk. To be provoked, however, is not to be convinced and I should like to add three questions to criticisms already advanced over *Time and Modality*.

(I) *Would Prior's ambition eliminate Determinism?* Prior begins his book by confessing to "a hankering for well constructed theories which much contemporary philosophy fails to satisfy".¹ The kind of well constructed theory he has centrally in mind is a logical system in which tense operators perform like Lukasiewicz's modal operators in such a way that, together with certain rules of inference, axioms and truth values, various meta-physical proclivities of Prior's are satisfied. His main concern is

¹ *T. & M.*, preface, p. vii.

to bend logic to "bring out the logical asymmetry between past and future which serious indeterminism seems to demand".² He would formalise the view "that from the *fact* that there is a sea-battle going on it does not follow that there was *going to be one*, though it does follow that there *will have been one*".³

Thus Prior's first and intensest motivation for adventuring with symbols is his desire that logic should prejudice the determinist-indeterminist issue. Commenting on this desire, L. J. Cohen has written: "Ordinary logic with its timeless truth evaluations is quite uncommitted to either side. Neither 'Any point instant belonging to a day subsequent to the present one is necessarily occupied by whatever occupies it', nor its contradictory, is a thesis of any familiar text book system. If tense logic tends to beg the question in favour of indeterminism, that is hardly a reason for calling it 'good logic' even if it is good physics or metaphysics".⁴ In one way Cohen's criticism goes too far and in another way not nearly far enough. If a metaphysician so bends logic or language as to make it reflect his metaphysical bias, then the finished article *is*, by his canons, a good logic or a good language. But Prior is not merely mistaken in assuming that tense logic is a *necessary condition* for satisfying the demands of serious indeterminism. He is further mistaken in thinking that setting up such a logic supplies anything like a *sufficient condition*.

As to determinism, in any of the usual senses, I certainly agree with Cohen, Donald Williams⁵ and others that standard quantification theories are agreeably neutral. On the other hand, whether or not we believe in the existence of timeless or temporal truths about the future is not a question the negative answer to which qualifies us to be called indeterminists, in the appropriate sense of defenders of free will. (That sense of indeterminism is presumably what Prior's references to Aristotle's sea-battle indicate.⁶) Suppose, like C. D. Broad in *Scientific Thought*, I refuse to call any proposition true, false, true-or-false, or even a proposition unless it corresponds or fails to correspond to a suitable past or present fact. This affords me a magnificent asymmetry of Space and Time, perhaps, yet it does not prevent my believing that there is no such thing as human choice, that all present and past facts of human behaviour show distressing regularities no less mechanical than those of brute beasts or falling bodies. It might be suggested that restricting the indeterminate value to

² P. 94.

³ P. 95.

⁴ *Philosophical Quarterly*, 1958, p. 270.

⁵ *Journal of Philosophy*, 1951, pp. 457 ff.

⁶ Cf. *De Interpretatione*, IX.

future propositions about human behaviour is what serious indeterminism demands. This ill fits Prior's willingness to forsake the existence of "facts directly about" any objects which do not yet exist. We might move a shade closer to reflecting indeterminism if there were an asymmetry between reference to human and to non-human future objects, but Prior does not provide this. Even so a neuter value concerning future human behaviour could equally well reflect belief (a) that man is utterly unpredictable (hence *not* free, cf. Hume) or (b) that the continued existence of men is too precarious for one to be committed to any future assertion about them. So my first question is: why does tense logic reflect "serious indeterminism" any more than determinism is enforced by timeless truths?

(II) *Do Prior's justifying remarks about reference to what is future support or merely follow from his metaphysical view of Time?* In his (seventh) chapter on Common Noun Logic and at earlier stages Prior is magnanimous about dispensing with the reference resources we have in ordinary language and quantification theory. This is in spite of his campaign promises to respect some basic intuitions of the former and not to tamper with the latter. He writes in self-justification at an early stage: "I am a little uncomfortable about this view that we cannot properly name objects which have ceased to exist, like Bucephalus; but I do not see any way of avoiding it—if we say that we *can* properly name them . . . we are exposed to all the difficulties which were shown earlier to arise with the general theory that there are non-existent objects. Instinctively, all the same, we are happier about granting that we cannot properly name, and there are no facts directly about, objects which *do not yet exist*".⁷ Prior goes on to invoke in his support the "very powerful" arguments which Professor Gilbert Ryle raised in *Dilemmas* against naming or referring to the non-existent.⁸

Turning to these "very powerful arguments" of Ryle's, we meet a rather odd inference pattern heavily coated with bluff.⁹ We are offered the obvious premise that we "can never point to or name a particular happening and say of it 'This happening was averted'" —obvious, that is, in the sense that talking *about* what did not happen is not entirely like talking *about* what did happen. In the same way, Ryle says plausibly enough, if the Waterloo of 1814 had not been fought or the present Ryle not been born, then there would be no such event or person for historians to describe: certainly there is a sense of *describe*

⁷ *T. & M.*, p. 33.

⁸ Pp. 33-34.

⁹ v. *Dilemmas*, pp. 24-27.

appropriate to Ryle's claim. However, Ryle moves on confidently to put *what has not yet occurred* on a logical par with *what did not occur* at some specified past time: in other words we are expected to bracket what is not yet the case with what now can never be the case, as if they were of the same order of substantiality. Why the latter should be so like the former from a referential point of view we are never told. Why indeed should the potential and perhaps all but certain stand in the same sort of relation to the referrer as the now utterly impossible non-entity? The metaphysical view which would lead us to hold this is going to involve Broad's asymmetry of Space and Time, whereby to be present is "simply to precede *nothing*". Ryle like Broad insists on a radical difference between prophecies and chronicles. There is a Broadian ring about Ryle's assertion that no prophet, however vivid and accurate, could "get the future events themselves for the heroes and heroines of his story". Ryle talks throughout as if an examination of our common-sense ways of talking makes it impossible to differ with him, but in the case of this last extravagant metaphor no appropriate common-sensible sense of *get* is clear.

It is this crude metaphor of *getting* which more than anything else suggests that Ryle has presupposed Broad's by no means universally acceptable picture of history. Here a pile of hard specious-present-sized events—which, having already become, we can really get hold of to refer to—are opposed to the practically ineffable vacuum of what is not yet. Similarly, Prior in his paper 'Time after Time'¹⁰ balks at Pears' talk of the logician's truths as timeless shadows set in a symmetrical Heaven. He prefers to think of events as casting their shadows over what will have become after them, shadows that lengthen with the passage of time. On a rival metaphysical view, like that of Williams, who views the totality of events as spread out *sub specie aeternitatis* in the dimensions of Space and Time alike, we get a symmetry which would make us want to interpret matters of reference very differently. An odder view might make us want to restrict the possibility of *direct* reference to things present and future. How ordinary language could help us to decide between such rival metaphysicians and their accounts of reference is obscure; certainly Ryle and Prior make it all no clearer. So my second question runs: are not Prior's and Ryle's parsimonies in the matter of future reference merely consequences of, not justifying reasons for, their questionable metaphysics of Time?

¹⁰ *Mind*, 1958, pp. 244-46.

(III) *In so far as Time can be made logically special, cannot Space and Individuals be made special, too?* In a long section of appendix Prior tries to show that there is *something special* about Time.¹¹ Constructing some ingenious place-logical and time-logical formulae he argues that we can equate an expression meaning "it is the case m miles to the left that it is the case n miles to the left that f " with another expression in which a symbol represents the algebraic sum of m and n or, with a wide range of directions, the vector sum. But, he insists, there is no such analogy in the case of time-logical formulae: "for even if it was the case m days ago that p , it might not have been true m plus n days ago that it was going to be the case n days later that p . For m plus n days ago the issue might have been indeterminate". No auxiliary symbol parallel to the one in place-logic can obviate this.¹²

We have already rejected the thesis that we must bring in a neuter value to save future contingencies: Prior's alleged *need* for special values relative to Time is specious. A neuter value in the case of futures yields not Indeterminism, but something like the unreality of the future, a very different metaphysical position. Williams has retorted to Broad that we might equally well posit the tragic unreality of the past. This view could equally well be represented—not *proven*—in Prior's Time-logic by assigning neuter values to all formulae about the past. Again, a man walking ever forwards along a straight line might equally well believe in the utter nothingness of all he had left behind. In a backwards-forwards logic he could represent—not prove—his thesis by assigning the special neuter value to all formulae about the regions behind. Again, Prior tells us, though he does not argue in such detail, that there is something special about times as opposed to individuals. But a Platonist could represent the ontological hierarchy of the Line parable in *Republic* Book VI by assigning an ascending order of truth-values to formulae mentioning the ascending order of *gignomena* and *onta*. So my final question runs: surely the only restriction on making times, places or individuals logically special is that we must not make them *all* special at once, or else none of them will be special?

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¹¹ *T. & M.*, pp. 117-121.

¹² *v.* pp. 119-120.