

# The Place of Time in Logic<sup>1</sup>

by

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My first purpose in this paper is to discuss precisely where, within the whole body of logical theory, we ought to locate the study of the logical features of temporal determinations. Putting it that way, however, suggests that the structure of logic as a whole is something given and fixed, into which we must fit the logical study of temporal determinations as best we can. In fact, however, the situation is not quite as straightforward as that, and it may turn out that the logical study of temporal determinations suggests a radical re-structuring of logic as a whole. So my second purpose is to take a good look at this possibility.

There is what might be called a standard modern view as to the structure of logic as a whole. According to this standard modern view, the basis on which the remainder of logic rests - the ground floor of the subject, as it were - is the propositional calculus, conceived as a study of truth-functions of {2} propositions, roughly the study of the logical features of words like 'if', 'and', 'or' and 'not'. In this branch of the subject, or maybe root of the subject, we have such laws as "if p-and-q then p", "if if p then q then if not q then not p", "if if p then q and if q then r then if p then r", and so on. On top of that we build the first-order predicate calculus, roughly the study of the logical features of the words "Everything" and "Something". In this branch of the subject we have such laws as "If everything that is F is G, then if something is F, something is G". In representing such laws, we generally employ not the vernacular "Everything" and "Something" but the quantifiers "For all x" and "For some x", so that the law just mentioned is given the form "If for all  $\underline{x}$  if  $\underline{fx}$  then  $\underline{gx}$ , then if for some  $\underline{x}$ ,  $\underline{fx}$ , then for some  $\underline{x}$ ,  $\underline{gx}$ ."<sup>2</sup>

{14}<sup>3</sup> "I remember reading a paper" and "That ship is a long way off" are contractions of "I remember myself reading a paper" and "That ship is a long way off from there". The speaker, we would like to say, is a constituent of the fact remembered or spoken of, even if it is unnecessary (given on speech conventions) to say so. It could be argued, however, that it is not like this at all, and that what is the case is always what is the case from a certain point of view, just as it is always what is the case at a particular time.

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<sup>1</sup> Edited by Peter Øhrstrøm and Fabio Corpina. The original is kept in the Prior collection at Bodleian Library, Oxford, box 6.

<sup>2</sup> Page 3-13 are missing in the MS.

<sup>3</sup> The following has been crossed out: "but it could be argued that in fact it is not so, and that in fact everything that we say or think, even everything that is the case, has built into it a certain point of view."

Let us briefly develop this parallel. What is the case, most of it, hasn't always been the case and will not always be the case; but from what is the case, if it's given fully enough, we can infer, what has been the case and what will be the case. Tomorrow, what is the case today will have ceased to be the case, but it will also come to have been the case the day before, or as we will then put it, to have been the case yesterday. Today {15}<sup>4</sup> - these things are commonplace - will be tomorrow's yesterday, and tomorrow will be tomorrow's today. If you want to know what day really is today, will of course today - today's today, if you want to put it like that - really is today; but if you want to know what day is timelessly today, there's no such day as that. Similarly, it might be said, that a ship really is a long way off; that is what is the case; but if you want to know, not what just is the case, but what is the case on the ship, then what is the case on the ship isn't that the ship is a long way off but that the ship is right here. What just is the case, is of course - according to this story - what is the case from my point {16} of view, and from that, if it will be given in enough detail, we can work out what is the case from the ship's point of view, or from any point of view; but if you want to know what is the case without being the case from my point of view, it could be said that this is senseless; it is like asking what is the case without being the case now.

I don't know whether I've expressed this third reaction to special relativity very well. I probably haven't, because it isn't in fact my own reaction, which I am afraid is the old and crude one, the first. But now I want to add something which isn't so much about the nature of the present as about the nature of physics.<sup>5</sup>

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<sup>4</sup> The following has been crossed out: "say, will be tomorrow's yesterday, and tomorrow will be tomorrow's today. Similarly, what is the case, in the sense of what is the case from my point of view, e.g. that the ship is a long way off, isn't the case from the ship's point of view, what is the case from the ship's point of view is that the ship is right here."

<sup>5</sup> The following has been crossed out: "I have set up to sorts of metaphysical pictures .... there is a difference between what will appear to be the case ..."