

## THE IDENTITY OF INDISCERNIBLES

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I SHALL assume in this paper that the principle of the Identity of Indiscernibles is a necessary proposition to the effect that it is impossible for two or more distinct individuals to possess all their properties in common. By an individual, I shall mean any entity that possesses qualities (including relational properties) and is not itself an instance of either a quality or a relation. (This is substantially McTaggart's definition of a substance.<sup>1</sup>) As I have stated it, the principle is, as we shall see, pretty vague. But it may avoid needless ambiguity if we postulate that it is a necessary principle. Leibniz, for example, does not make it quite clear whether the principle is a necessary one or not. He offers proofs that seem appropriate to a necessary statement but, on the other hand, he cites empirical evidence in its favour.

However, I wish for the present to leave open the question whether the necessary character of the Identity of Indiscernibles entails that it is merely analytic. One reason for this is that we have now to ask what we are to understand by the term "property" and its synonyms "quality", "attribute" and so on. There are some senses of these words in which the principle is manifestly true but equally manifestly trivial. If it is to be worth discussing at all, we have to construe it in a sense that is not patently tautologous. Unfortunately, there is no obvious way of guaranteeing such a non-trivial construction by a simple qualification of the statement I have given above. For example, it is very difficult, as we shall see, to find a definition of "property" that will not beg the question one way or the other before we start to discuss the principle at all. There are indeed some obvious examples of "properties" that will trivialise the Identity of Indiscernibles at once. Let us suppose, for instance, that there are two individuals, A and B, and postulate that they possess all their properties in common. That is to say, let us suppose that if any property P is a property of A, it is also a property of B. Then if we interpret the word "property" in a very wide sense, it is plain that our supposition is self-refuting. For A must have at least the property of not

<sup>1</sup> The Nature of Existence, p. 67.

being B and conversely B has the property of not being A. But this consequence follows from the mere fact that we are talking about two distinct individuals. In other words, it is an analytic statement that if A is other than B, then it is other-than-B. Thus we must restrict our interpretation of the term "property" to exclude identity and difference if we are to make the Identity of Indiscernibles interesting and philosophically significant. We may state this restriction more generally by adopting McTaggart's rejection of any interpretation of the principle that makes its truth follow analytically from the fact that it applies only to sets of two or more individuals.

But this does not remove the difficulty. For we can still ask: what sort of properties do we have to exclude from the purview of the principle in order to make sure of this? Some of them are obvious enough; but some of them are more elusive and others are borderline cases. And we may find that in putting these doubtful cases on one or other side of the borderline, we are not *proving* or *disproving* the maxim at all but are merely making it analytic or self-contradictory by edict. If we do this, we frustrate our purpose by depriving the Identity of Indiscernibles of any philosophical interest.

Let us start with an argument that looks plausible enough. If we list the properties belonging to a given individual A, we shall have a set of properties,  $P_1, P_1 \dots P_n$ , which must be mutually compatible or *compossible*, to use Leibniz's word. If they were not, they clearly could not all be predicated truly of A. Now if we take these properties one by one, it seems plain that not only *may* each of them qualify more than one individual but it is essential to their nature as properties that they should be capable of doing this. There might, for example, be only one red thing in the whole universe. Nevertheless, we commonly suppose that it would still be inherent in the nature of the quality "red" that it should be *capable of* qualifying an indefinite number of individuals.

Thus we can say two things:

- (i) if we suppose that every member of a given set of properties S is compatible with every other member, taken singly or collectively, we may conclude that if any individual A can have any property  $P_n$  in S, it can also have  $P_{n+1}$ .
- (ii) if a property  $P_n$  can characterise any individual A, then it can also characterise any other individual B.

And from these two statements it would seem to follow recursively that if any individual A can have *any* set of compossible

properties then any other individual B can have *the same set* of properties. And this is contrary to the maxim of the Identity of Indiscernibles. For this maxim asserts that to give a complete description of an entity is to *individuate* that entity.

This will perhaps make it clear how extraordinary a claim is made by the principle under consideration. The supporters of the principle do not openly deny that any simple property must be of such a nature as to be capable of qualifying an indefinite number of individuals. But they assert nevertheless that there is always one property that is unique in every individual in the sense that the compound property consisting of *the conjunction of all the attributes* that qualify a given individual must be uniquely instantiated. The point of such a claim must either be that the totality of properties that qualify an individual has some emergent characteristic of uniqueness or that in any given totality of properties, all of which are co-instantiated, there must always be one special property of this unique kind. However, the first alternative seems to be a quite ungrounded assumption which amounts to no more than a reassertion in a disguised form of the maxim under dispute. But the second alternative has some plausibility because there do seem to be some characteristics that possess such an individuating function.

Suppose that I have on the table before me two spheres of pure silver that are identical in size, colour and every other empirical attribute (other than relational properties). I can, of course, still tell them apart because they occupy different places at the same instant and can only occupy the same place at different instants. I can identify the places that they occupy by assigning coordinates in an arbitrarily selected system of axes. For example, sphere A is at  $x_1, y_1, z_1$  at  $t_1$  while sphere B is at, say,  $x_2, y_2, z_2$  at  $t_1$ . Now are we to say that "having the coordinate set  $(x_1, y_1, z_1, t_1)$ " is a *property* of A? If we do so, then clearly the principle of the Identity of Indiscernibles is true for any individuals that can be identified by their spatio-temporal characteristics. It will still remain an open question if it applies to *all* individuals, since not all individuals are obviously spatio-temporal existents.

What will be the consequence of saying that "having the coordinate set  $(x_1, y_1, z_1, t_1)$ " is a property? There is one very important and striking consequence, namely, that some properties are intrinsically incapable of being shared by more than one individual. But if this is so, why do we call them "properties" at all? Might we not more appropriately call them by some such

title as “principles of individuation”? For it is commonly taken to be a defining characteristic of a property that it is capable of qualifying an indefinite number of individuals and to be indifferent to the spatio-temporal occasions of its instantiation. Do we not need convincing reasons for extending the range of application of a term in this way? And must we not enquire carefully into the consequences of such an extension? In this position, there are various expedients open to us. If we wish to maintain the truth of the Identity of Indiscernibles, we can look for other examples of compound properties that cannot be shared by more than one entity even though the simple attributes of which such compounds are made up *are* thus multiply predicable. Or we might even look for simple properties that are capable only of unique instantiation. Thus it looks as though we cannot answer the question of the truth of the Identity of Indiscernibles until we have first answered the much wider question: what is it to be a property? Thus the justification of the Identity of Indiscernibles is really a matter of justifying linguistic categories.

Let us look at these allegedly unique spatio-temporal attributes. It is clear that they are compounds of four simpler properties, three spatial and one temporal, each of which can qualify an indefinite number of individuals. By saying that they are *compounds* of four such properties, I mean merely that an instance of such an allegedly unique property is a co-instantiation of four simpler properties. Such simpler properties can of course, be co-instantiated in more than one individual provided that they are taken in groups of less than four. It is only if we assign all four coordinates to a single object that we individuate it, or, to put it the other way round, it is only in a unique individual that we find compound properties of the type “possessing the coordinates  $(x_n, y_n, z_n, t_n)$ ” instantiated. Now what sort of a statement is this? It is important how we answer this question because the plausibility of the maxim that we are considering depends largely upon examples of this kind.

If we say that it is a necessary proposition that two or more material objects cannot have the same coordinate description, then we rest the necessary truth of the Identity of Indiscernibles on the alleged necessity of the proposition embodying the definition of the phrase “one and the same material object”. But to do this is to do the very thing that we have already ruled out of consideration, on the ground that it trivialises the principle. That is to say, we make the truth of the Identity

of Indiscernibles follow analytically from the definition of "one and the same material object". But might we not say that the principle was necessary, for all that, because it was entailed by a necessary proposition, namely, the proposition that expresses the truth conveyed by this definition? For it might be asserted that the definition is not merely arbitrary but is based on a necessary truth about the world. We could say this for what it is worth. But in any case it can be argued that the proposition that two physical objects cannot exist in the same place at the same time is *not* a necessary proposition but a definition that is convenient only because it is based on empirical facts.

Let us suppose a world in which certain types of material objects, say, billiard balls, did not repel each other upon impact but first merged and then separated to continue on their original paths. Looking at such a material body, we could never be sure whether it was indeed one body or two or perhaps many more.<sup>1</sup> Or again suppose a world in which certain sorts of material bodies had the power of dividing like paramecia and then merging again. We should never know without prolonged observation of such a set of bodies how many of them there were and even then our estimate would be merely a statistical one. In such circumstances, we should probably never ask the question "how many?" unless it was suitably qualified to "how many at this instant?" or "how many on the average over a period of an hour?" In any case, we should never, in such worlds as these, apply the allegedly necessary rules "two or more bodies cannot occupy the same place at the same time" or "a single body cannot occupy different places at the same time". Let us call these propositions P and Q for short. The wording of P and Q is unfortunate in that it suggests that we have tests for sameness and difference of times and places that we do not have for bodies. But to say, for example, "one and the same body cannot have incompatible coordinate measurements" raises the same problem. (What would be the force of 'incompatible' here?) In so far as we did admit such tests for sameness and difference of times and places, our willingness to do so would be a sign that we had shifted the locus of our problem from the nature of material bodies to the nature of space and time. The point I wish to make is this: we should never, in the imaginary worlds postulated above, come to apply rules like P and Q because the facts would not support them. (Perhaps it was something like this that J. S. Mill had vaguely in mind when he

<sup>1</sup> Cf. Max Black, *MIND*, 1952, pp. 155-6.

suggested that the truths of arithmetic were merely very well founded empirical generalisations). Thus it might well be argued that the supposedly necessary propositions P and Q from which the Identity of Indiscernibles might be deduced are after all empirical, though canonised by long usage and convenience into definitions.

It was suggested by Professor Broad<sup>1</sup> that many people have believed in the Identity of Indiscernibles because they have also believed that there is only one spatio-temporal system in which every particular must have its own place and date. And he adds that this is not necessarily true even if it is true at all. But the supporter of the principle could very well admit Broad's contention and still hold that the principle was true. For suppose that A had the property of possessing coordinate measurements  $x_1, y_1, z_1, t_1$  in system  $S_1$  and B had the same coordinate measurements in system  $S_2$ . A and B would now be dissimilar in that one belonged to  $S_1$  and the other to  $S_2$ . But if they did so, they could not strictly be compared in respect of spatio-temporal position. (This is, presumably, part of what is meant by saying that they belong to different spatio-temporal systems). Moreover, what could it mean to say that A had the *same* coordinate measurements in one system that B had in another?

It will be obvious from this very brief discussion of spatio-temporal predicates that the philosophical puzzles about space and time are another of the hidden sources of our difficulty in accepting or rejecting the Identity of Indiscernibles. My conclusions so far are very tentative and amount to the following suggestions :

(i) that the supporter of the Identity of Indiscernibles has to extend unwarrantably the denotation of words like "property", "attribute", "quality" and their synonyms by weakening their connotation in a crucial respect.

(ii) that the result of this extension is, after all, only to make the principle an analytic consequence of the allegedly necessary propositions P and Q.

(iii) that even if we waive objection (ii), it is arguable that P and Q are not necessary but merely well-grounded empirical generalisations that have hardened into definitions. In a world where objects behaved very differently, we would be prepared to abandon them. And no necessary conclusions can follow from premisses that are not themselves necessary, unless such conclusions are mere analytic trivialities.

<sup>1</sup> Examination of McTaggart's Philosophy, Vol. I, p. 176-7.

So far then, I have tried to suggest, though very tentatively, that the Principle of the Identity of Indiscernibles is not a necessary proposition with any philosophical importance. If it is necessary it is also trivial. And if it is more than trivial, there is good reason to believe that it is false. In this, it shows the characteristic behaviour of many metaphysical propositions. They work very often at two levels. At a superficial level, they are uninteresting and harmless because trivial. But at a deeper level, though interesting and full of consequences, they are usually also demonstrably untrue.

But there is something to be said on the other side as well. In order to bring this out, I shall conclude by summarising the basic differences between the supporters of the principle and its opponents. Its supporters want to interpret the term "property" widely enough to include relational properties. And its opponents want to exclude at least some relational properties from the denotation of the word. For once we admit them, even if we reject such obviously question-begging properties as identity and difference, we are committed to properties that by their nature can be instantiated only uniquely. Admittedly, it is in part a question of language whether or not we exclude these contentious cases. But like most linguistic questions, it can be supported on both sides by empirical considerations.

There are three main reasons for wishing to reject the claim of relational properties to rank as properties. First, many such properties can, by their nature, qualify one object only. And this settles the question at once in favour of the Identity of Indiscernibles if we can show that every individual must possess at least one such property. Secondly, relational properties (unlike relations) involve a reference to individuals that is felt to prejudice the issue in favour of the principle. "To the left of" or "larger than" are relations. But the corresponding relational properties are *not* "being to the left of  $x$ " or "being larger than  $x$ " where " $x$ " is an unspecified variable. They are, for example, "being to the left of this tree" or "being larger than the sun". And such properties obviously have a very strong individuating force. Lastly, it is felt that to stretch the denotation of "property" in this way is to drop from the connotation of the word the notion of a capacity for being possessed in common by several individuals. And this is felt to be an "essential" feature of the concept.

On the other hand, the supporters of the maxim also have good reasons for their semantic recommendations. In support

of their proposal to extend the meaning of the word to include relational attributes, they can point out, first, that some relational properties, at least, cannot be distinguished from ordinary qualities. Adjectives like "large", "small", "quick", "loud", "useful" and so on stand for attributes that are essentially relational in character. They are elliptical ways of referring to certain relational properties of individuals. Yet it would clearly be absurd to deny them the status of properties. What other status could we accord them? Moreover, even if we take such *prima facie* non-relational qualities as "red", "sweet", "fragrant" and so on, we are at once talking of relational properties if we use these adjectives in their comparative and superlative forms. "A is sweeter than B" or "X is the most fragrant" are instances of the predication of relational attributes. (These superlatives might indeed be supposed to stand for *simple* qualities which can be instantiated uniquely, if at all.) Thus it might be alleged that the opponents of the principle of the Identity of Indiscernibles cannot solve their difficulty by excluding from the category of "property" *all* relational attributes. But if they exclude merely those that admit only unique instantiation, they are begging the question in their own favour.

Thus there seems to be no way of settling this issue decisively so long as we refuse to discuss the much wider questions that arise from it. I have tried to indicate what some of these questions are—the nature of space and time, the nature of properties and relations, the principle of individuation, the antithesis between necessary and factual propositions and several others. We can settle the truth of the principle of the Identity of Indiscernibles, considered by itself as an isolated problem, only by taking somewhat arbitrary decisions on these difficult matters. That is to say, as is common in philosophical discussions, we can clarify the situation in our immediate vicinity by sweeping the difficulties out to the periphery. But sooner or later, these peripheral problems will become central in another context and we shall then find that our piecemeal methods of philosophising have shifted our difficulties from one place to another instead of solving them. And that is, I suppose, one justification of the philosophical system-building that is at present so unfashionable.

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