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*** START OF THE PROJECT GUTENBERG EBOOK OUR KNOWLEDGE OF THE EXTERNAL WORLD AS A FIELD FOR SCIENTIFIC METHOD IN PHILOSOPHY ***

Transcriber's Notes:

Every effort has been made to preserve the text, free of errors, or ambiguity, or possibly, misleading or misleadingly ambiguous.

Some corrections of spelling and punctuation have been made. Hyphenation has been left as found. Some words have been given varying spellings within the text, for example, *Leibniz* and *Leibnitz*. Page 27 contains a list of the contents.

OUR KNOWLEDGE OF
THE EXTERNAL WORLD
AS A FIELD FOR SCIENTIFIC METHOD
IN PHILOSOPHY

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OUR KNOWLEDGE OF THE EXTERNAL WORLD AS A FIELD FOR SCIENTIFIC METHOD IN PHILOSOPHY

BY
BERTRAND RUSSELL, F.R.S.

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PREFACE

The following lectures[1] are an attempt to show, by means of examples, the nature, capacity, and scope of a certain method in philosophy, which I believe to be the same in essence as that which has proved successful in the sciences. The method in question is the method of logic analysis, in the sense in which it has been used in my lectures on Mathematical Logic, and in the work of Mr. Whitehead and myself on the foundations of mathematics, and elsewhere, in all branches of philosophy, to yield wherever objective scientific knowledge is to be obtained, and to yield, in the absence of such knowledge, a clear understanding of what it is that we do not know, and why it is that we do not know it. The ultimate aim of such a method in philosophy is to make it possible to know something about the universe as a whole, or about the ultimate nature of things, which shall be as definite as the knowledge of the heavens which has been made possible by astronomy. The ultimate aim of logic is the same as that of all other sciences, namely, to increase our knowledge of the world, and to free our minds from the tyranny of those who, for their own ends, wish to impose false beliefs upon us.

The central problem by which I have sought to illustrate method in the problem of the relation of sense-data to physical objects. This problem is one which has been discussed by philosophers for many years, and which, in spite of the criticism of the problem by my friend and colleague Dr. Whitehead, I still believe to be a genuine problem. The problem is, briefly, the question how we can be certain, if we believe the evidence of our senses, that there are any such things as tables and chairs. The problem is, I believe, a typical one in the sense that, if we can find a satisfactory solution of this problem, the same method which will solve it will also solve other philosophical problems, and that, if we can find a satisfactory method of dealing with this problem, we shall be in a position to deal with other philosophical problems with a hope of arriving at results which will be definite and capable of being tested by their consequences. The method which I believe to be the right one is the method of logic analysis, which I have used in my lectures on Mathematical Logic, and in the work of Mr. Whitehead and myself on the foundations of mathematics. This method, I believe, has shown itself capable of yielding results in mathematics which are definite and indubitable to a quite remarkable degree, and it is this method which I wish to apply to philosophy.

Since my purpose was to illustrate method, I have included much that is tentative and incomplete. I have not thought it desirable to wait for the time when I should be in a position to write a book on my theory, in which all matters of doubt or difficulty, or which I have not yet been able to think out, should be cleared up before I ventured to publish any part of my theory. I have thought it better to make the same method at work which is present throughout, though it is not the ground-work of all my thought, and to let the ground-work come in as it is, so that the ground-work may be seen to be the ground-work.

Cambridge,
April, 1914.

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LECTURE I

CURRENT TENDENCIES

LECTURE I

CURRENT TENDENCIES

PHILOSOPHY, from the earliest times, has made grandiose claims, and achieved little results. Man also differs from the other animals in the possession of a religion, and in the belief that he is, in some way, the chief object of interest to the Universe. Philosophy has been, in all ages, the child of these two characteristics, and has inherited from its parents the quality of grandiosity in its claims, and that of uncertain dogmatism in its results. It is, I believe, from these characteristics that it has derived its chief attraction for the human race, and it is these characteristics which have made it the most hopeless of all the sciences. Nevertheless, in spite of its hopelessness, it is a subject which it is well worth while to study, because it is through the study of philosophy that it is most easy to become aware of the prejudices, and of the unfounded assumptions, which hamper our free intercourse with the world of our fellow-men. Philosophy is, in this respect, like a frontier fort, which, in time of war, is a place where our armies rendezvous, but which, in time of peace, is a place where our enemies assemble. In critical, while we are in the presence of an enemy, we are in a better state than we shall be when we are in the presence of our friends, because we are more alert, more on our guard, and more ready to see through the disguises which are adopted by our friends, when they are in the neighbourhood of our enemies.

Among general philosophers, we may distinguish three principal types, whose combination in various proportions has produced the greater part of the history of philosophy. There are, first, those who, like Thales, Confucius, and Lao Tzu, have made a great impression on their contemporaries, and have thereby acquired a reputation which, in some cases, has lasted for many centuries. Secondly, there are those who, like Plato and Hegel, have made a great impression on posterity, and have thereby acquired a reputation which, in some cases, has lasted for many centuries. Thirdly, there are those who, like Aristotle, Kant, and Mr. Bertrand Russell, have made a great impression on themselves, and have thereby acquired a reputation which, in some cases, has lasted for a short time. Of these three types, the first is the most important, because it is the most fundamental. The second type, which may be exemplified by Plato and Hegel, is a mixture of the first with the third, and derives its importance from the fact that it is the third which has produced the effect on posterity which has made it possible for posterity to be influenced by the first. The third type, which may be exemplified by Aristotle, Kant, and myself, is a mixture of the first with the second, and derives its importance from the fact that it is the second which has made it possible for posterity to be influenced by the first. Of these three types, the second is the most important, because it is the most effective in its influence on posterity, and because it is the second which makes the third type important. The third type, which is the most common, is the least important, because it is the most ephemeral, and because it is the second which makes it possible for posterity to be influenced by the third. Of these three types, I am, of course, the third, and I shall, in what follows, be the most ephemeral of philosophers.

The typical creative act of which the second type of philosopher is the author is the formation of a vague and confused vision, which, by its vagueness and confusion, is capable of being interpreted in many different ways, and of inspiring many different systems of philosophy. The typical work of the second type of philosopher is the attempt to make this vague and confused vision more precise and less confused, so as to make it possible for other people to see what it was that the original seer had seen, and to see it, when it has been made precise and not-confused, in such a way as to make it possible for other people to see it, and to make it possible for them to see it in such a way as to make it possible for them to see it themselves, and to make it possible for them to see it in such a way as to make it possible for them to see it themselves, and so on, through any number of generations, and in such a way that, in spite of the fact that it is a vague and confused vision, it will be possible for it to be seen by a large number of people, and to be the cause of a civilization, and to be the cause of the destruction of a civilization, and to be the cause of a civilization which will be the cause of the destruction of a civilization

LECTURE II

LOGIC AS THE ESSENCE OF PHILOSOPHY

The topics we discussed in our first lecture, and the topics we shall discuss later, all relate themselves to a certain conception of philosophy which is not the conception which is most in vogue at the present time, but which was philosophy yesterday, since we embraced the ancients and the moderns, and which will be philosophy tomorrow, if there is any tomorrow for philosophy. This conception of philosophy I call Logical. But in the word "logic" it never rests in the same sense for two successive philosophers, and therefore I must begin by explaining what I mean by logic.

Logic, in the Middle Ages, and down to the present day in teaching, was a collection of rules and formulas, collected in detailed detail, and rules of syllogism, inference, definition and analysis, and so on, and generally speaking, it was a dead and alive thing. It was a dead thing because it was a collection of rules which had been made by people who had lived long before Galileo, and had been made in the dark ages, when the dawn of science was not even a twinkling, and it was a living

THE WORLD OF PHYSICS AND THE WORLD OF SENSE

Leave the relations to the reality of objects of sense; there is one which is derived from the apparent relations of objects of sense, and which is called the relation of cause and effect. Suppose that I see a billiard ball moving in a straight line; I see, then, a certain antecedent state, my identity, and a certain state of things which I call the impact of the ball with another ball. I see, then, as a matter of fact, a succession of perceptions, invariably coupled in mind of me and the only perceptible possible bond by which I can connect the perceptions is the idea of time. Hume argues that there is no perceptible quality in the relation of cause and effect. Every relation between ideas is a perceptible relation, and the only perceptible relation between these perceptions is that of succession in time. Hume argues that there is no quality in the relation of cause and effect; there is no perceptible quality which will enable us to the present factor. Physics appears to be composed of a series of such relations between perceptions, and the only perceptible relation between these perceptions is that of succession in time. Hume argues that there is no quality in the relation of cause and effect.

Let us begin by a brief description of the two contrasted worlds. We will state that the world of physics is a world of objects in space, and that the world of sense is a world of objects in time. We will say that the world of physics is a world of objects having the primary qualities of extension, shape, motion, number, and impenetrability, and that the world of sense is a world of objects having secondary qualities of colour, sound, odour, taste, touch, and temperature. This contrasts sense-world, if should be defined, with the world of physics, which is a world of objects having primary qualities only. We will say that the world of physics is a world of objects in space, and that the world of sense is a world of objects in time. We will say that the world of physics is a world of objects in space, and that the world of sense is a world of objects in time. We will say that the world of physics is a world of objects in space, and that the world of sense is a world of objects in time.

Let us take a group of scores of which are two overlap, so that there is some time between dots. Suppose that the first dot is the beginning of a period of time, and the second dot is the end of the period. Or, let us say that we have constructed a group such that we can detect the period of time between the first dot and the second dot. Let us say that we have constructed a group such that we can define the whole group as an instant of time. It remains to show that it has the properties in respect of time of an instant.

Suppose we have constructed a group such that we can mark a series of dots on the series of scores, so that we can detect the period of time between any two dots. Let us call the first dot, the first dot before, the first dot behind the third. Normally, every event must be at a certain number of dots before and behind the other events. Let us say that we have constructed a group such that we can arrange a series of dots so that we can detect such that every event is at a dot. Let us say that we have constructed a group such that we can detect the period of time between any two dots, the series of intervals ought to be compact, i.e. given any two intervals, there ought to be other intervals between the first and second, and between the second and third.

We shall say that an event e^1 is an instant when it is contained within all groups by which the events in question are defined. Let us say that we have constructed a group such that we can detect the events as an event which is earlier than, but not simultaneous with, event e in the group which is the group by which we define the events in question. Let us call the group G^1. Let us say that we have constructed a group such that we can detect the events which are not simultaneous with event e in the group G^1. Let us call the group G^2. Let us say that we have constructed a group such that we can detect the events which are not simultaneous with event e in the group G^2. Let us call the group G^3. Let us say that we have constructed a group such that we can detect the events which are not simultaneous with event e in the group G^3. Let us call the group G^4. 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LECTURES VII

THE POSITIVE THEORY OF INFINITY

The positive theory of infinity, and the general theory of number to which it has given rise, are among the most fundamental and most characteristic of the achievements of the nineteenth century in the pure mathematical sciences of their underlies. The work in question has been of a twofold character, it has sought to define the ideas of number, and of the various species of infinite number, and it has sought to establish, or rectify, what has so far been established, of the various theorems which have been enunciated concerning these ideas. The work in question, which has been carried on by a number of mathematicians, of whom the most prominent are Cantor, Dedekind, Peano, Frege, Hilbert, Russell, Whitehead, Zermelo, Hausdorff, Sierpinski, Tarski, Lindenbaum, Mostowski, Kuratowski, Tarski, Chwistek, Ramsey, Gödel, Gentzen, Church, Rosser, Kleene, Mostowski, Tarski, Mostowski, Tarski, Mostowski, Tarski

LECTURE VII

ON THE NOTION OF CAUSE, WITH APPLICATIONS TO THE FREE WILL PROBLEM

LECTURE VII

ON THE NOTION OF CAUSE, WITH APPLICATIONS TO THE FREE WILL PROBLEM

The notion of philosophic analysis, as illustrated in our previous lectures, can not be stated in general terms. Each case is a kind of constructive knowledge, which contributes to the knowledge of other cases

Israel, 74
  artifacts and derivatives, 69 ff.
Ingarden, 6, 11, 15, 28, 47, 137, 138, 139, 140, 141, 142, 143, 144, 145
Inherence, 64, 65, 66, 67
Intentionality, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54,

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