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V.—KNOWLEDGE BY ACQUAINTANCE AND KNOWLEDGE BY DESCRIPTION.

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THE object of the following paper is to consider what it is that we know in cases where we know propositions about "the so-and-so" without knowing who or what the so-and-so is. For example, I know that the candidate who gets most votes will be elected, though I do not know who is the candidate who will get most votes. The problem I wish to consider is: What do we know in these cases, where the subject is merely described? I have considered this problem elsewhere* from a purely logical point of view; but in what follows I wish to consider the question in relation to theory of knowledge as well as in relation to logic, and in view of the above-mentioned logical discussions, I shall in this paper make the logical portion as brief as possible.

In order to make clear the antithesis between "acquaintance" and "description," I shall first of all try to explain what I mean by "acquaintance." I say that I am *acquainted* with an object when I have a direct cognitive relation to that object, *i.e.* when I am directly aware of the object itself. When I speak of a cognitive relation here, I do not mean the sort of relation which constitutes judgment, but the sort which constitutes presentation. In fact, I think the relation of subject and object which I call acquaintance is simply the converse of the relation of object and subject which constitutes presentation. That is, to say that S has acquaintance with O is essentially the same thing as to say that O is presented to S.

* See references later.

But the associations and natural extensions of the word *acquaintance* are different from those of the word *presentation*. To begin with, as in most cognitive words, it is natural to say that I am acquainted with an object even at moments when it is not actually before my mind, provided it has been before my mind, and will be again whenever occasion arises. This is the same sense in which I am said to know that $2+2=4$ even when I am thinking of something else. In the second place, the word *acquaintance* is designed to emphasize, more than the word *presentation*, the relational character of the fact with which we are concerned. There is, to my mind, a danger that, in speaking of presentations, we may so emphasize the object as to lose sight of the subject. The result of this is either to lead to the view that there is no subject, whence we arrive at materialism; or to lead to the view that what is presented is part of the subject, whence we arrive at idealism, and should arrive at solipsism but for the most desperate contortions. Now I wish to preserve the dualism of subject and object in my terminology, because this dualism seems to me a fundamental fact concerning cognition. Hence I prefer the word *acquaintance*, because it emphasizes the need of a subject which is acquainted.

When we ask what are the kinds of objects with which we are acquainted, the first and most obvious example is *sense-data*. When I see a colour or hear a noise, I have direct acquaintance with the colour or the noise. The sense-datum with which I am acquainted in these cases is generally, if not always, complex. This is particularly obvious in the case of sight. I do not mean, of course, merely that the supposed physical object is complex, but that the direct sensible object is complex and contains parts with spatial relations. Whether it is possible to be aware of a complex without being aware of its constituents is not an easy question, but on the whole it would seem that there is no reason why it should not be possible. This question arises in an acute form in

connection with self-consciousness, which we must now briefly consider.

In introspection, we seem to be immediately aware of varying complexes, consisting of objects in various cognitive and conative relations to ourselves. When I see the sun, it often happens that I am aware of my seeing the sun, in addition to being aware of the sun; and when I desire food, it often happens that I am aware of my desire for food. But it is hard to discover any state of mind in which I am aware of myself alone, as opposed to a complex of which I am a constituent. The question of the nature of self-consciousness is too large, and too slightly connected with our subject, to be argued at length here. It is, however, very difficult to account for plain facts if we assume that we do not have acquaintance with ourselves. It is plain that we are not only *acquainted* with the complex "Self-acquainted-with-A," but we also *know* the proposition "I am acquainted with A." Now here the complex has been analysed, and if "I" does not stand for something which is a direct object of acquaintance, we shall have to suppose that "I" is something known by description. If we wished to maintain the view that there is no acquaintance with Self, we might argue as follows: We are acquainted with *acquaintance*, and we know that it is a relation. Also we are acquainted with a complex in which we perceive that acquaintance is the relating relation. Hence we know that this complex must have a constituent which is that which is acquainted, *i.e.* must have a subject-term as well as an object-term. This subject-term we define as "I." Thus "I" means "the subject-term in awarenesses of which I am aware." But as a definition this cannot be regarded as a happy effort. It would seem necessary, therefore, to suppose that I am acquainted with myself, and that "I," therefore, requires no definition, being merely the proper name of a certain object. Thus self-consciousness cannot be regarded as throwing light on the question whether we can know a complex without

knowing its constituents. This question, however, is not important for our present purposes, and I shall therefore not discuss it further.

The awarenesses we have considered so far have all been awarenesses of particular existents, and might all in a large sense be called sense-data. For, from the point of view of theory of knowledge, introspective knowledge is exactly on a level with knowledge derived from sight or hearing. But, in addition to awareness of the above kind of objects, which may be called awareness of *particulars*, we have also what may be called awareness of *universals*. Awareness of universals is called *conceiving*, and a universal of which we are aware is called a *concept*. Not only are we aware of particular yellows, but if we have seen a sufficient number of yellows and have sufficient intelligence, we are aware of the universal *yellow*; this universal is the subject in such judgments as "yellow differs from blue" or "yellow resembles blue less than green does." And the universal yellow is the predicate in such judgments as "this is yellow," where "this" is a particular sense-datum. And universal relations, too, are objects of awarenesses; up and down, before and after, resemblance, desire, awareness itself, and so on, would seem to be all of them objects of which we can be aware.

In regard to relations, it might be urged that we are never aware of the universal relation itself, but only of complexes in which it is a constituent. For example, it may be said that we do not know directly such a relation as *before*, though we understand such a proposition as "this is before that," and may be directly aware of such a complex as "this being before that." This view, however, is difficult to reconcile with the fact that we often know propositions in which the relation is the subject, or in which the relata are not definite given objects, but "anything." For example, we know that if one thing is before another, and the other before a third, then the first is before the third; and here the things concerned are not definite

things, but "anything." It is hard to see how we could know such a fact about "before" unless we were acquainted with "before," and not merely with actual particular cases of one given object being before another given object. And more directly: A judgment such as "this is before that," where this judgment is derived from awareness of a complex, constitutes an analysis, and we should not understand the analysis if we were not acquainted with the meaning of the terms employed. Thus we must suppose that we are acquainted with the meaning of "before," and not merely with instances of it.

There are thus two sorts of objects of which we are aware, namely, particulars and universals. Among particulars I include all existents, and all complexes of which one or more constituents are existents, such as this-before-that, this-above-that, the-yellowness-of-this. Among universals I include all objects of which no particular is a constituent. Thus the disjunction "universal-particular" is exhaustive. We might also call it the disjunction "abstract-concrete." It is not quite parallel with the opposition "concept-percept," because things remembered or imagined belong with particulars, but can hardly be called percepts. (On the other hand, universals with which we are acquainted may be identified with concepts.)

It will be seen that among the objects with which we are acquainted are not included physical objects (as opposed to sense-data), nor other people's minds. These things are known to us by what I call "knowledge by description," which we must now consider.

By a "description" I mean any phrase of the form "a so-and-so" or "the so-and-so." A phrase of the form "a so-and-so" I shall call an "ambiguous" description; a phrase of the form "the so-and-so" (in the singular) I shall call a "definite" description. Thus "a man" is an ambiguous description, and "the man with the iron mask" is a definite description. There are various problems connected with ambiguous descriptions, but I pass them by, since they do not

directly concern the matter I wish to discuss. What I wish to discuss is the nature of our knowledge concerning objects in cases where we know that there is an object answering to a definite description, though we are not *acquainted* with any such object. This is a matter which is concerned exclusively with *definite* descriptions. I shall, therefore, in the sequel, speak simply of "descriptions" when I mean "definite descriptions." Thus a description will mean any phrase of the form "the so-and-so" in the singular.

I shall say that an object is "known by description" when we know that it is "*the so-and-so*," *i.e.* when we know that there is one object, and no more, having a certain property; and it will generally be implied that we do not have knowledge of the same object by acquaintance. We know that the man with the iron mask existed, and many propositions are known about him; but we do not know who he was. We know that the candidate who gets most votes will be elected, and in this case we are very likely also acquainted (in the only sense in which one can be acquainted with some one else) with the man who is, in fact, the candidate who will get most votes, but we do not know which of the candidates he is, *i.e.* we do not know any proposition of the form "A is the candidate who will get most votes" where A is one of the candidates by name. We shall say that we have "*merely* descriptive knowledge" of the so-and-so when, although we know that the so-and-so exists, and although we may possibly be acquainted with the object which is, in fact, the so-and-so, yet we do not know any proposition "*a* is the so-and-so," where *a* is something with which we are acquainted.

When we say "the so-and-so exists," we mean that there is just one object which is the so-and-so. The proposition "*a* is the so-and-so" means that *a* has the property so-and-so, and nothing else has. "Sir Joseph Larmor is the Unionist candidate" means "Sir Joseph Larmor is a Unionist candidate, and no one else is." "The Unionist candidate exists" means "some

one is a Unionist candidate, and no one else is." Thus, when we are acquainted with an object which is the so-and-so, we know that the so-and-so exists, but we may know that the so-and-so exists when we are not acquainted with any object which we know to be the so-and-so, and even when we are not acquainted with any object which, in fact, is the so-and-so.

Common words, even proper names, are usually really descriptions. That is to say, the thought in the mind of a person using a proper name correctly can generally only be expressed explicitly if we replace the proper name by a description. Moreover, the description required to express the thought will vary for different people, or for the same person at different times. The only thing constant (so long as the name is rightly used) is the object to which the name applies. But so long as this remains constant, the particular description involved usually makes no difference to the truth or falsehood of the proposition in which the name appears.

Let us take some illustrations. Suppose some statement made about Bismarck. Assuming that there is such a thing as direct acquaintance with oneself, Bismarck himself might have used his name directly to designate the particular person with whom he was acquainted. In this case, if he made a judgment about himself, he himself might be a constituent of the judgment. Here the proper name has the direct use which it always wishes to have, as simply standing for a certain object, and not for a description of the object. But if a person who knew Bismarck made a judgment about him, the case is different. What this person was acquainted with were certain sense-data which he connected (rightly, we will suppose) with Bismarck's body. His body as a physical object, and still more his mind, were only known as the body and the mind connected with these sense-data. That is, they were known by description. It is, of course, very much a matter of chance which characteristics of a man's appearance will come into a friend's mind when he thinks of him; thus the description

actually in the friend's mind is accidental. The essential point is that he knows that the various descriptions all apply to the same entity, in spite of not being acquainted with the entity in question.

When we, who did not know Bismarck, make a judgment about him, the description in our minds will probably be some more or less vague mass of historical knowledge—far more, in most cases, than is required to identify him. But, for the sake of illustration, let us assume that we think of him as "the first Chancellor of the German Empire." Here all the words are abstract except "German." The word "German" will again have different meanings for different people. To some it will recall travels in Germany, to some the look of Germany on the map, and so on. But if we are to obtain a description which we know to be applicable, we shall be compelled, at some point, to bring in a reference to a particular with which we are acquainted. Such reference is involved in any mention of past, present, and future (as opposed to definite dates), or of here and there, or of what others have told us. Thus it would seem that, in some way or other, a description known to be applicable to a particular must involve some reference to a particular with which we are acquainted, if our knowledge about the thing described is not to be merely what follows logically from the description. For example, "the most long-lived of men" is a description which must apply to some man, but we can make no judgments concerning this man which involve knowledge about him beyond what the description gives. If, however, we say, "the first Chancellor of the German Empire was an astute diplomatist," we can only be assured of the truth of our judgment in virtue of something with which we are acquainted—usually a testimony heard or read. Considered psychologically, apart from the information we convey to others, apart from the fact about the actual Bismarck, which gives importance to our judgment, the thought we really have contains the one or more

particulars involved, and otherwise consists wholly of concepts. All names of places—London, England, Europe, the earth, the Solar System—similarly involve, when used, descriptions which start from some one or more particulars with which we are acquainted. I suspect that even the Universe, as considered by metaphysics, involves such a connection with particulars. In logic, on the contrary, where we are concerned not merely with what does exist, but with whatever might or could exist or be, no reference to actual particulars is involved.

It would seem that, when we make a statement about something only known by description, we often *intend* to make our statement, not in the form involving the description, but about the actual thing described. That is to say, when we say anything about Bismarck, we should like, if we could, to make the judgment which Bismarck alone can make, namely, the judgment of which he himself is a constituent. In this we are necessarily defeated, since the actual Bismarck is unknown to us. But we know that there is an object B called Bismarck, and that B was an astute diplomatist. We can thus *describe* the proposition we should like to affirm, namely, "B was an astute diplomatist," where B is the object which was Bismarck. What enables us to communicate in spite of the varying descriptions we employ is that we know there is a true proposition concerning the actual Bismarck, and that however we may vary the description (so long as the description is correct), the proposition described is still the same. This proposition, which is described and is known to be true, is what interests us; but we are not acquainted with the proposition itself, and do not know *it*, though we know it is true.

It will be seen that there are various stages in the removal from acquaintance with particulars: there is Bismarck to people who knew him, Bismarck to those who only know of him through history, the man with the iron mask, the longest-lived of men. These are progressively further removed from

acquaintance with particulars, and there is a similar hierarchy in the region of universals. Many universals, like many particulars, are only known to us by description. But here, as in the case of particulars, knowledge concerning what is known by description is ultimately reducible to knowledge concerning what is known by acquaintance.

The fundamental epistemological principle in the analysis of propositions containing descriptions is this: *Every proposition which we can understand must be composed wholly of constituents with which we are acquainted.* From what has been said already, it will be plain why I advocate this principle, and how I propose to meet the case of propositions which at first sight contravene it. Let us begin with the reasons for supposing the principle true.

The chief reason for supposing the principle true is that it seems scarcely possible to believe that we can make a judgment or entertain a supposition without knowing what it is that we are judging or supposing about. If we make a judgment about (say) Julius Cæsar, it is plain that the actual person who was Julius Cæsar is not a constituent of the judgment. But before going further, it may be well to explain what I mean when I say that this or that is a constituent of a judgment, or of a proposition which we understand. To begin with judgments: a judgment, as an occurrence, I take to be a relation of a mind to several entities, namely, the entities which compose what is judged. If, *e.g.*, I judge that A loves B, the judgment as an event consists in the existence, at a certain moment, of a specific four-term relation, called *judging*, between me and A and love and B. That is to say, at the time when I judge, there is a certain complex whose terms are myself and A and love and B, and whose relating relation is *judging*. (The relation *love* enters as one of the terms of the relation, not as a relating relation.) My reasons for this view have been set forth elsewhere,* and I shall not repeat them here. Assuming this-

* *Philosophical Essays*, "The Nature of Truth."

view of judgment, the constituents of the judgment are simply the constituents of the complex which is the judgment. Thus, in the above case, the constituents are myself and A and love and B and judging. But myself and judging are constituents shared by all my judgments; thus the *distinctive* constituents of the particular judgment in question are A and love and B. Coming now to what is meant by "understanding a proposition," I should say that there is another relation possible between me and A and love and B, which is called my *supposing* that A loves B.* When we can *suppose* that A loves B, we "understand the proposition" *A loves B*. Thus we often understand a proposition in cases where we have not enough knowledge to make a judgment. Supposing, like judging, is a many-term relation, of which a mind is one term. The other terms of the relation are called the constituents of the proposition supposed. Thus the principle which I enunciated may be restated as follows: *Whenever a relation of supposing or judging occurs, the terms to which the supposing or judging mind is related by the relation of supposing or judging must be terms with which the mind in question is acquainted.* This is merely to say that we cannot make a judgment or a supposition without knowing what it is that we are making our judgment or supposition about. It seems to me that the truth of this principle is evident as soon as the principle is understood; I shall, therefore, in what follows, assume the principle, and use it as a guide in analysing judgments that contain descriptions.

Returning now to Julius Cæsar, I assume that it will be

* Cf. Meinong, *Ueber Annahmen, passim*. I formerly supposed, contrary to Meinong's view, that the relationship of supposing might be merely that of presentation. In this view I now think I was mistaken, and Meinong is right. But my present view depends upon the theory that both in judgment and in assumption there is no single Objective, but the several constituents of the judgment or assumption are in a many-term relation to the mind.

admitted that he himself is not a constituent of any judgment which I can make. But at this point it is necessary to examine the view that judgments are composed of something called "ideas," and that it is the "idea" of Julius Cæsar that is a constituent of my judgment. I believe the plausibility of this view rests upon a failure to form a right theory of descriptions. We may mean by my "idea" of Julius Cæsar the things that I know about him, *e.g.*, that he conquered Gaul, was assassinated on the Ides of March, and is a plague to schoolboys. Now I am admitting, and indeed contending, that in order to discover what is actually in my mind when I judge about Julius Cæsar, we must substitute for the proper name a description made up of some of the things I know about him. (A description which will often serve to express my thought is "the man whose name was Julius Cæsar." For whatever else I may have forgotten about him, it is plain that when I mention him I have not forgotten that that was his name.) But although I think the theory that judgments consist of ideas may have been suggested in some such way, yet I think the theory itself is fundamentally mistaken. The view seems to be that there is some mental existent which may be called the "idea" of something outside the mind of the person who has the idea, and that, since judgment is a mental event, its constituents must be constituents of the mind of the person judging. But in this view ideas become a veil between us and outside things—we never really, in knowledge, attain to the things we are supposed to be knowing about, but only to the ideas of those things. The relation of mind, idea, and object, on this view, is utterly obscure, and, so far as I can see, nothing discoverable by inspection warrants the intrusion of the idea between the mind and the object. I suspect that the view is fostered by the dislike of relations, and that it is felt the mind could not know objects unless there were something "in" the mind which could be called the state of knowing the object. Such a view, however, leads at once to a vicious

endless regress, since the relation of idea to object will have to be explained by supposing that the idea itself has an idea of the object, and so on *ad infinitum*. I therefore see no reason to believe that, when we are acquainted with an object, there is in us something which can be called the "idea" of the object. On the contrary, I hold that acquaintance is wholly a relation, not demanding any such constituent of the mind as is supposed by advocates of "ideas." This is, of course a large question, and one which would take us far from our subject if it were adequately discussed. I therefore content myself with the above indications, and with the corollary that, in judging, the actual objects concerning which we judge, rather than any supposed purely mental entities, are constituents of the complex which is the judgment.

When, therefore, I say that we must substitute for "Julius Cæsar" some description of Julius Cæsar, in order to discover the meaning of a judgment nominally about him, I am not saying that we must substitute an idea. Suppose our description is "the man whose name was *Julius Cæsar*." Let our judgment be "Julius Cæsar was assassinated." Then it becomes "the man whose name was *Julius Cæsar* was assassinated." Here *Julius Cæsar* is a noise or shape with which we are acquainted, and all the other constituents of the judgment (neglecting the tense in "was") are *concepts* with which we are acquainted. Thus our judgment is wholly reduced to constituents with which we are acquainted, but Julius Cæsar himself has ceased to be a constituent of our judgment. This, however, requires a proviso, to be further explained shortly, namely, that "the man whose name was *Julius Cæsar*" must not, as a whole, be a constituent of our judgment, that is to say, this phrase must not, as a whole, have a meaning which enters into the judgment. Any right analysis of the judgment, therefore, must break up this phrase, and not treat it as a subordinate complex which is part of the judgment. The judgment "the man whose name was *Julius*

Cæsar was assassinated" may be interpreted as meaning "One and only one man was called *Julius Cæsar*, and that one was assassinated." Here it is plain that there is no constituent corresponding to the phrase "the man whose name was *Julius Cæsar*." Thus there is no reason to regard this phrase as expressing a constituent of the judgment, and we have seen that this phrase must be broken up if we are to be acquainted with all the constituents of the judgment. This conclusion, which we have reached from considerations concerned with the theory of knowledge, is also forced upon us by logical considerations, which must now be briefly reviewed.

It is common to distinguish two aspects, *meaning* and *denotation*, in such phrases as "the author of Waverley." The meaning will be a certain complex, consisting (at least) of authorship and Waverley with some relation; the denotation will be Scott. Similarly "featherless bipeds" will have a complex meaning, containing as constituents the presence of two feet and the absence of feathers, while its denotation will be the class of men. Thus when we say "Scott is the author of Waverley" or "men are the same as featherless bipeds," we are asserting an identity of denotation, and this assertion is worth making because of the diversity of meaning.* I believe that the duality of meaning and denotation, though capable of a true interpretation, is misleading if taken as fundamental. The denotation, I believe, is not a constituent of the proposition, except in the case of proper names, *i.e.* of words which do not assign a property to an object, but merely and solely name it. And I should hold further that, in this sense, there are only two words which are strictly proper names of particulars, namely, "I" and "this."

One reason for not believing the denotation to be a constituent of the proposition is that we may know the proposition

* This view has been recently advocated by Miss E. E. C. Jones, "A New Law of Thought and its Implications," *Mind*, January, 1911.

even when we are not acquainted with the denotation. The proposition "the author of Waverley is a novelist" was known to people who did not know that "the author of Waverley" denoted Scott. This reason has been already sufficiently emphasised.

A second reason is that propositions concerning "the so-and-so" are possible even when "the so-and-so" has no denotation. Take, *e.g.*, "the golden mountain does not exist" or "the round square is self-contradictory." If we are to preserve the duality of meaning and denotation, we have to say, with Meinong, that there are such objects as the golden mountain and the round square, although these objects do not have being. We even have to admit that the existent round square is existent, but does not exist.* Meinong does not regard this as a contradiction, but I fail to see that it is not one. Indeed, it seems to me evident that the judgment "there is no such object as the round square" does not presuppose that there is such an object. If this is admitted, however, we are led to the conclusion that, by parity of form, no judgment concerning "the so-and-so" actually involves the so-and-so as a constituent.

Miss Jones† contends that there is no difficulty in admitting contradictory predicates concerning such an object as "the present King of France," on the ground that this object is in itself contradictory. Now it might, of course, be argued that this object, unlike the round square, is not self-contradictory, but merely non-existent. This, however, would not go to the root of the matter. The real objection to such an argument is that the law of contradiction ought not to be stated in the traditional form "A is not both B and not B," but in the form "no proposition is both true and false." The traditional form only applies to certain propositions, namely, to those which

* Meinong, *Ueber Annahmen*, 2nd ed., Leipzig, 1910, p. 141.

† *Mind*, July, 1910, p. 380.

attribute a predicate to a subject. When the law is stated of propositions, instead of being stated concerning subjects and predicates, it is at once evident that propositions about the present King of France or the round square can form no exception, but are just as incapable of being both true and false as other propositions.

Miss Jones* argues that "Scott is the author of Waverley" asserts identity of denotation between *Scott* and *the author of Waverley*. But there is some difficulty in choosing among alternative meanings of this contention. In the first place, it should be observed that *the author of Waverley* is not a mere name, like *Scott*. *Scott* is merely a noise or shape conventionally used to designate a certain person; it gives us no information about that person, and has nothing that can be called meaning as opposed to denotation. (I neglect the fact, considered above, that even proper names, as a rule, really stand for descriptions.) But *the author of Waverley* is not merely conventionally a name for Scott; the element of mere convention belongs here to the separate words, *the* and *author* and *of* and *Waverley*. Given what these words stand for, *the author of Waverley* is no longer arbitrary. When it is said that Scott is the author of Waverley, we are not stating that these are two names for one man, as we should be if we said "Scott is Sir Walter." A man's name is what he is called, but however much Scott had been called the author of Waverley, that would not have made him be the author; it was necessary for him actually to write Waverley, which was a fact having nothing to do with names.

If, then, we are asserting identity of denotation, we must not mean by *denotation* the mere relation of a name to the thing named. In fact, it would be nearer to the truth to say that the *meaning* of "Scott" is the *denotation* of "the author of Waverley." The relation of "Scott" to Scott is that "Scott"

* *Mind*, July, 1910, p. 370.

means Scott, just as the relation of "author" to the concept which is so called is that "author" means this concept. Thus if we distinguish meaning and denotation in "the author of Waverley," we shall have to say that "Scott" has meaning but not denotation. Also when we say "Scott is the author of Waverley," the *meaning* of "the author of Waverley" is relevant to our assertion. For if the denotation alone were relevant, any other phrase with the same denotation would give the same proposition. Thus "Scott is the author of Marmion" would be the same proposition as "Scott is the author of Waverley." But this is plainly not the case, since from the first we learn that Scott wrote Marmion and from the second we learn that he wrote Waverley, but the first tells us nothing about Waverley and the second nothing about Marmion. Hence the meaning of "the author of Waverley," as opposed to the denotation, is certainly relevant to "Scott is the author of Waverley."

We have thus agreed that "the author of Waverley" is not a mere name, and that its meaning is relevant in propositions in which it occurs. Thus if we are to say, as Miss Jones does, that "Scott is the author of Waverley" asserts an identity of denotation, we must regard the denotation of "the author of Waverley" as the denotation of what is *meant* by "the author of Waverley." Let us call the meaning of "the author of Waverley" *M*. Thus *M* is what "the author of Waverley" means. Then we are to suppose that "Scott is the author of Waverley" means "Scott is the denotation of *M*." But here we are explaining our proposition by another of the same form, and thus we have made no progress towards a real explanation. "The denotation of *M*," like "the author of Waverley," has both meaning and denotation, on the theory we are examining. If we call its meaning *M'*, our proposition becomes "Scott is the denotation of *M'*." But this leads at once to an endless regress. Thus the attempt to regard our proposition as asserting identity of denotation breaks down,

and it becomes imperative to find some other analysis. When this analysis has been completed, we shall be able to reinterpret the phrase "identity of denotation," which remains obscure so long as it is taken as fundamental.

The first point to observe is that, in any proposition about "the author of Waverley," provided Scott is not explicitly mentioned, the denotation itself, *i.e.* Scott, does not occur, but only the concept of denotation, which will be represented by a variable. Suppose we say "the author of Waverley was the author of Marmion," we are certainly not saying that both were Scott—we may have forgotten that there was such a person as Scott. We are saying that there is some man who was the author of Waverley and the author of Marmion. That is to say, there is some one who wrote Waverley and Marmion, and no one else wrote them. Thus the identity is that of a variable, *i.e.*, of an indefinite subject, "some one." This is why we can understand propositions about "the author of Waverley," without knowing who he was. When we say "the author of Waverley was a poet" we mean "one and only one man wrote Waverley, and he was a poet"; when we say "the author of Waverley was Scott" we mean "one and only one man wrote Waverley, and he was Scott." Here the identity is between a variable, *i.e.* an indeterminate subject ("he"), and Scott; "the author of Waverley" has been analysed away, and no longer appears as a constituent of the proposition.*

The reason why it is imperative to analyse away the phrase "the author of Waverley" may be stated as follows. It is plain that when we say "the author of Waverley is the author of Marmion," the *is* expresses identity. We have seen also that the common *denotation*, namely Scott, is not a constituent of this proposition, while the *meanings* (if any) of "the author of Waverley" and "the author of Marmion" are not identical.

* The theory which I am advocating is set forth fully, with the logical grounds in its favour, in *Principia Mathematica*, Vol. I, Introduction, Chap. III; also, less fully, in *Mind*, October, 1905.

We have seen also that, in any sense in which the meaning of a word is a constituent of a proposition in whose verbal expression the word occurs, "Scott" means the actual man Scott, in the same sense in which "author" means a certain universal. Thus, if "the author of Waverley" were a subordinate complex in the above proposition, its *meaning* would have to be what was said to be identical with the *meaning* of "the author of Marmion." This is plainly not the case; and the only escape is to say that "the author of Waverley" does not, by itself, have a meaning, though phrases of which it is part do have a meaning. That is, in a right analysis of the above proposition, "the author of Waverley" must disappear. This is effected when the above proposition is analysed as meaning: "Some one wrote Waverley and no one else did, and that some one also wrote Marmion and no one else did." This may be more simply expressed by saying that the propositional function " x wrote Waverley and Marmion, and no one else did" is capable of truth, *i.e.* some value of x makes it true. Thus the true subject of our judgment is a propositional function, *i.e.* a complex containing an undetermined constituent, and becoming a proposition as soon as this constituent is determined.

We may now define the denotation of a phrase. If we know that the proposition " a is the so-and-so" is true, *i.e.* that a is so-and-so and nothing else is, we call a the denotation of the phrase "the so-and-so." A very great many of the propositions we naturally make about "the so-and-so" will remain true or remain false if we substitute a for "the so-and-so," where a is the denotation of "the so-and-so." Such propositions will also remain true or remain false if we substitute for "the so-and-so" any other phrase having the same denotation. Hence, as practical men, we become interested in the denotation more than in the description, since the denotation decides as to the truth or falsehood of so many statements in which the description occurs. Moreover,

as we saw earlier in considering the relations of description and acquaintance, we often wish to reach the denotation, and are only hindered by lack of acquaintance: in such cases the description is merely the means we employ to get as near as possible to the denotation. Hence it naturally comes to be supposed that the denotation is part of the proposition in which the description occurs. But we have seen, both on logical and on epistemological grounds, that this is an error. The actual object (if any) which is the denotation is not (unless it is explicitly mentioned) a constituent of propositions in which descriptions occur; and this is the reason why, in order to understand such propositions, we need acquaintance with the constituents of the description, but do not need acquaintance with its denotation. The first result of analysis, when applied to propositions whose grammatical subject is "the so-and-so," is to substitute a variable as subject; *i.e.* we obtain a proposition of the form: "There is *something* which alone is so-and-so, and that *something* is such-and-such." The further analysis of propositions concerning "the so-and-so" is thus merged in the problem of the nature of the variable, *i.e.* of the meanings of *some*, *any*, and *all*. This is a difficult problem, concerning which I do not intend to say anything at present.

To sum up our whole discussion: We began by distinguishing two sorts of knowledge of objects, namely, knowledge by *acquaintance* and knowledge by *description*. Of these it is only the former that brings the object itself before the mind. We have acquaintance with sense-data, with many universals, and possibly with ourselves, but not with physical objects or other minds. We have *descriptive* knowledge of an object when we know that it is *the* object having some property or properties with which we are acquainted; that is to say, when we know that the property or properties in question belong to one object and no more, we are said to have knowledge of that one object by description, whether or not we are

acquainted with the object. Our knowledge of physical objects and of other minds is only knowledge by description, the descriptions involved being usually such as involve sense-data. All propositions intelligible to us, whether or not they primarily concern things only known to us by description, are composed wholly of constituents with which we are acquainted, for a constituent with which we are not acquainted is unintelligible to us. A judgment, we found, is not composed of mental constituents called "ideas," but consists of a complex whose constituents are a mind and certain objects, particulars or universals. (One at least must be a universal.) When a judgment is rightly analysed, the objects which are constituents of it must all be objects with which the mind which is a constituent of it is acquainted. This conclusion forces us to analyse descriptive phrases occurring in propositions, and to say that the objects denoted by such phrases are not constituents of judgments in which such phrases occur (unless these objects are explicitly mentioned). This leads us to the view (recommended also on purely logical grounds) that when we say "the author of *Marmion* was the author of *Waverley*," Scott himself is not a constituent of our judgment, and that the judgment cannot be explained by saying that it affirms identity of denotation with diversity of connotation. It also, plainly, does not assert identity of meaning. Such judgments, therefore, can only be analysed by breaking up the descriptive phrases, introducing a variable, and making propositional functions the ultimate subjects. In fact, "the so-and-so is such-and-such" will mean that " x is so-and-so and nothing else is, and x is such-and-such" is capable of truth. The analysis of such judgments involves many fresh problems, but the discussion of these problems is not undertaken in the present paper.

VI.—THE THEORY OF PSYCHO-PHYSICAL PARALLELISM AS A WORKING HYPOTHESIS IN PSYCHOLOGY.

By H. WILDON CARR.

It has always seemed to me strange that at the outset of the study of psychology we should be called upon to decide on a theory of the nature of the relation of mind and body. It is fully admitted indeed that psychology is not actually concerned with this relation, that the whole question is a metaphysical one, that psychology never can and is not called upon to solve it. Psychology merely asks that we will accept a theory of this relation without prejudice, purely as a working hypothesis. No other science makes such a demand. All the subject sciences may be said to assume their subject, that is to say, they take it as given, all rest on postulates or axioms or at least on a postulate, but they do not require the preliminary *ad hoc* acceptance of a metaphysical theory of the relation of the subject of one science to the subject of another. It seems to me that if this be a necessity for psychology, it constitutes a defect in it as a science. If it must have a working hypothesis this necessity infects it throughout and makes it as a pure science impossible. Just as an assumption admitted into the premisses of an argument must reappear in the conclusion, so a hypothesis introduced as the basis of a science must affect all the conclusions of the science. If psychology is based on the theory of psycho-physical parallelism it cannot be a science of pure psychology but a science of psychological physiological parallelism, just as certainly as if we hold the view that thought is a secretion of the brain we cannot have a science of pure psychology because its subject would be mere effects independent of their causes.