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Some Remarks on "Protocol Sentences"

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"On Protocol Sentences" is an enormously important paper both philosophically and historically. Yet to those only partially familiar with Carnap's philosophical system the paper must seem very strange indeed. To avoid as many misunderstandings as possible I shall first sketch how the work fits into Carnap's more general philosophical views. For reasons of space, this sketch must be very brief. After that I shall make some remarks (again brief) on how the paper fits into various historical developments.

I. PHILOSOPHY

When we are asked to justify a given belief, typically we give or try to give our reasons for that belief. Ideally these reasons are other beliefs of ours which are themselves justified and which stand in the right sort of relation to the belief for which justification was sought. In order to avoid both infinite regress and circular justification, however, this chain of reasons must start somewhere, i.e., there must be some beliefs which are justified in some other way than by giving reasons.

It is universally agreed, or nearly so, that observation provides one such way of justifying beliefs other than by inferring them from antecedent beliefs. Equally clearly, however, unaided observation is not enough to justify our usual stock of beliefs. Principles of inference will be required at a bare minimum, but unless these principles are unusually rich a great many claims remain which either cannot be justified at all on the basis of what we have described so far or else cannot be justified to the extent to which we typically take such beliefs to be justified. Examples of such residual claims might include our beliefs that zero is a number and also that nothing is both red and green all over at the same time.
Such residual claims have over the centuries caused philosophers no end of grief. Attempts to justify them have varied in detail, but one approach has been so common that it deserves to be called classical. On this account some of these beliefs, namely that minimum set from which the others can be deduced, can be directly and justifiedly grasped through intuition. Intuition is problematic for it is far from obvious that intuition is trustworthy even slightly. But for a long time there did not seem to be much of an alternative.

In the early 1930s Carnap was beginning to work out just such an alternative, and it is significant that this development occurred almost precisely at the same time that “On Protocol Sentences” was being written. Briefly the view that Carnap was working out held that these supposedly intuitive epistemically basic beliefs such as the axioms of logic and mathematics and for that matter the fundamentals of epistemology itself could be thought of as implicit definitions of the terms they contained. Those basic sentences would be true in virtue of their meanings. Definitions are conventions of language so the basic beliefs could be said to be true by convention. This is not to make the historical claim that our language arose out of some prelinguistic legislative assembly. It says rather that there are alternative sets of basic claims that could have been adopted, that to adopt those sets would be to adopt other languages, and that there is no epistemic reason for the choice among the sets. Even if there might be no epistemic reasons for choosing, there might be practical reasons for making one choice over another. One language might be clumsy to use; another might draw more helpful distinctions; a third might have principles of inference so weak that prediction would be difficult. But these practical reasons would not make one language more “true” than another.

This theory allows Carnap to avoid appeals to intuition, i.e., to deep metaphysical insight, in his epistemology, and it suggests that philosophical disputes might be approached and resolved by investigating the practical consequences of alternative language forms. It might seem that such a theory of implicit definition could not be applied to observation. It can, and “On Protocol Sentences” is Carnap’s attempt to do so. It is not that the observational judgments are themselves conventions; rather what is conventional is the epistemic story that surrounds such judgments. That story tells us what the observational vocabulary contains and what the forms of observation sentences are to be. In short it completes the theory of what judgments we can justifiedly make without inferring them from other beliefs. In a more sophisticated version a philosophic theory of observation would tell us the circumstances under which a given sequence of words could be used to make an observational
report and what degree of justification would accrue to a judgment so made. Such theory of observation would be conventional in a way perfectly analogous to the conventionality of the axioms of set theory: there would be alternative such theories; the alternatives would (along with the other conventions of language) implicitly define the terms of the observational vocabulary; and the choice among these alternatives would depend on the practical utility of using this or that language rather than on the truth of doing so. The issue of utility, however, makes the enterprise sensitive to empirical fact.

In "On Protocol Sentences" the burden of Carnap's argument is to show that there is more than one way of structuring the language of observation, that each of these ways has certain practical advantages, and above all that the choice among these language forms is a practical choice and not an attempt to find the one "true" observation language. The first of these language forms puts the protocol sentence outside the language of the system, and the second language form puts the protocol sentence inside. Even within the second language form there are variants. Carnap discusses the utility of taking each of the options and ultimately selects as most convenient one of the variants of this second language form.

I have no intention here of assessing either Carnap's choice or his general philosophic system, but there can be no doubt that the general conception of observation he offers is important. This is not merely because it fits naturally into Carnap's broader philosophic views, views which have attractions of their own. Rather, Carnap's conception is important because it provides, perhaps for the first time, a non-Cartesian answer to the question of why we should trust our senses which does not circularly presuppose the validity of the observational judgments in question.

II. HISTORY

In "On Protocol Sentences" the language form that Carnap favors allows us to report observationally the public properties of physical objects. This had not always been so. In the Aufbau Carnap had taken only claims about one's own psychological state as a basis for the entire construction. Even at that time Carnap was aware that a language could be set up in different ways, but he thought that the chosen language was epistemically more realistic. In the years that immediately followed the Aufbau what had been an alternative possibility became the preferred alternative, no doubt in part due to the influence of Neurath. Neurath was a Marxist, and this disposed him to defend the unity of science, to adopt a virulently anti-metaphysical stance, and to reject any view which emphasized the individual over the collective. In fact he took this last as far
“Truth by Convention” (hereafter TC) expresses some doubts about analyticity, and in view of Quine’s later complete rejection of that notion it would be easy but erroneous to construe him as rejecting as the outright rejection of any use of demonstratives or personal pronouns. Carnap was sympathetic, but it is hard to say to what extent he was persuaded by Neurath and to what extent by practical arguments of his own. In any case, Carnap had already switched over to a wholly physicalistic language by the very early 1930s.

Carnap’s paper, as its text indicates, was prompted by a paper by Neurath, also called “On Protocol Sentences.” Neurath’s paper is interesting and insightful: it contains his famous ship metaphor and powerful arguments that perceptual reports can be false and that in cases of conflict with well established theory it might sometimes be reasonable to revise the report rather than the theory. On the other hand, the form he suggests for protocol sentences is awkward indeed. He gives as an example “Otto’s protocol at 3:17 o’clock [at 3:16 o’clock Otto said to himself: (at 3:15 o’clock there was a table in the room perceived by Otto)]”. Neurath does little to explain why such complexities are necessary.

Though Neurath’s paper was a sharp criticism of Carnap, typically Carnap’s reply tried to reconcile their differences rather than accentuate them. Neurath is construed as making a proposal for a language form and, hence, not as making an assertion in conflict to Carnap’s previous proposals. Carnap considered the practical utility of the various proposals and opted, not for his own earlier proposals and not for Neurath’s, but for one even more liberal than Neurath’s. For some of the details of the proposal Carnap generously gave credit to Popper.

It is hard to say how much contemporary views owe to Carnap’s discussion in “On Protocol Sentences.” There can be little doubt, however, that from this time forward, at least in philosophy of science, it has been taken for granted that observational reports concern public properties of physical objects rather than private psychological states. Moreover, observation reports have not been limited to a very narrow range of grammatical forms. Carnap’s influence was no doubt significant. Carnap’s work seems to have had durable effects, but modern writers have often seemed unaware of the origins of their views or of the extent Carnap’s view was embedded and defended within a broader philosophic system. (One exception, of course, was Feyerabend’s discussion of “On Protocol Sentences” as the basis of his pragmatic theory of observation.) Now that “positivism” has become unfashionable, many writers are unfamiliar with anything but the slogans either of or about that philosophic system. Nothing I have said in these remarks is intended
to persuade anyone that Carnap’s system or even his views about observation were right. But as we get far enough away from this body of work to view it historically (and perhaps a little dispassionately) I would hope that we can recognize how well Carnap’s various views hung together and how much we ourselves owe to this part of our past.