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Symposium: Universals and the "Method of Analysis"

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I.—SYMPOSIUM : UNIVERSALS AND THE “ METHOD  
OF ANALYSIS.”

*By* H. W. B. JOSEPH, F. P. RAMSEY AND R. B. BRAITHWAITE.

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I. *By* H. W. B. JOSEPH.

AN article, by Mr. F. P. Ramsey, in *Mind* for last October, discusses the question whether there are universals as well as particulars, and so far as I can understand arrives at a negative conclusion. I say “so far as I can understand,” because it seems to be thought that the only genuine objects are those which are constituents of atomic propositions, and that what the word “Socrates” stands for, or stood for to his contemporaries who knew him, was not a genuine object but a logical construction. Of the forms of these atomic propositions we know nothing, except apparently that the distinction of subject and predicate is applicable within them. The very existence of atomic propositions is alleged not because we can produce an instance of one, but because other propositions presuppose their existence (*Mind*, N.S. xxxiv, p. 409). We know this, it seems, though we do not know the analysis into such atomic propositions of a proposition which is not atomic, like “Socrates is wise” (*ib.*, p. 412). But allowing that they exist, and that the atomic fact, which I take to be the same as the atomic proposition, though the use of the word “fact” by the writers of this school greatly puzzles me, is complex, we have to confess that we cannot tell

whether the two terms in this complex, which I suppose would be the ultimate simples, may not be of the same type. If they are not, perhaps it would be contended that there must be an ultimate distinction of simples after all ; and yet I do not understand that this should be identified with the distinction hitherto often alleged to exist between particulars and universals. I think Mr. Ramsey means to throw that over altogether. Strictly speaking, I think, we are to say that there is nothing except those ultimate simples, at which we do not know how to arrive by analysis. But if we are to use either term for the complex with which we are acquainted, apparently we should call them particulars : this seems to be implied by speaking of " that great muddle the theory of universals " (*ib.*, p. 417).

Mr. Russell, whose admission of a distinction among objects between universals and particulars the article criticizes, understands by particulars what " enter into complexes only as the subjects of predicates or the terms of relations, and if they belong to the world of which we have experience, exist in time, and cannot occupy more than one place at one time in the space to which they belong." Universals, on the other hand, " which can occur as predicates"—if this is an " ultimate simple relation"—" or relations in complexes, do not exist in time, and have no relation to one place which they may not simultaneously have to another " (*Proc. Arist. Soc.*, N.S. xii, pp. 23-24). But it is the distinction between subjects and predicates, rather than that between terms and relations, on which he lays stress. For relations are not constituents of the complexes, or propositions, whose terms they connect (*Principia Mathematica*, ed. 2, p. 43) ; but predicates, being terms connected with their subjects by the unique relation (if there is such a relation) called predication, are constituents. An ultimate distinction between subjects and predicates would therefore be one between two kinds of constituents in the universe, having respectively the characteristics named

above, and there would be both particulars and universals. That it is predicates rather than relations which resist the abolition of the difference between particulars and universals seems implied in the following passage from Mr. Russell's paper (*Proc. Arist. Soc.*, N.S. xii, p. 6). "A particular is naturally conceived as a *this*, or something intrinsically analogous to a *this*; and such an entity seems incapable of being a predicate or a relation. A universal, on this view, will be anything that is a predicate or relation. But if there is no specific relation of predication, so that there is no class of entities which can properly be called predicates, then the above method of distinguishing particulars and universals fails." This would imply that they cannot be distinguished merely as terms from relations, though there is no proposal to abolish that distinction. Whether the reason why terms and relations cannot be regarded as respectively particulars and universals be that (in Mr. Russell's opinion) there are no instances of relations, but the relation, for example, of similarity is numerically the same between all similars, or at least all members of any one set of similars, I do not know.

Mr. Ramsey, therefore, in setting out to demolish the distinction between particulars and universals, attempts to show that there is no ultimate distinction between subjects and predicates. In his discussion no difference seems to be recognized between the relation of substance and attribute, as when I say that Socrates is wise, that of species and genus, as when I say that unpunctuality is a fault, and what I have been taught is the relation of subject and predicate. In the sense that I should give to this last I agree with Mr. Ramsey that the distinction of subject and predicate depends on "the point of view from which we approach the fact." For unless the subject word is a mere demonstrative like the word 'this,' I should say that it signifies something of the nature of that object of thought whose nature the predicate-term determines further; and from

what in its nature our consideration starts depends on conditions which have nothing to do with the relation between these distinguishable elements in its nature. Such language, however, implies a real distinction between the unity of the thing or object of thought and its distinguishable characters, and cannot be allowed by the method of analysis, for which a thing is the class of its appearances, and the only unity is that of point-event-particles, such as are integrated into the sense-data from which our acquaintance with the universe starts. I cannot therefore expect Mr. Ramsey to allow my interpretation of the doctrine that the distinction of subject and predicate depends on "the point of view from which we approach the fact." But I do confess to finding a difficulty in his own justification of it. "If," he says, "the centre of our interest is Socrates, we say 'Socrates is wise,' if we are discussing wisdom we may say 'wisdom is a characteristic of Socrates'; but whichever we say, we mean the same thing. Now of one of these sentences 'Socrates' is the subject, of the other 'wisdom'; and so which of the two is subject, which predicate, depends upon what particular sentence we use to express our proposition, and has nothing to do with the logical nature of Socrates or wisdom, but is a matter entirely for grammarians." (*Mind, loc. cit.*, p. 404.) Against this, I should say, firstly, that by his own showing it is not a matter for grammarians; the point of view from which we approach a fact is quite another matter from the choice we make of language for a statement about it. Secondly, when I say "wisdom is a characteristic of Socrates," though wisdom may be the subject of my judgment, the predicate is not "Socrates," but "characteristic of Socrates." And, if we pass from the relation of subject and predicate to that of substance and attribute, which (as I have said) he does not distinguish from the former, we cannot think that Socrates characterizes wisdom, as wisdom may characterize Socrates.

But the retort to this objection would doubtless be something like the following:—The distinction of substance and attribute is antiquated and untenable. The only substances are simples, and Socrates is a complex. If wisdom is a simple, it is a substance, and has as good a right to be a subject as Socrates. Both the statements considered assert the same relation between wisdom and Socrates, and it no more matters where we start in our statement than whether we say that Caesar is like Pompey or Pompey like Caesar. And this will appear more clearly if we examine the considerations that seem to have led to the mistake of thinking that Socrates and wisdom are not, or cannot be analyzed into, entities of the same logical type, and so of erecting the baseless distinction between particulars and universals.

Briefly, the source of the mistake is this. A term like "wise," as an element in a proposition, serves to collect together two ranges of propositions into which it enters. One consists of all propositions in which (in ordinary language) "wise" is predicated of some particular subject; and if we represent any and each of these subjects by  $x$ , we get the form " $x$  is wise." The other consists of all propositions in which "wise" occurs, whether or not as predicated of  $x$ , as "neither Socrates nor Plato is wise," etc., which may be symbolised as " $\phi$  wise," where  $\phi$  is variable, as  $x$  was before. But a term like "Socrates" serves to collect only one range of propositions, viz., such as "Socrates is wise," "Socrates is just," "Socrates is neither wise nor just," which may be symbolised as "Socrates is  $q$ ." We have not here one collection of all propositions in which "Socrates" occurs, corresponding to that of all in which "wise" occurs, and a narrower, in which it occurs as subject, corresponding to the narrower in which "wise" occurs as predicate. Hence we think Socrates must be always subject. "This is obviously the explanation of the difference we feel between Socrates and wise" (*Mind.*, *loc. cit.*, pp. 409-411).

I hope I have stated the argument fairly, for I do not find it conclusive. I do not see why propositions in which "Socrates" occurs otherwise than as subject should not be treated as values of " $\phi$  Socrates": indeed Mr. Ramsey points out that they may. What he seems really to be thinking of, when he speaks of the wider range of propositions collected under the symbol " $\phi$  wise," is not all in which "wise" occurs, such for example as "wisdom is scarce," or "no one remembered that poor wise man," but only such as "Socrates is neither wise nor just"; and " $\phi$  Socrates" similarly suggests not "the Athenians put Socrates to death," or "the doctrines of Socrates and of Plato are hard to separate," but only such as "neither Socrates nor Plato is wise." For it is pointed out that "neither wise nor just" is a compound adjective (though this may be questioned), whereas "neither Socrates nor Plato" is not a compound substantive. It would seem then rather that men must have thought they detected something in the respective natures of such objects of thought as words like "Socrates" and "wise" respectively indicate to justify them in saying that Socrates cannot be predicated in the same way in which wisdom can; and I doubt if the view was ever suggested to any one's mind by a difference in the ways in which propositions wherein the words occur lend themselves to functional symbolization.

Mr. Ramsey, however, thinks that the groundlessness of any ultimate distinction between substantives and adjectives (*i.e.*, substantival and adjectival objects) can be seen when we realize that Socrates is not a genuine object, but a logical construction of objects (*ib.*, p. 412). Genuine objects are such as enter into atomic facts (though, as we have seen, atomic facts cannot be found). Instances of wisdom may enter into such facts—*i.e.*, particular wisdoms or "wises." It is commonly thought there are no instances of Socrates. But Prof. Whitehead has rightly suggested that material objects are "adjectives of the events in

which they are situated." And the proper statement of "Socrates is wise" would be "for all events E, Socrates is situated in E implies wisdom is situated in E." Socrates is one class of particulars, wisdom is another; the atomic fact combines a member from the first class with a member from the second; there the distinction of subject and predicate corresponds to no ultimate distinction between two kinds of object. That we collect under the symbol "wise" particulars related to each other much otherwise than those are related which we collect under the symbol "Socrates" depends "on human interests and needs," and the difference between the symbols is "of a subjective character."

Such, if I follow, is the argument offered to sweep away "that great muddle the theory of universals." It involves believing so much which I disbelieve wholly, that, if I set about to enumerate the points of my dissent, this symposium would "find no end, in wandering mazes lost." I might ask, if Socrates is a logical construction, who or what does the constructing, and whether the human interests and needs spoken of, are the interests and needs of other similar logical constructions, or of elements entering into them. But I would rather call attention to what seems to me the fundamental assumption of the whole school, viz. that what is genuinely one is in no sense also many: that the universe is an aggregate of simples in various relations: and that it is the business of logic to find out and express in formulae the fundamental principles on which these simples are built up into aggregates. The logical calculus is therefore a calculus of relations between terms whose special natures (if they have any) are ignored as irrelevant. They are just particular items: in their aggregates they are connected by relations of various sorts, dyadic or polyadic, and statements assigning various characters, apparently single, to aggregates or complexes also treated as unities can always be analysed into statements about ultimate simples and the modes of their relation.



All this I steadfastly disbelieve. It seems to me an attempt to extend from the subjects of mathematical thought to those of all thought certain doctrines which only bad reasoning has commended to mathematicians. In this great seat of mathematical learning I feel half ashamed to avow how far my dissent carries me. There is among the subjects of mathematical study one which, under the name of the continuum, used to be thought incapable of being analysed into simples. We are now told that this can be done ; that we may start with the simples that compose integers, and out of these build up, by successive processes of aggregation, complexes of complex parts that have the character of continuity. I have wrestled with the explanations given of this construction, and have thought I followed them, and thought I saw that they only succeeded by surreptitiously introducing whole what was to be constructed. But I will not argue this ; that might seem presumptuous ; anyhow, it will be agreed that success here is vital to the method of analysis. I am concerned now with another form of one in many than the continuous I allege that this school has been no more successful than nominalists of old in getting rid of universals.

I do not think the issue is rightly conceived in the papers from which I have quoted. Both writers apparently assume that, if the distinction of particulars and universals is maintained, particulars will be always subjects, and predicates always universals. As I understand the issue, no universal is ever predicated of a particular (I would rather have said, of an individual). If Socrates was wise, it was because an instance of wisdom dwelt in him, just as when he died, not the death of which all deaths are instances but one instance of it excited the admiration of his companions. The distinction of particular and universal is not that of substance and attribute. Mr. Ramsey, following Mr. Russell, describes " the two obvious methods of abolishing the distinction " between particulars and universals as those of

"holding either that universals are collections of particulars or that particulars are collections of their qualities." (*Mind*, *loc. cit.*, p. 27.) This identification of universal and quality I venture to think a mere mistake, arising from the fact that language has not distinct names for a particular quality and the universal of which it is an instance. The reason for this is, that the particular quality (and the same is true for relations) cannot be denoted except by reference to some individual that is not a quality or relation and *is* denoted by a proper name or designation. Yet we may be warned of the mistake too by language. The names of qualities and relations are used in the plural: and though, when I speak of colours and virtues, I may refer to species of colour or virtue, when I speak of the blues in the windows of Chartres Cathedral, or of equal distances, I refer to instances of the same shade of colour or the same distance. Mr. Russell, indeed, holds that there are no instances of relation, as we have seen (*Principles of Mathematics*, §55); and that it is numerically the same relation that unites the constituents of different complexes. In the same interest he holds that the only relations between magnitudes are greater and less; equality is not a relation between magnitudes, and equal quantities are quantities with the same magnitude (*Principles of Mathematics*, §§151, 158). In so saying, he seems to me to fall out of the frying-pan into the fire.

For if two quantities can have the same magnitude, what is the relation between them and their magnitude? I cannot conceive that a quantity and its magnitude are two things in relation. Rather a quantity is that of which its magnitude is a determination: and the determined cannot be analysed into the determinable and the determination as a complex into simples, any more than the genus and the differentia into which we speak of analysing a species are two terms in a relation. I know that Mr. Russell treats the relation of genus to species as one

of class-inclusion, and is not the first to do so. But unless his ultimate simples, the constituents of his atomic facts, if we could find them, would be found wholly unclassifiable, so that no two of them deserved to be called more of the same kind than any other two, he must surely be wrong. And even if it were so with these ultimate simples, it is not so with the sense-data which are the final terms to which, in his view, analysis can actually reach. His theory requires him to hold with Hume that whatever is distinguishable is separable; for if not, there is that which cannot be analysed into simples in relation, and is therefore one, and yet exhibits diversity. But I can distinguish the pitch, timbre and loudness of a musical tone, though they cannot exist separately. If then two quantities have "the same magnitude," that can only mean "instances of the same"; *their* magnitudes are not a simple to which the quantities stand in a many-one relation (for Mr. Russell has said that, if there are universals, that is how their particulars are related to them). The instances of the quantity are themselves instances of the magnitude; there are as truly two instances of the same magnitude as two instances of quantity; and even if the instances of the same magnitude stood to it in a many-one relation, the predicate of each particular equal quantity would still not be a universal, but a particular instance of a universal. I do not indeed think that any light is thrown on the relation of particulars to their universal by the phrase I have quoted. That they are many and it one is allowed by all who admit universals, and even by conceptualists. If more is meant than this, if it is meant that the particulars are related many-one to their universal as they might be to another particular—as prints, *e.g.*, to the plate whence they are printed, and that there is no more to the relation than being many-one, then I think the statement is merely false, as false as to make the universal what Aristotle accused Plato of making it, an eternal sensible.

The magnitudes then of equal quantities seem to me instances of a universal. Let me take another case—cardinal numbers ; that a cardinal number is a class of classes cannot be made out without presupposing that it is something else. What has a cardinal number is no doubt a collection or class ; thus the Apostles, the signs of the zodiac, the months of the year are examples of being a dozen ; and all dozens are the class of dozens. But the Apostles, the Muses, the Graces are also a class of classes. True, they are not a class of all classes similar to a given class, and the class of all dozens is, but it is no more so than is the class of all trios—the Graces, the Fates, the balls over any pawnbroker's shop, etc. What distinguishes this class of all classes similar to a given class from that one, except that each class in this is a trio, and each in that a dozen ? The constituent classes of a class of classes cannot be distinguished by the class of classes whereof they are the members, because their assignment to it depends on their being independently distinguished. I do not know whether mathematicians, who so define cardinal numbers, make any use of their definition, but I suspect that their mathematical work is unaffected by it, since it proceeded so well before Frege and Mr. Russell discovered it. As Plato saw, there are questions about the true nature of the entities about which mathematicians reason that need not be raised within that science. Whether there can be a class of dozens unless they are instances of dozenhood is no more a mathematical question (or I would not presume to express an opinion on it) than whether there can be a class of cows, unless they are instances of cowhood, is a zoological one. One might as well say that a cow is the class of all animals similar to a given animal, as that a cardinal number is the class of all classes similar to a given class. Plato distinguished the numbers of which arithmetic treats or the figures which geometry studies alike from sensible things and from ideas or universals. Whether or not he was right in distinguishing them

from the first he was clearly right in distinguishing them from the second. Circles are instances of circularity, dozens of dozenhood ; but mathematicians are concerned with circles and dozens, not with circularity and dozenhood, and so may make mistakes in regard to the latter without detriment to their study of the former. I am only pointing out that we could not distinguish the groups the Apostles, the signs of the zodiac, the months on the one hand from the groups the Graces, the Fates, the pawnbroker's balls on the other, unless *those* groups had each a number that was an instance of a numerical character different to that of which the number of each of *these* groups is an instance. Mr. Russell says, in the *Principles of Mathematics*, that a class can be defined in two ways, extensionally and intensionally. The first way is by enumerating its members, the second by assigning the class-concept that determines membership. These procedures being different, cannot without confusion be both called definition, but let that pass. The extensional way is inapplicable to infinite classes, but the intensional is always available ; for the members of every collection, however miscellaneous, have the common defining characteristic of being this, that or the other individual. How this method could get over the difficulty that makes the extensional method inapplicable to an infinite class, I do not see ; and in *Principia Mathematica* (ed. 2, p. 56*n.*) he guards himself by saying "when a (*finite*) set of predicates is given by actual enumeration, their disjunction is a predicate."<sup>1</sup> But what I wish to point out is that membership of a class cannot possibly be determined by the character of being this, that or the other member of it. It is also true, though not directly pertinent to my argument for universals, that the predicates in a disjunction of propositions are not a predicate. Mr. Spenslow was either weak or insincere ; the opponent of David Copperfield's marriage was either Spenslow or Jorkins. There is no more such an attribute

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<sup>1</sup> italics mine.

as "weak or insincere" than such a person as "Spenslow or Jorkins."

General knowledge, as I believe, is only possible because we can, in some instance, apprehend a connexion of characters to hold in virtue of what they are, and therefore to hold in any other instance of the same ; that the twelve Apostles, *e.g.*, are divisible into two groups of six, and so any other dozen into two sixes, because to be twelve and to be six are the same in all instances ; and similarly, we apprehend in considering an instance that the deliberate infliction of suffering for the fun of it is evil always. I shall be told that the logical calculus has shown that on the contrary general knowledge is only knowledge of a set of particular propositions. I do not think it has shown this. It relies, I suppose, on the doctrines of formal implication, relation and the variable. The assertion of a formal implication is but the compendious assertion of a set of material implications. The assertion of a material implication requires no such apprehension of connexion between characters as I have spoken of, just as, in the stroke notation, the assertion of what is called incompatibility requires no apprehension that characters cannot be connected. A material implication is just an empirically ascertained fact about the "truth-values" of either or both of the particular propositions related by it. That is why a false proposition implies, and a true one is implied by, all propositions. Hence Mr. Russell naturally finds much more difficulty in a formal implication ; for if I have no empirical knowledge of the "truth-values" of all members of the sets of particular propositions which it concerns how can I be justified in asserting it ? The answer must be, because I can tell by inspection that either it is false that a certain relation holds between certain terms, or true that another relation holds between those terms or some of them. But how can I see this at once for every case of terms thus related ? Because all connexion is the work of relations, and there are no instances of

relation—it is numerically the same relation that does the connecting for different terms. Thus we are to be brought back to particulars ; terms of a kind are not instances of the same, but a class of particulars related by similarity, and similarity is particular because numerically the same between all the terms. And the relations are external to their terms ; for else one dyadic relation could not connect many pairs of terms ; if the same relation can link many terms with another term, the relation cannot in any way be in the term, without making the term complex : the term would have an aspect of identity with another term, and an aspect of diversity, and the method of analysis would have broken down.

Yet will this stand ? if numerically the same similarity holds between every penny and every other penny, and again between every primrose and every other primrose, does it hold between every two members of the classes taken together ? If so, classification is a puzzle ; if not, the terms are concerned in determining the relation between them. There seem then to be instances of similarity, even if it be true that the similarities between every two members of one class of similars are numerically one similarity. And certainly similarity is not the same relation as “greater” or “one less than.” Series are said to be generated by relations, but not all have the same generating relation, and not all relations generate series. Is not then relation a universal, of which the different generating relations, and the relations which generate no series, are either species or instances ? Or are we to speak instead of a class of similar relations, when the whole trouble is that they are dissimilar ? As to series being generated by relations, I should have thought the terms had something to do with it ; else why does the relation “one less than” order the cardinal numbers unambiguously, while the relation “one to the left of” may order men in line in divers ways ?

And if we waive these difficulties, what are we to say of that fundamental thing, a variable? On this matter I think there has been failure sufficiently to distinguish the symbol and the symbolized. "In ordinary mathematics," it is said (*Principia Mathematica*, ed. 2, p. 4), "a variable generally stands for an undetermined number or quantity. In mathematical logic, any symbol whose meaning is not determined is called a variable, and the various determinations of which its meaning is susceptible are called the *values* of the variable." Now what *stands for* a number or quantity, in ordinary mathematics, is a symbol: and that is precisely what does not vary. If  $x$  means a line, it is not  $x$  but the character of length in the lines that varies. The common nature of all lengths can be called undetermined, when we consider it in abstraction from its determinate values, and this is just what the method of analysis shuts its eyes to. So in mathematical logic, though the symbol is called a variable, that is or should be because it is a symbol for instances of something the same which, because the same in its instances, may be called variable. Yet the symbol itself is called a variable. "A variable is ambiguous in its denotation":  $x$  is an unrestricted variable if it can stand for anything. Who would say that the name Jones is a variable because it stands for so many people? The whole trouble of ambiguity is caused because the ambiguous symbol is constant. And logic, and mathematics also, would fall into hopeless confusion unless the use of symbols ambiguous in their denotation were confined within such limits of ambiguity as are fixed by restricting it to things of a common nature. It is perhaps some uneasy suspicion of trouble here that has produced attempts to mend the mischief by introducing the doctrine of the apparent variable, and the distinction in symbolism between  $\phi\hat{x}$  and  $\phi x$ .  $\phi\hat{x}$  is a function which ambiguously denotes,  $\phi x$  is a value of it ambiguously denoted;  $\phi x$  therefore is a proposition, and since a proposition cannot contain a variable,  $x$  is only an apparent variable.



But ambiguity can belong only to a symbol, not to what is symbolized. If I say "I met Jones," my statement may be ambiguous, but he is not. The distinction between  $\phi\hat{x}$  the function, and  $\phi x$  the ambiguous statement about any value of the function, will not stand.  $\phi\hat{x}$  may be a single symbol which ambiguously denotes its many values, as "Jones" is a single name which ambiguously denotes many men. Incidentally, if a word is a class of similar noises (*ib.*, p. 661),  $\phi\hat{x}$  is a class of similar scratches, but let that pass.  $\phi x$ , however, cannot be an ambiguous value of  $\phi\hat{x}$ , any more that Sir William Jones was an ambiguous value of the name "Jones." The introduction between the ambiguous propositional function " $\hat{x}$  is hurt" and the unambiguous proposition " $a$  is hurt" of the ambiguous value of the former " $x$  is hurt" is merely a riding of two horses at once—substituting at will for one another the symbol and the symbolized, the constant and the variable, the bare particular and the instance of a common nature or universal.

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II. *By F. P. RAMSEY.*

Although Mr. Joseph has not fully understood the argument of my article in *Mind*, which he finds so unconvincing, I do not think that, if he did understand it, he would find it any more cogent, for my discussion of the question assumes so many things with which he disagrees, that I do not expect him to find it in the least adequate. It seems to me, therefore, better to begin from his end and to discuss what I take to be the most important doctrine in his paper (apart from a rejection of analysis too vague and general to be discussible), which is explained on p. 8 ff.; namely, that there is a valid distinction between particulars and universals which is neither that of substance and attribute, nor that of subject and predicate, but such that "no universal is ever predicated of a particular" (I would rather have said of an individual).

If I understand this view rightly, it implies, that it is impossible for two things to have the same colour or the same shape; they can only have instances of the same. But I do not know whether this is asserted with regard to all characters whatever, or only with regard to certain characters such as colours, shapes and magnitudes. It seems to me that the only way to make it plausible would be to assert it with regard to all characters, but that to do this would lead at once to a vicious infinite regress. For if two things can never have a common character, they cannot both have the common character of having instances of the same colour; they can only have instances of this character. So that they cannot even have instances of the same colour, but only instances of having instances of the same colour and so on *ad infinitum*. In brief, if as Mr. Joseph says about magnitude,

“ the same ” can only mean “ instances of the same,” “ instances of the same,” can only mean “ instances of instances of the same.”

I conclude that it is only possible to hold Mr. Joseph’s position in regard to some but not all characters. And if this be admitted, I should have thought that the question as to which characters things can have in common and which they cannot, becomes an empirical one ; and although I realise the cases are not formally parallel it seems to me as absurd to say *a priori* that two things never have the same colour as it would be to say that two houses never have the same landlord, or two men the same father.

Besides this, unless I have misunderstood it, Mr. Joseph’s view is open to a quite different and still more serious objection. He says no universal is ever predicated of an individual, but, I gather, that what is predicated of an individual is an instance of a universal. Thus in “ The curtain is red ” the predicate is not the universal redness, but the particular instance of it attaching to the curtain. This view can, I think, be definitely refuted by considering the case when the proposition is false. For then there is no such thing as an instance of redness attaching to the curtain, and this cannot therefore be the predicate of the proposition. Now what is the predicate of the proposition cannot depend on whether the proposition is true or false, since unless the predicate is definite, there is nothing to be either true or false. Hence the predicate of “ the curtain is red ” cannot, even when the proposition is true, be the instance of redness attaching to the curtain.

It seems to me, therefore, that Mr. Joseph’s view is open to decisive objections, and as I cannot see anything whatever to recommend it, I think the reason why he holds it must be found in certain simple confusions. The most important of these is the confusion of a thing’s character with the fact that the thing has that character, and the confusion of a relation holding between

two things with the fact that it holds between them. A fact is anything which is the case ; thus it is the case that I am writing in ink, and that is a fact. We could say "It is a fact that I am writing in ink," and talk of the fact that I am writing in ink. On the other hand I, writing, and ink are not in this sense facts (or at least apparently not). We cannot talk of "the fact that I," the fact that writing, or the fact that ink. Any proposition asserts a fact which exists or is the case if the proposition is true, but not if the proposition is false. On the other hand the subject and predicate of a proposition must exist for it to be a proposition at all, true or false, but if it is false its subject and predicate are not united in a fact. In the proposition "this is blue," the subject is (apparently)\*, this, the predicate blue, and the whole proposition asserts the fact that this is blue.

It looks to me as if very frequently when Mr. Joseph speaks of instances of qualities and relations, he means the facts that things have the qualities and stand in the relations. Thus by the colour of the wall he means the fact that the wall has that colour, and this is what would often, though not always, be meant by the phrase in ordinary life. For if "the colour of the wall is surprising" what is surprising is probably not the colour itself (mauve, magenta or whatever it may be), but the fact of the wall's having that colour. And if "the illness of the centre forward is disastrous" the disaster is constituted not by influenza but by the fact that the centre forward has influenza.

Again it is often evident that philosophers talk of relations, *e.g.*, in discussing knowledge of relations, where they really mean relational facts ; and if a man notices the similarity of two things, what he really notices is the fact that they are similar.

It will, then, I hope, be agreed that, by an instance of a quality, Mr. Joseph often means the fact that something has

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\* I say apparently because I think that further analysis may be possible.

this quality. Nor would there be any reason why this should not be called an instance of the quality, if the use of the word instance had not misleading associations due to its being often used in quite another sense, in which I think, Mr. Joseph also uses it without any consciousness of the equivocation. For he speaks as if cows were instances of cowhood (p. 11), and here the meaning of instance is entirely different. For the sense in which cows are instances of cowhood, is that the instances of a character (cowhood) are the things which have that character (cows); and in this sense of instance the instances of redness will be red things, *e.g.*, red curtains, red bindings, and so on. Clearly this is a different usage of instance from that in which the instances of redness are the facts that things are red. The difference could only escape detection because the fact that the relation of a red curtain to redness is the same as that of a cow to cowhood is concealed by our saying the cow is *a* cow, but the curtain red (not *a* red). But even supposing we entirely abandon this second and to me more familiar use of instance, by which the instances of cowhood are cows, Mr. Joseph's first use of instance has led to a fundamentally false view of propositions and their terms. For what he calls an instance of redness, the fact that this is red is what is asserted by the whole proposition, not what is expressed by the predicate of it. The predicate is not the fact that this is red, but just red and is the same in both "this is red" and "that is red," though, of course, the fact that this is red is a different fact from the fact that that is red.

Although I do not think a discussion of them will throw much light on the question of universals, I cannot allow Mr. Joseph's remarks on cardinal number to go without comment. He attacks the definition of a number as a class of classes on the score of circularity, but I have not been able to discover precisely at which stage the circle is supposed to be made. Let us take the definition step by step. We begin by defining the similarity

of classes. We call two classes similar when there is a one-one relation whose domain is one class and whose converse domain the other. This part of the definition is the work of Georg Cantor and the whole theory of infinite aggregates rests upon it; it defines similarity not in terms of number, but in terms of the notions of one-one relations, their domains and converse domains, none of which, as may be seen by referring to *Principia Mathematica*, involve the idea of number. Next we define the number of a class to be the class of classes similar to it in the sense of similarity just defined. In this there is nothing circular. Finally, we call a number anything which is the number of a class; number being thus a relative term like father; a father is anyone who is the father of a child. As I understand Mr. Joseph's argument, up to this point he had no quarrel with the definitions. He seems to allow a class of all classes similar to a given class to be a valid notion, but asks what it is that distinguishes the class of dozens from the class of trios, each of them being a class of all classes similar to a given class. The answer to this is, of course, to be found not in the definition of number in general, but in the definition of the particular numbers 3 and 12. They can be defined in terms of 1 and +3 as  $1+1+1$  and 12 similarly; 1 is the class of existent classes  $A$  such that if  $x$  and  $y$  are any members of  $A$   $x$  is identical with  $y$ .  $m+n$  is the number of a class formed by putting together a member of  $m$  and a member of  $n$  which have no common members.

To these definitions it is impossible to take any reasonable exception, and Mr. Joseph's objection to the theory comes from not having followed it far enough. That is in so far as he objects that it is circular. He appears also to object that it is absurd. "One might as well say that a cow is the class of all animals similar to a given animal, as that a cardinal number is the class of all classes similar to a given class." But these two statements are not parallel; what are parallel are first the reasonable pair.

“The class of cows is the class of all animals similar to a given animal.” “The number 3 is the class all classes similar to a given class,” and secondly the absurd pair “A cow is the class of all animals similar to a given animal,” “A trio is the class of all classes similar to a given class.” Mr. Joseph might also say that the definition could be bettered, that we could define 2 as a numerical character common to pairs; for instance, as the character of having non-identical members,  $x$ ,  $y$ , such that any member  $w$  is identical with  $x$  or  $y$ . This is a character of pairs and of no other classes, and we could construct a similar definition for any other finite number. But we could not on these lines give any general definition of number, and we should be absolutely helpless with regard to infinite numbers unless we defined them by means of similarity. As to the utility of these definitions which Mr. Joseph questions, the theory of irrational number, which he includes in the same category, has been the foundation of an enormous amount of recent work, and, as previously mentioned, the theory of infinite aggregates rests entirely on the definition of similarity.

In the rest of his paper Mr. Joseph points out various difficulties in the philosophy of logical atomism, which would vanish if he understood it better. For instance, it is not necessary for Mr. Russell to hold that all classification is by means of transitive symmetrical relations; things can also be of a kind by having the same (literally the same) quality. Also similarity is not the name of one relation, but a general name for many transitive and symmetrical relations. Relations generate series if they are transitive, asymmetrical and connected; and if Mr. Joseph will look up the definitions of these terms he will see that they are not adjectives of the relations in themselves, but statements about what pairs of terms the relation unites. As to why “one to the left of” does not generate an unambiguous series, it is principally because it isn’t a dyadic relation at all unless a position

of reference is understood. "a is one to the left of b" does not mean anything by itself, any more than "a is distant" does. Just as we need to be told from what a is distant, so we need to be told from what point of view a is to the left of b. Mr. Joseph's problem is like the question, why right and left are reversed in a mirror when up and down are not ?

Finally he takes up the fundamental question of the variable. I cannot defend all that is said in *Principia Mathematica* about variables, but I believe the truth about them to be simple and directly contrary to Mr. Joseph's views. All variables are really apparent variables; and therefore, we have not to explain what is meant by a variable by itself but only what it means in connection with a prefix; and we explain  $(x) \phi x$  as the compendious assertion of all propositions of the form  $\phi x$ .  $x$  is thus a symbol meaning not, like "Jones," many different things on different occasions, but many different things at once; namely, all things whose names can be significantly inserted as arguments to  $\phi$ . The alternative that  $x$  is the name for a variable thing, I can only regard as nonsense.

I should like in conclusion to say something about my own position. When I wrote my article, I was sure that it was impossible to discover atomic propositions by actual analysis. Of this I am now very doubtful, and I cannot therefore be sure that they may not be discovered to be all of one or other of a series of forms which can be expressed by  $R1(x)$ ,  $R2(x, y)$ ,  $R3(x, y, z)$ , etc., in which case we could, as Mr. Russell has suggested, define individuals as terms which can occur in propositions of any of these forms, universals as terms which can only occur in one form. This I admit may be found to be the case, but as no one can as yet be certain what sort of atomic propositions there are, it cannot be positively asserted, and there is no strong presumption in its favour, for I think that the argument of my article establishes that nothing of the sort can be known *a priori*.



And this is a matter of some importance, for philosophers, such as Mr. Russell have thought that, although they did not know into what ultimate terms propositions were analysable, these terms must nevertheless be divisible into universals and particulars, categories which are used in philosophical investigations as if it were certain *a priori* that they would be applicable. This certainty seems to be derived primarily from the supposition that there must be a difference between ultimate objects, analogous to one felt between to subsist between such terms as Socrates and wise ; and to see if this can reasonably be maintained we must discover what difference there is between Socrates and wise, analogous to the distinction made in Mr. Russell's system between particulars and universals.

If we consider the development of Mr. Russell's system of logic, as expounded in the introduction to the 2nd edition of *Principia Mathematica*, we can see what difference there is in his treatment of particulars and universals. We find that universals always occur as propositional functions, which serve to determine ranges of propositions, especially the range of values of the function  $\phi x$ , and the range of functions of the function  $(b1 (\phi x))$  (where  $f$  is variable). Individuals also serve to determine ranges of propositions, but in this case there is only one principal range, the range of functions of the individual  $\phi a$  ( $\phi$  variable). We could make a narrower range, as Mr. Russell points out, by using, a variable quality, but we have no need to do so. Now this is the only difference between the way individuals and universals function in his system, and as we find that there is a precisely similar difference between Socrates and wise, it is probable that we have here the essence of the matter. Wise like a  $\phi x$  in Mr. Russell's system determines the narrower range of propositions "  $x$  is wise " and the wider one  $b$  (wise), where the last range includes all propositions whatever in which wise occurs. Socrates, on the other hand, is only used to determine the wider range of

propositions in which it occurs in any manner; we have no precise way of singling out any narrower range. We cannot do it by limiting it to propositions in which Socrates occurs as subject, because in any proposition in which he occurs he can be regarded as the subject, we can always regard the proposition as saying "It is true of Socrates that——." The point is that, with Socrates the narrower range is missing, not, as Mr. Joseph makes me say, the wider.

The propositions I chose as examples appear to have misled Mr. Joseph in a way I do not quite understand. I gave as an example of a proposition in which wise occurs not as predicate, but in some other way. "Neither Socrates nor Plato is wise." I chose this example because it illustrated a point, which I did not explicitly mention on account of the difficult controversies with which it is intimately connected; namely, that a proposition in which wise occurs not as predicate is, if not always, at any rate usually a truth-function of propositions in which wise occurs as predicate (and perhaps other propositions in which it does not occur at all). Thus "Neither Socrates nor Plato is wise" is a truth-function of "Socrates is wise" and "Plato is wise," and the same is true of Mr. Joseph's examples. "No one remembered that poor wise man" is a truth-function of "he (the man) was wise" and other propositions not containing wise, *viz.*: "he was poor," "he was a man," "No one remembered him." "Wisdom is scarce" means "the number of  $x$ 's such that  $x$  is wise is small, and so is a truth-function of the values of  $x$  is wise, although to demonstrate this would take too long here. Mr. Russell would say that this was the case with any proposition in which "wise" occurs, and I am inclined to agree with him, but the question is difficult and I do not want to discuss it now, so I will merely say that it is usually the case. Usually, then, if wise occurs in a proposition it is as part of an " $x$  is wise" which is part of the proposition. And wise therefore, appears

incomplete, and unsubstantial and essentially a predicate of something else.

Nevertheless this difference between Socrates and wise is illusory, because it can be shown to be theoretically possible to make a similar narrower range for Socrates, though we have never needed to observe this. Nevertheless, once this fact is observed, the difference between Socrates and wise lapses, and we begin like Dr. Whitehead to call Socrates an adjective. If you think, all or nearly all propositions about material objects are truth-functions of propositions about their location in events, then, on my view, you will regard material objects as adjectives of events. For that is the real meaning of the distinction between adjective and substantive. I do not say that the distinction has arisen from explicit reflection about the difference in regard to ranges of propositions, but that this difference obscurely felt is the source of the distinction. My view is strikingly confirmed by the case of Dr. Whitehead, who having made material objects analogous to wise in the way in question, then declared that they were adjectives.

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III. *By* R. B. BRAITHWAITE.

MR. RAMSEY'S paper in *Mind*, which I understand is the basis of this symposium, seems to me to have two objects:—(1) to prove that the distinction between particulars and universals arises from a difference in the number of ways in which they can occur in propositions—the latter having two ranges of occurrence, whereas the former have but one; (2) consequently, to prove that the distinction is a subjective one and of no metaphysical significance. Mr. Ramsey sometimes speaks as if there were really no distinction whatever between particulars and universals, and it is certain that he does not regard it as having anything like the importance of the distinction between names and incomplete symbols: nevertheless, I think it is clear that the difference in the number of ways in which terms can occur in propositions—a difference which Mr. Ramsey thinks is derived from the uses of incomplete symbols—is the only way which claims to be a philosophical distinction and the "real meaning of the distinction between adjective and substantive."

It is in consequence of his belief that this is the real distinction that Mr. Ramsey believed when he wrote his paper that the distinction is not ultimate, and now believes that the distinction cannot be shown *a priori* to be ultimate. But it is, of course, possible to hold either or both of these propositions without accepting Mr. Ramsey's first proposition: this is the position that I wish to maintain. I do not think that Mr. Ramsey's analysis of the difference between universals and particulars is the correct one; I do not believe that it is a subjective distinction, nor one imposed upon us by our methods of symbolizing; but

I am not so bold as to maintain that it is an ultimate distinction. In sympathy with the trend of thought of the "Method of Analysis" of Mr. Russell, Mr. Wittgenstein and Mr. Ramsey, I do not think that much can be said about the nature of the ultimately atomic facts (if there are such things), and so I do not think that the difference between universals and particulars can be shown to be an ultimate one. Nevertheless, what Mr. Ramsey takes to be the "real meaning of the distinction" is for me a consequence of the distinction, and not the distinction itself.

I believe the distinction is between the differing spatio-temporal relations of particulars and universals. This is an objective distinction not dependent "on human interests and needs": nevertheless I should not like to say that it was an ultimate one. Any such distinction Mr. Ramsey dismisses contemptuously at the beginning of his paper as not a logical distinction. Mr. Ramsey is here discussing very summarily the three kinds of distinction between particulars and universals that Mr. Russell in his Aristotelian Society paper of 1911 thought worthy of investigation. These kinds of distinction Mr. Ramsey calls psychological, physical and logical; and he dismisses the first two of these as irrelevant. I agree with him about the psychological difference between a percept and a concept; but I cannot agree with his rejection of the second sort of distinction. Mr. Ramsey writes as follows:—"Next we have various distinctions between objects based on their relations to space and time; for instance, some objects can only be in one place at a time, others, like the colour red, can be in many. Here again, in spite of the importance of the subject, I do not think we can have reached the essence of the matter. For when, for instance, Dr. Whitehead says that a table is an adjective, and Mr. Johnson that it is a substantive, they are not arguing about how many places the table can be in at once, but about its logical nature.

And so it is with logical distinctions that our inquiry must mainly deal." (*Mind*, Vol. 34, p. 402.)

Mr. Ramsey obviously thinks that this sort of distinction is disposed of by stigmatising it as "physical." But would he contend that any discussion of the spatial and temporal relations of objects was a "physical" one? When Dr. Moore discusses the "Pickwickian senses" in which physical objects are in space and time, or when McTaggart treats of the relations of Time to Eternity, are these questions for physics? Surely they are rather questions for what Dr. Whitehead calls "panphysics" and most of us "metaphysics." And if metaphysical distinctions are to be dismissed as not logical and hence irrelevant, this can only be because Mr. Ramsay has made up his mind beforehand that the distinction between universals and particulars is a purely logical distinction in a very restricted sense of the word "logical." His reasoning is of the same sort as that of those psychologists who, convinced that all differences in the workings of a mind are differences in bodily behaviour, reply to a critic, who suggests that there may be an ultimate psychological difference between conscious and unconscious acts; "Ah, but that isn't a difference in behaviour."

I believe that the distinction between particulars and universals is due to their different relations to space and time in the primary propositions. By primary propositions I mean propositions asserting that some definite occurrence has some property, and I agree, I think, with the majority of logicians in taking such propositions as primitive. Mr. Johnson, for example, in the second chapter of his *Logic, Part I*, starts with such a proposition as the exclamatory "Lightning!" This proposition, which is of a type "psychologically prior even to the most elementary proposition that can be explicitly analysed," he considers may be taken as equivalent to the developed proposition "A particular portion of reality manifests the character lightning."

Here, I contend, the distinction between particular and universal has already appeared. The particular portion of reality is the particular, because this has a definite position in space and time ; the character lightning is the universal, because this has no definite position in space and time. The former is here and therefore not there, now and therefore not then ; whereas the latter—the character of being lightning—is indeed here, but it may be there as well, now, but it has also happened in the past and may happen again in the future. In a word, the particular occurrence is unique in space and time—its happening at one place and time prevents its happening at another place and time—whereas a universal has no such unique relation to space and time.

If I thought it possible to believe in an absolute theory of space and time, I should maintain that point-instants were the only particulars, since they alone had definite positions in space and time and the relations of other things to space and time were derivative from their relations to points. And since it is this fact of having definite immediate position in space and time that I take to be the criterion for a particular, I should be unable to make the distinction which Mr. Johnson and Dr. Broad succeed in making between substantial and adjectival theories of space and time. Mr. Johnson, for example, puts forward an absolute but adjectival view : “ in holding that ‘ occupying a certain instant ’ is an unanalysable adjectival predicate, we maintain at the same time that, *qua* predicate, it is an identifiable entity, in the same way as the adjective ‘ red ’ is an identifiable entity when predicated now of this patch and then again of some existentially other patch ” (*Logic, Part II*, pp. 165–166). But if “ point-instant ” be substituted for “ instant,” and this substitution seems to me to be inevitable in any fundamental metaphysical investigation, we see that there is the very important distinction between the predicates (assumed unanalysable) “ occupying a

certain point-instant" and "red" that, unlike the latter, the former cannot "be predicated now of this patch and then again of some existentially other patch." Since it is just this distinction that I maintain is the distinction between particular and universal, I cannot agree that "occupying a certain point-instant," if it were unanalysable, would be a universal. "The colour red is occupying a certain point-instant" would, on Mr. Johnson's theory, be expressing a relation between two universals; but it seems to me quite clear that the relation of particular to universal has arisen out of consideration of propositions just like this, and that in these it is the element with the space-time reference, whether or not it is the grammatical subject of the sentence, that is the particular.

Because I do not think it possible to believe in any non-relational theory of space and time, I do not think it plausible to consider point-instants as the ultimate entities in space-time. These are logically constructed out of events in the manner shown by Dr. Whitehead. Since events are extended in space and time, our criterion to distinguish particulars from universals must be altered a little if we wish to retain events as particulars. For an event is necessarily extended in space and time, and consequently occupies many positions in space-time. Nevertheless it has definite boundaries in space-time (which are usually treated, though without much reason, as small); and so the difference between particulars and universals can be stated as follows: *If it is logically impossible for the thing to occupy two or more separate volumes in space-time; it is a particular, if this is logically possible, it is a universal.*

Now it is that we can see why it has always been thought that a primary proposition consists of a universal qualifying a particular. It cannot consist of two universals, because then there would be no space-time reference and the proposition would not be a primary proposition in my sense. And it cannot consist of



two particulars, because of an empirical property that most particulars have—that two particulars cannot occupy exactly the same volume. Consequently, there must be at least one particular and one universal—quality, relational property or relation—in the primary proposition. It is also apparent what is meant by saying that a universal is incomplete. What is meant is that in itself it has no space-time reference and requires this to complete it.

Now we can see how it comes about that there are two ranges of occurrence of universals but only one of particulars in propositions. We can and do distinguish propositions according to whether the universal occurs as directly characterizing the event or not, and most (if not all) of those which are not primary propositions we regard as truth-functions of primary propositions. Consequently there are two ranges of occurrence of universals—those in primary propositions in which the universal characterizes a simple particular, and all those in which it occurs. It is the spatio-temporal characteristics of particulars that prevent our regarding all secondary propositions as asserting characteristics of compound substantives, in which case it would not be possible to make the distinction we do. Mr. Ramsey refers to the fact pointed out by Mr. Johnson that we “may properly construct” compound adjectives but not compound substantives, but neither give any reason for it. I think the reason is quite clearly this—that we expect that substantives shall not be able to occupy the same position, whereas we expect that adjectives shall be able (unless they are incompatible). So we think a compound adjective is a genuine adjective, but we do not think that a compound substantive is a genuine substantive.

This point comes out most clearly when we consider the characteristics of the few cases in which we do allow compound substantives. We consider that a mixture of oxygen and nitrogen has as good a claim to be considered a substantive as either gas

alone: this, I maintain, is because each spatio-temporal part of the mixture contains both oxygen and nitrogen.\* And if, with Mr. Johnson, you resolve an event into occurrents so that "the several occurrents which thus compose an event are distinguished, not by the spatio-temporal position which they occupy, but by the different adjectival determinables under which their determinate character falls,"† we may rightly treat the event compounded out of these occurrents as of the same nature as the occurrents themselves, since they all have the same spatio-temporal boundaries. If we consider the event which is the flash of lighting as two occurrents, one occurrent being what emits waves of light and the other what emits waves of sound, then since the two occurrents together in the same position make up the event, we may consider the event of the same degree of particularity as the component occurrents.† Our general prejudice against compound substantives is because cases such as these are very rare, being met with only in the theory of solutions, the theory of gases and the theory of knowledge.

I have shown that, according to my criterion as to what are universals, we can distinguish two ranges of their occurrence in propositions according to whether the propositions are limited to being primary propositions attributing the universal to a particular event or are all the propositions in which the universal occurs. Contrariwise, according to my criterion of what are particulars, we cannot distinguish two ranges of occurrence of particulars. Since universals (unless they are incompatible) can occupy the same spatio-temporal position, we cannot distinguish compound

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\* Of course, on my view, it would only be the events which were the situations of the gases during a period of time that would be the substantives.

† *Logic, Part III*, p. xxii. I don't think Mr. Johnson's analysis of each event into many occurrents is correct. It seems to me merely a matter of the events having many different properties.

from simple universals, and consequently we regard all propositions about particulars as being of the same type; namely, those predicating universals, simple or compound, of the particulars.

So I think that the important distinction in the number of ranges of propositions is derived from a spatio-temporal distinction between particulars and universals, and not the other way round, as Mr. Ramsey thinks. To support his argument Mr. Ramsey describes the process by which Dr. Whitehead and others have been led into treating physical objects as universals instead of as particulars, as the discovery that propositions about physical objects are of two kinds, one of which can be analysed in terms of the other. I don't think Dr. Whitehead puts the cart before the horse in this manner. His process seems to me to be more or less as follows:—

For various reasons—some epistemological, some based on spatio-temporal considerations—he came to think that events had more claim to be considered as the ultimate particulars than physical objects. This being first decided, it was then necessary to consider how propositions about physical objects could be analysed, and it was discovered that it could be done in terms of propositions about events. Subsequently, it was necessary to distinguish propositions about physical objects into two classes—the class of those directly asserting a relation to an event, such as “The object A is situated in the event E,” and the class of all propositions about physical objects, which he had shown to be truth-functions of propositions of the first class.

It will be seen that I regard all propositions about physical facts as truth-functions of my primary propositions about events. But what about mental facts? Are they truth-functions of propositions about mental events? I confess I do not know. But it does seem to me that the difficulty there is in deciding whether there are *Erlebnisse* which are the con-

stituents of mental facts, is due to the fact that it is extremely doubtful if such things would be in space and time. Dr. Moore, in rejecting as obvious the analysis of "I am conscious now" into "There is occurring now an event which is an experience and which is an experience of mine," is rejecting the only obvious way in which the proposition might be considered to be about a particular. So, though it does not seem to me plausible to maintain dogmatically that all mental facts are about mental events in space and time, it does seem plausible to assert that if this is not the case, no distinction of the elements of propositions about mental facts into particular and universal is possible. This conclusion has been reinforced by reading the 1918 Symposium on the subject, "Do finite individuals possess a substantive or an adjectival mode of being?"

The criticism that will most naturally be made to the criterion that I have put forward to distinguish between particulars and universals is to ask what reason I have for supposing it to be more ultimate than the distinction between permanent substances and their properties which used to be considered the criterion. Dr. Whitehead has shown that propositions about chairs and tables can be analysed into propositions about events: what reason have I for thinking that propositions about events are the primary ones and, consequently, what reason have I to think that a distinction which on my own showing only arises in such propositions is of any ultimate importance? If events turn out after all to be logical constructions in terms of something simpler, will not my distinction be as subjective as Mr. Ramsey's distinction is? Will not events be only relative particulars—particulars relative to objects and properties of events, just as permanent objects may be considered as particulars relative to their properties?

The best answer to this attack is, I think, an *argumentum ad hominem*. If you are going to dismiss into the realm of

logical constructions those things which have the greatest claim to be considered both epistemologically and metaphysically primitive, it must be on some very general *a priori* ground, which must show not only that events cannot be the ultimate simples out of which the world is made, but also that there are such absolute simples. For if there are not, the place to start in the hierarchy of relative particulars is not purely logically determined, and a better case can be made out for starting with events than with anything else. Are there absolute simples? Mr. Russell, Mr. Wittgenstein and Mr. Ramsey are convinced that there are. "When I speak of 'simples,' " writes Mr. Russell, "I ought to explain that I am speaking of something not experienced as such, but known only inferentially as the limit of analysis . . . I confess it seems obvious to me (as it did to Leibniz) that what is complex must be composed of simples, though the number of constituents may be infinite."\* And Mr. Wittgenstein's reason for his aphorism (2·02) denying the complexity of his objects (which are the same as Mr. Russell's simples) he states as follows:—"If the world had no substance [*i.e.*, if there were no simple objects], then whether a proposition had sense would depend on whether another proposition were true" (*Tractatus Logico-Philosophicus*, 2·0211). I understand that this comes about as follows: Propositions asserting the existence of complexes are only true if the proposition that the elements of the complex are combined in such a way as to make up the complex, is true. Hence, if we give a name to the complex, either the name is an abbreviation for a definite description of the complex or the significance of the name depends upon the truth of a proposition; namely, that the elements are

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\* Contribution to *Contemporary British Philosophy*, I, p. 375 (1924). However, in 1918 Mr. Russell thought that "it is perfectly possible to suppose that complex things are capable of analysis *ad infinitum*, and that you never reach the simple." (*Monist*, vol. 28, p. 526.)

arranged in a certain way. This latter alternative is considered absurd; consequently we must believe that complexes are logical constructions from simples. I cannot agree that there is a fatal objection to the second alternative. We do not know whether many of the words we use are true proper names or abbreviations for descriptions, and it seems to me by no means certain that there cannot be a third class of improper names which have no significance unless certain propositions (which we do not know) are true. Indeed, I am not sure that this is not the case with many of the words that have most claim to be proper names. "This," referring to a sense-datum immediately perceived, is frequently given by Mr. Russell as an example of a proper name (perhaps of the only proper name); yet I think it can be argued that it only acquires meaning through the fact that I am referring to it, *i.e.*, that the proposition that I am referring to this sense-datum, is true.

It seems to be possible that our use of a great number of words does presuppose the truth of certain propositions, and I cannot see that this in itself is an objection to any theory. The infinite regress contradiction only arises when the meaning of a word presupposes understanding the meaning of another word which presupposes understanding the meaning of another word, and so on. But in the case we are considering, the meaning of a word does not depend upon understanding the meaning of another word, but upon the truth of certain propositions, *i.e.*, unless these propositions are true, we cannot understand the meaning of a word for a complex. And I do not think that it is an absolute refutation of a theory to show that it involves that, were it not for certain facts, we should be unable to have a language; because this proposition is, to say the least, not obviously false.

If there is not much reason to suppose that there are any absolute simples, the fact that it would be very difficult to maintain that events are absolute simples need not prevent me from

maintaining that events are true particulars. Most, if not all, events have other events as parts ; and it is plausible to suppose that many events have an infinite number of events as parts. And it may quite well be the case that, unless the event was made up in the way it is, we should be unable to refer to it by name. But this does not prevent our doing so. There seems every justification for stopping our analysis at events. Events are the sort of thing with which we are directly acquainted, events are the best sort of material for building up the things required by science, and it seems likely that further analysis of events will be only in terms of other events. [It may be possible, for example, to construct all events over or under a certain spatio-temporal size out of events of a certain size or range of sizes.] And, above all, events quite certainly and directly have spatio-temporal relations to one another, and can be distinguished from one another directly by these relations. So though I do not contend that a distinction between universals and particulars based on spatio-temporal considerations is logically ultimate, I do contend that it is based upon a fundamental characteristic of reality ; namely, that things are in space and time. To get behind this all-pervading fact in search of the Logical Absolute seems to me impossible ; and to expect this distinction, which I believe we only apply within space and time, to hold if we can get beyond space and time seems to me unreasonable. When Dr. Whitehead says that a table is an adjective and Mr. Johnson that it is a substantive, I believe they are quite literally arguing about how many places the table can be in at once, in that Dr. Whitehead maintains that it is everywhere where what would be called in physics its " field of force " is, whereas Mr. Johnson maintains that it has as definite spatial boundaries as an event has.

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