

**ARISTOTELIAN SOCIETY.  
SUPPLEMENTARY  
VOLUME II; PROBLEMS OF  
SCIENCE AND PHILOSOPHY**

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Aristotelian Society. Supplementary volume II; Problems of science and philosophy by Various

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**VARIOUS**

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SCIENCE AND PHILOSOPHY**



ARISTOTELIAN SOCIETY.

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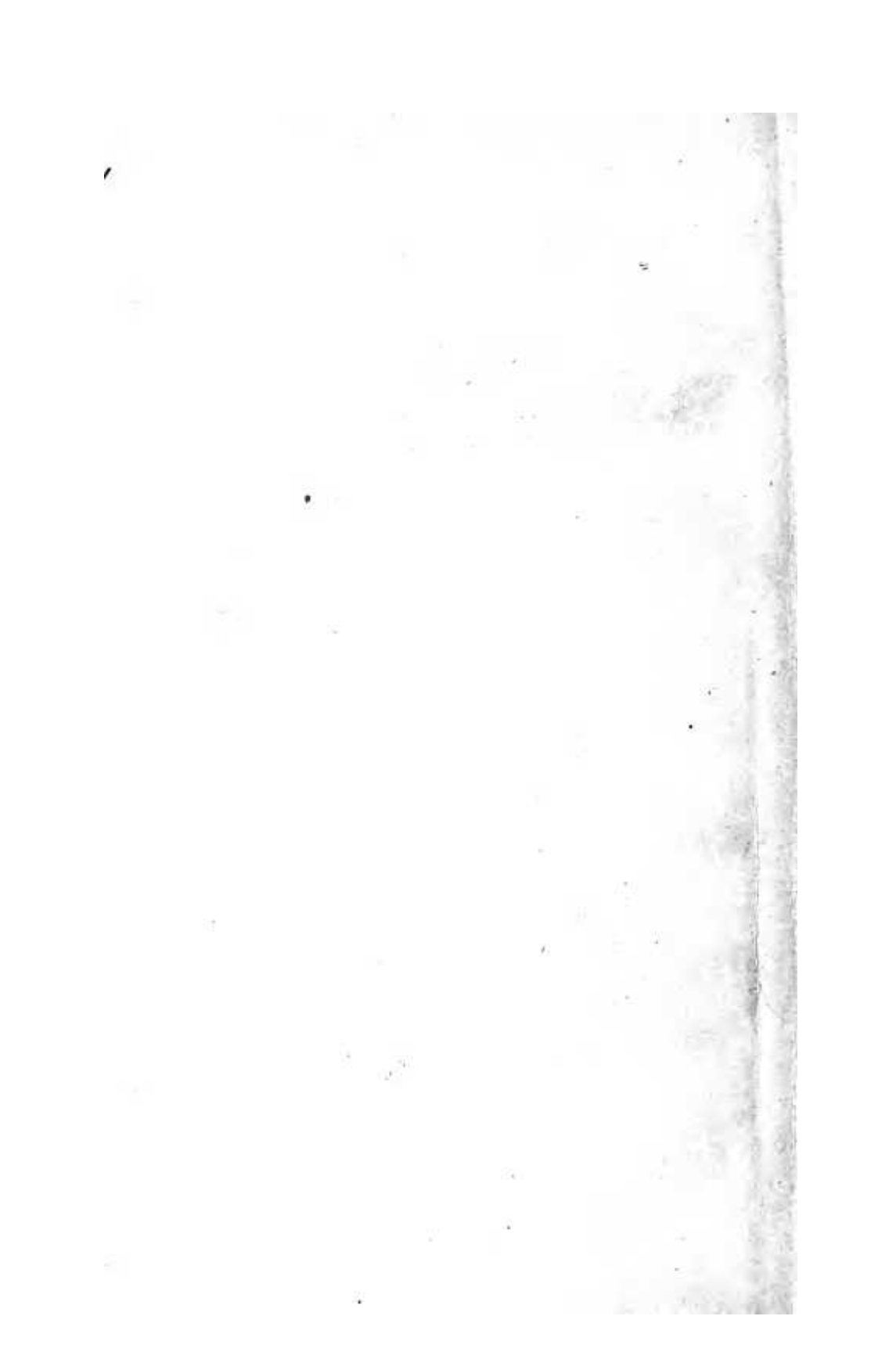
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## I.—ON PROPOSITIONS: WHAT THEY ARE AND HOW THEY MEAN.\*

By BERTRAND RUSSELL.

A PROPOSITION may be defined as: *What we believe when we believe truly or falsely.* This definition is so framed as to avoid the assumption that, whenever we believe, our belief is true or false. In order to arrive, from the definition, at an account of what a proposition is, we must decide what belief is, what is the sort of thing that can be believed, and what constitutes truth or falsehood in a belief. I take it as evident that the truth or falsehood of a belief depends upon a *fact* to which the belief "refers." Therefore it is well to begin our inquiry by examining the nature of facts.

### I. *Structure of Facts.*

I mean by a "fact" anything complex. If the world contains no simples, then whatever it contains is a fact; if it contains any simples, then facts are whatever it contains except simples. When it is raining, that is a fact; when the sun is shining, that is a fact. The distance from London to Edinburgh is a fact. That all men die is probably a fact. That the planets move round the sun approximately in ellipses is a fact. In speaking of these as facts, I am not alluding to the phrases in which we assert them, or to our

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\* In what follows, the first section, on the structure of facts, contains nothing essentially novel, and is only included for the convenience of the reader. I have defended its doctrines elsewhere, and have therefore here set them down dogmatically. On the other hand, later sections contain views which I have not hitherto advocated, resulting chiefly from an attempt to define what constitutes "meaning" and to dispense with the "subject" except as a logical construction.

frame of mind while we make the assertions, but to those features in the constitution of the world which make our assertions true (if they are true) or false (if they are false).

To say that facts are complex is the same thing as to say that they have *constituents*. That Socrates was Greek, that he married Xantippe, that he died of drinking the hemlock, are facts that all have something in common, namely, that they are "about" Socrates, who is accordingly said to be a constituent of each of them.

Every constituent of a fact has a *position* (or several positions) in the fact. For example, "Socrates loves Plato" and "Plato loves Socrates" have the same constituents, but are different facts, because the constituents do not have the same positions in the two facts. "Socrates loves Socrates" (if it is a fact) contains Socrates in two positions. "Two and two are four" contains *two* in two positions. " $2+2=2^2$ " contains 2 in four positions.

Two facts are said to have the same "form" when they differ only as regards their constituents. In this case, we may suppose the one to result from the other by *substitution* of different constituents. For example, "Napoleon hates Wellington" results from "Socrates loves Plato" by substituting Napoleon for Socrates, Wellington for Plato, and *hates* for *loves*. It is obvious that some, but not all, facts can be thus derived from "Socrates loves Plato." Thus some facts have the same form as this, and some have not. We can represent the form of a fact by the use of variables: thus " $xRy$ " may be used to represent the form of the fact that Socrates loves Plato. But the use of such expressions, as well as of ordinary language, is liable to lead to mistakes unless care is taken to avoid them.

There are an infinite number of forms of facts. It will conduce to simplicity to confine ourselves, for the moment, to facts having only three constituents, namely, two terms and a dual (or dyadic) relation. In a fact which has three con-

stituents, two can be distinguished from the third by the circumstance that, if these two are interchanged, we still have a fact, or, at worst, we obtain a fact by taking the contradictory of what results from the interchange, whereas the third constituent (the relation) cannot ever be interchanged with either of the others. Thus if there is such a fact as "Socrates loves Plato," there is either "Plato loves Socrates" or "Plato does not love Socrates," but neither Socrates nor Plato can replace *loves*. (For purposes of illustration, I am for the moment neglecting the fact that Socrates and Plato are themselves complex.) The essentially non-interchangeable constituent of a fact containing three constituents is called a *dual* (or *dyadic*) *relation*; the other two constituents are called the *terms* of that relation in that fact. The terms of dual relations are called *particulars*.\*

Facts containing three constituents are not all of the same form. There are two forms that they may have, which are each other's opposites. "Socrates loves Plato" and "Napoleon does not love Wellington" are facts which have opposite forms. We will call the form of "Socrates loves Plato" *positive*, and the form of "Napoleon does not love Wellington" *negative*. So long as we confine ourselves to atomic facts, *i.e.*, to such as contain only one verb and neither generality nor its denial, the distinction between positive and negative facts is easily made. In more complicated cases there are still two kinds of facts, though it is less clear which is positive and which negative.

Thus the forms of facts divide into pairs, such that, given appropriate constituents, there is always a fact of one of the two correlated forms but not of the other. Given any two

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\* The above discussion might be replaced by that of subject-predicate facts or of facts containing triadic, tetradic . . . relations. But it is possible to doubt whether there are subject-predicate facts, and the others are more complicated than those containing three constituents. Hence these are best for purposes of illustration.