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THE THEORY OF KNOWLEDGE AND EXISTENCE

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'It matters little whether the ether really exists; that is the affair of metaphysicians. The essential thing for us is that everything happens as if it existed, and that this hypothesis is convenient for the explanation of phenomena. After all, have we any other reason to believe in the existence of material objects? That, too, is only a convenient hypothesis."

> POINCARÉ (Halsted's translation).

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THE title of this book would seem to indicate that it L takes for its provinces both epistemology and metaphysics. First and foremost, however, it is an essay in epistemology. But the theory of knowledge which it advocates has implications regarding the nature of existence. Whether these implications are held to belong to metaphysics will depend upon how metaphysics is defineditself a difficult problem. I have, however, followed two principles in this matter. I have, firstly, dealt only with those questions regarding the nature of existence the answers to which seemed to be necessarily bound up with my epistemological premisses, and which, therefore, I could not avoid without leaving my work a torso. I have nowhere sought them out for their own sakes. Secondly, I have rigidly avoided any problem which I should regard as belonging to 'transcendental' metaphysics. My standpoint throughout is strictly empirical. This will be found more fully explained in the text. I would only add here that this exclusion of transcendental questions is not to be regarded as due to a contempt for them, or to an opinion adverse to their claims upon the human spirit. My view rather is that empiricism and transcendentalism do not clash (as has been commonly supposed), but are simply aiming at different ends, each of which may be quite legitimate. And as the inquiries on which this book is engaged are empirical inquiries, it appeared right to exclude transcendental issues.

One advantage at any rate it is worth while to claim for this procedure. When philosophers discuss transcendental problems, such as the ultimate nature of Reality with a capital R, or the first cause of the universe, there is

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apt to be at least the suspicion that they are setting riddles to which there is no answer, that the solution of these problems is beyond the reach of the human intellect altogether, that they are 'too high for us', or that at any rate any answers which we may give are mere speculations and guesses which go beyond any data of evidence available to us. I do not say that this suspicion is well founded. To make such an assertion would be already to give an opinion on a transcendental question. I say only that the suspicion exists in many minds. But nothing of the sort applies to any of the questions discussed in this book. 'What do we mean by saying that a proposition is true? What is the nature of truth?' 'Is there any logical ground for believing that objects exist when no one is perceiving them, and if not, what is our justification for believing it?" 'What is the function of reasoning in knowledge?' 'What is the relation of presentations to real objects?' 'Are presentations in any sense "mental"?" There cannot be the slightest ground for thinking that the answers to these questions are beyond the reach of human intellect. They may be very difficult and puzzling. Perhaps there will never be general agreement about them. But at least every one of them is such that there is in its own nature no reason at all why it should not be completely solved by the ordinary methods employed by intelligence on other subjects. There is no more reason to say that they are beyond us than there would be to say the same of the problems of physics and astronomy. Epistemology, as I view it, is an empirical science.

A certain kinship of spirit will be recognized, I think, between my work and that of two very diverse personalities, I mean Poincaré and Vaihinger. But Poincaré was not a philosopher in the technical sense at all, nor had he

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any definite epistemology. His writings—which are a quarry rather than a building—are remarkable for their wealth of inspiring intuitions, thrown out almost at random, and for the profound knowledge of mathematics and the sciences which informs them throughout. Though not a philosopher, his ideas are deeply suggestive from the point of view of philosophical construction, and he has already exercised a deep influence. Vaihinger, who is a professional philosopher, emphasizes the importance of fictions in the development of human knowledge, and my work makes contact with his at this point. Nevertheless his whole approach to the problem of knowledge, as well as his conclusions, are quite different from mine.

I have to state that there is a certain inconsistency between the conclusions now reached in my chapter on the categories and some remarks on the same subject which appear in my book *The Meaning of Beauty*. That book was concerned with aesthetics, and problems relating to the categories were quite subsidiary. It did not then appear necessary to examine them in detail. I allowed myself to adopt more or less traditional views about the nature of the categories which now, on a more thorough scrutiny for the purposes of epistemology, I believe to be wrong. Only very slight changes, however, would be required to bring what I there wrote into line with what I now think and the views expressed in this book. And these changes would in no way affect the essentials of the aesthetic theory which it was the purpose of that book to set forth.

It will be noticed that much more space has been devoted in this book to the analysis of the elementary forms of knowledge, such as are possessed even by quite uneducated people—'common knowledge', as I call it—than to the advanced knowledge contained in mathematics, the

sciences, and the other learned disciplines. There are two considerations which are pertinent to this matter. Firstly, it is the foundations of knowledge, its early beginnings, its primary data, which need the most careful scrutiny. It is precisely in them that the principles which govern all the rest will be found. If we go wrong here, we shall be wrong all through. Especially will this be the case with a theory, such as ours, which attempts to exhibit knowledge as an evolution from lower to higher stages, from rudimentary beginnings up to its supreme achievements in science and philosophy. The task which I have set myself resembles very closely that which was undertaken in the philosophy of Descartes. The attempt of Descartes went awry at the very start. I have tried to learn this lesson. For this reason Chapter VI is perhaps the most important in the book. Therein the first steps of the mind's advance from its original data are analysed. Therein the fundamental axioms or assumptions which lie at the root of our whole knowledge of the physical world are laid bare, and their logical character, justification, order, and development are-for the first time, I believe-rationally defined.

Secondly, my equipment is in any case insufficient to enable me to deal adequately or at length with mathematics and the sciences. I cannot claim anything more than a very elementary and popular knowledge of either. I will say no more than that I have contributed on these subjects what little I could, and that I hope others, more competent than I am, will be induced to treat more adequately the difficult problems of which I have merely touched the fringe. Some of these problems are now pressing in upon us with great insistence, and have certainly not yet been adequately discussed. Here are two examples taken at random. What is the bearing of Heisenberg's Principle

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of Indeterminacy, which apparently attributes contradictory qualities to the electron, upon epistemology and logic? Would it be over-audacious to suggest that, if the modern theory of the atom and the laws of logic come into conflict, it is likely to be the theory of the atom, and not the laws of logic, which will have to be modified? And again, am I right in suggesting, as I have in the text, that the common talk about humps and hills in space-time which push the planets into curved courses-whether the genuine authorities on relativity or the mere popularizers are responsible for it—as much implies an anthropomorphic, animistic, unscientific, superstitious concept as did the old conception of 'force'; and that the cause of this error is the almost universal confusion, which infects even men of science and philosophers, between questions of the 'how' of things and questions of their 'why'? And is it not plain that, although formulae may be devised for calculating how, i.e. in what paths, the planets and other heavenly bodies move, yet not all the Newtons and Einsteins of the world can tell us any more of *why* they follow these courses than is contained in the proposition 'they move in that way because that is the way in which they move'?

Notwithstanding that the philosophy of this book is based on no expert knowledge of the sciences, I would venture to suggest that it is definitely the outcome of the scientific *spirit* of the present day, and that it may be found to supply the philosophical foundation best suited to the superstructure of modern physics. An instructive correspondence was recently published in *The Times* newspaper regarding the difficulties involved in the conception of an 'expanding universe'. Sir James Jeans, who took a leading part in the discussion, referred to the old Berkeleian identification of *esse* with *percipi* as helpful to modern

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science. He also spoke of space as a 'framework' partly constructed by the human mind. I cannot but take encouragement from the fact that the philosophy here presented provides, as I believe, a detailed justification of these views.

I have done my best to see that what I have written on mathematics and the sciences, whatever may be thought of the philosophy of it, is not marred by serious mathematical or scientific errors. To this end I asked Dr. C. D. Broad, of Trinity College, Cambridge, to look through the sheets of the chapter on mathematical knowledge (except the last few pages, which he has not seen) and the sections on space-time and gravitation. This he most kindly did, and I owe a great deal to his criticisms and suggestions. He is not, of course, in any way responsible for any of the opinions expressed, and if there are any actual errors in my statements, they are to be attributed solely to my failure to take advantage of his kind help to the full. Not only do I owe a debt of gratitude to him, but also to Mr. H. L. Reed, the Principal of the Royal College, Colombo, Ceylon, who assisted me by allowing me to profit by his knowledge of mathematics and the theory of relativity and to talk over with him various points in connexion with these particular parts of my book before I wrote them.

W. T. S.