

BY THE SAME AUTHOR

The Metaphysics
of Logical Positivism

GUSTAV BERGMANN

Philosophy of Science

THE UNIVERSITY
OF WISCONSIN PRESS

Madison, Milwaukee, and London, 1966

surprisingly, those one must solve if one wants to produce the fit. Psychologists who write about the philosophy of their field (they usually call themselves methodologists) often shirk this task; even more often they say a lot of nonsense about it. Here, then, is a job for the philosopher. I shall not shirk it.

Logical analysis, we saw, has a dialectical side, the analysis or, as I just called it, the review of alternative analyses and of criticisms. This dialectic has a historical dimension. A scientist may be a better man if he knows the history of his science; he is not therefore a better scientist. Again there are differences. In physics the store of factual information is so vast, the power and logical complexity of current theory so great that history hardly adds anything to the guidance these facts and theories provide for the researcher. This holds not only for the daily routine; it also holds, or so I believe, for the great innovators of the first half of this century. In the fledgling behavior sciences things are different. If the facts are either obscure or not yet organized by theory, it may be useful to know which facts stirred the imaginations of one's predecessors. If there is as yet no theory or not much of one, the concepts with which others tried to build theories in the past may be suggestive. Thus progress may be facilitated or, at least, waste may be avoided by a knowledge of history. If the behavior sciences are in the middle, philosophy is at the other extreme from physics. Since there are "positions" in philosophy, since one cannot "learn" it as one learns a science, some think that it does not advance at all and that "objectively" one can do no more than attempt a history and, perhaps, a taxonomy of the several positions. There is a kernel of truth in this view, as in the eternal jokes about one's mother-in-law. Like these jokes it is grossly exaggerated. In one sense, it is true that a philosophical proposition cannot, like one of mathematics or science, be established by proof or by an appeal to experience. For is it not, among other things, the task of philosophy to elucidate what is meant by 'proof' and 'experience'? In one sense, it is therefore also true that philosophical discussion must somewhere come to an end and that "ultimately" the several positions cannot communicate with each other. In another sense, this is a dangerous half-truth. The art is to push toward the horizon that point where talk must cease. In fact, philosophers of different positions have always talked with each other and learned from each other. In this sense, there is progress in philosophy. The best comparison is, perhaps, with chess. One learns how to play chess by playing it, but also by studying the games of the masters. In this way one learns what alternatives there are, the gambits and what they imply, which patterns lead to which others. Similarly, one learns how to philosophize by philosophizing, but also by studying the thought of the masters.

It is clear, I trust, that the history I am speaking about is not that purely

factual history honorably and (up to a point) usefully pursued by those who search for unedited manuscripts, establish texts, and compile biographies. Nor is it the enterprise of those who trace influences, that is, who try to combine the bare facts with bits of psychological and sociological knowledge or insight into hypotheses, e.g., that somebody thought or wrote something because he had read the books of somebody else, or because he found himself with certain motives, intellectual or otherwise, in a certain intellectual or social situation. What I am speaking about is structural history which, in a sense, is neither factual nor causal. Rather, it is a comparative analysis of ideas in their logical interdependence. To be sure, the edges of this distinction, too, are blurred. It is really more a matter of emphasis. And the structural historian must be very careful lest he either claim too much or deceive himself and others about what he is doing. Suppose he studies two systems of ideas, L and F, discovering that parts of the first logically either imply or suggest parts of the other. This is what he is really interested in. Yet he does not call the two systems L and F; he calls them the ideas of Leibniz and of Fechner. Here his troubles begin. For one thing, it is often very difficult to find out what the ideas of dead people actually were, even if they wrote books. (Sometimes it is not easy when the authors are still alive.) To discover them, as well as we may, we often need the help of factual and causal historians. For another, even if we have got hold of the ideas of the man Leibniz and the man Fechner and if there is a logical connection of one sort or another between them, it does not follow that there was also a causal connection. These are the predicaments and limitations of structural history. They are severe indeed. Yet its advantages more than make up for them. For one thing, it has an intrinsic interest. I explained this before, when I used the comparison with chess. For another, it is indispensable in the causal reconstruction of the development. Now I am as sceptical as anybody about the extent and the reliability of our causal knowledge of the past. As will transpire, I could not judge otherwise, from where I stand, as long as the behavior sciences are not more advanced than they are. After all, knowledge of causes and knowledge of laws and theories are virtually the same thing. Of course, this does not mean that one should not pursue causal history. It is of intrinsic interest; and it is foolish not to do what is worth doing in itself as well as one can merely because one cannot do it as well as one might wish. On the other hand, little as we may know, it is more than plausible, or, to put it more cautiously, it is the best guess available that the logical connections of ideas are among the causes of their appearance, ascendancy, and decline. Notice that I say causes, not cause. To believe that they are the sole cause is the fallacy of rationalism. (This is one of the many meanings of that glittering word, 'rationalism'.) But to believe that they are not among the causes, however fashionable it may be at the moment, is an irrationalism

little short of hysteria. If this is so, then the structural history of ideas more than pays its way, even from the viewpoint of the factual and causal historian.

The third part of this work attempts a structural history of the philosophy of psychology. Starting with the time when what is so clumsily called the modern frame of reference took shape in the works of such men as Galileo, Descartes, Hobbes, Newton, and Locke, it spans about three hundred years. Searching again for a single word to name this part, I finally chose *Development*. One reason I avoided 'history' is that I wanted to avoid the associations of scholarship it evokes, the sort of scholarship of which E. G. Boring's volumes are a distinguished example. I am a philosophical analyst, not a scholar; and I am not, except as a consumer and perhaps as an occasional amateur, interested in scholarship. This is therefore primarily a work of philosophical analysis. Only, such analysis finds its natural supplement in the structural history of ideas.

Until rather recently, philosophy and psychology were cultivated by the same people. Reading their books, one finds it often hard to tell where what we would nowadays call either the one or the other begins and where it leaves off. Sometimes the same passage is a mixture of both. If one could still ask these writers which was which, some might not even understand the question. This is no longer so. Psychology, at least in this country, has found itself as a science. But even now psychologists are very much interested in the philosophy of their field. Usually they call it methodology. Not infrequently they even dabble in philosophy proper, for the most part without knowing it, which does not at all improve their performance since, to stay with my metaphor, they do not even know the opening moves of the game. Partly this may be a historical hangover. Mostly, I think, it is the result of frustration and of the wishful thinking it engenders in some. When the going in the field is hard, as it is in the field of psychology, one looks for a short cut. The philosophy of science, or of any science, is not a realistic short cut to achievements in this science. All the analyst can do for the scientist's actual progress is to keep him out of the dead alleys of intellectual confusion. This, however, is not to say that as long as the scientific character of a field is not fully understood by some, methodological awareness may not be a considerable advantage in the field itself. The recent history of psychology seems to bear this out. Under the circumstances philosophy proper will have to appear in the third part, too. One can no more analyze the empiricism-nativism issue without at least some reference to Kant's philosophy of space than one can understand the psychological ideas of the classical British writers without some grasp of what they tried to do in philosophy proper.

The task is virtually beyond human strength. Naturally, then, I shall operate within certain limits, those I impose upon myself and those my lim-

itations impose upon me. As for the former, take the case of Leibniz. The connections I mentioned before exist, logically as well as, probably, causally. Nor need a contemporary analyst be a historical scholar to know something about Leibniz's ideas. They are structurally too interesting and too important for that. Unfortunately, though, they are so complex and their grasp requires so much knowledge of philosophy proper that I could not possibly deal with them in this work except in the most superficial manner. Sometimes I shall be forced to do just that. Wherever it is possible without distorting the picture I shall in such cases observe a decent silence. On the other hand, I shall not abstain from occasional remarks about the interactions of psychological ideas with the general cultural context. That I have no illusions about the knowledge claim of such "insights" I have said before. If one does not have such illusions, there is no harm in this intellectual game. At least it creates a picture that produces "understanding." (What 'understanding' means we shall have to take up in the second part.)

I have talked about history and about philosophy proper. Finally, poor psychology itself ought to be mentioned in this introduction. If one sets out to analyze the logic of physics, he must know some physics. If one wants to analyze the logic of psychology, he must know some psychology. How much is difficult to say, though I would not necessarily say the more the better. There is somewhere a point of diminishing return. Fortunately, there is no danger that I know too much. I am no more a professional psychologist than a professional scholar. I can only hope that I shall muddle through.