

CHAPTER XII

CATEGORIAL KNOWLEDGE¹

IT must be admitted that, in sandwiching the consideration of the categories between mathematical and scientific knowledge, we are perhaps dealing with them outside their natural place. For the categories are not part of advanced knowledge. They are concepts which come into play in the most elementary thinking in everyday life. And perhaps therefore they might have more naturally been classed with common knowledge. But my excuse must be that we have to examine the question of the supposed necessary character of the categories, and that it is more convenient, therefore, to treat of them in conjunction with mathematical and logical knowledge, which have also been supposed to exhibit the character of necessity.

In the tradition of modern philosophy the categories have been regarded as concepts of a special kind, clearly marked off from ordinary concepts, and possessing a sort of privileged position among them. The categories were a kind of aristocracy in the world of concepts. Such ordinary concepts as 'white', 'sweet', 'house' were treated by many philosophers with scant respect, and by some with positive discourtesy. Croce, for example, dismisses them contemptuously as 'pseudo-concepts'. But every well brought up philosopher in the past has always taken off his hat in the presence of 'quality', 'quantity', 'causality', 'substance', and the like.

The questions which we have to examine are roughly the following. Are the concepts which have usually been classed as categories different in any important way from other concepts? Do they occupy any special position or perform any special function in the world of knowledge? What is the difference, if any, between them and ordinary concepts? And in particular are they, as some philosophers

¹ I use the word *categorial*—for which there is, I am afraid, no precedent—to characterize knowledge through categories; the adjective *categorical* having been appropriated by common usage to another meaning.

have supposed, repositories of 'necessary truth'? What light does the study of them throw on the general problem of the nature of knowledge, i.e. upon the wider questions of epistemology?

If we examine the history of the categories in modern philosophy, we shall find that accounts vary as to the supposed points of difference between them and ordinary concepts. In fact it is far from being precisely clear what a category is, or how it is to be defined. Sometimes it is said that categories are more fundamental to thought than other concepts, sometimes that they are more abstract. Professor Alexander calls them 'pervasive' concepts, by which he appears to mean that the characters of which they are the concepts pervade the whole of existence and not merely a part of it. For example 'white' is a concept. But it only applies to *some* objects in the world, not to all. Only some things are white, while others are green or blue or without any colour. 'White', therefore, is not a category. 'Existence' and 'quality' are also concepts, but they are concepts which are all-pervasive. They apply, not to some things only, but to all. Everything in the universe is an existence, and everything must necessarily possess some kind of quality. Existence and quality are therefore categories. Other commonly mentioned categories are quantity, causality, substantiality, identity, diversity, relation.

The all-pervasiveness of the categories is what Kant called their *universality*. In general, Kant's doctrine of the categories is the most striking and distinctive in modern times. Kant regarded the categories as possessing both universality and necessity, and as being non-sensuous or 'pure'. These were the characteristics by which categories were distinguished from ordinary concepts. And it will be agreed that, if they had all these remarkable characters, they would certainly stand out from among other concepts as quite distinct from them. Most modern thinkers have, however, abandoned belief in the 'pure' non-sensuous character of the categories. This leaves us with universality and necessity. Universality, or pervasiveness, would generally be admitted of them. Indeed, if it were not, the

last vestige of difference between categories and other concepts would disappear. Necessity is a more difficult matter to decide on. It is, however, a question of the utmost importance. Kant asserted that the categories were necessary in the sense that they are sources of 'necessary truth'. We cannot possibly afford to pass over such an assertion unexamined. It is a part of our special purpose to ascertain whether knowledge, besides being tied at its lower end by the given, is also tied at its upper or conceptual end. The assertion of necessary truth anywhere is the assertion that knowledge is tied at that point. We are bound to examine any such alleged examples of necessary truth with the utmost care.

Indeed, it seems to me that the only real importance which the categories can claim to possess is bound up with the assertion of their necessity. If they have not this necessity, it does not appear that there is much real justification for distinguishing them from other concepts as a special class by themselves. They may still be pervasive, while other concepts are not. But is this a very important distinction? All existents, we shall be told, possess *quality* of some kind. And as quality is thus universal or pervasive, it is called a category. But if there is no *necessity* in this, then it is a mere contingency that everything has quality. It merely happens to be so. It might be the case, although it is not, that everything in the universe might happen to be white. In that case 'white' would be a category. Thus unless there is necessity, it appears to be a matter of mere chance, and nothing essential, whether a concept is placed in the class of categories or not. The distinction between categories and other concepts might in that case have a certain factual interest for the science of psychology—a category being regarded as a sort of psychological curiosity—but it is difficult to see that it could have any philosophical bearings of first-class importance.

If we give up necessity, what other distinctive marks of the category have we? To distinguish categories from other concepts by their greater abstractness or their more 'fundamental' character seems to lead nowhere. All

concepts are abstract, some more, some less. Or perhaps it is more correct to say that the generality of the abstraction is greater in some cases than in others. Quality is clearly more general or more abstract than colour. But at what point of abstraction is the line to be drawn between categories and other concepts? And when it is drawn, of what use is it? As to the 'fundamental' character of categories, the meaning of the word fundamental in this connexion is far from clear. I suspect that when philosophers say that categories are those concepts which are most 'fundamental' to human thought, what they actually have in their minds is a confused notion of universality and necessity.

The Kantian definition of categories as universal and necessary concepts seems to be the only definition which (1) clearly and precisely marks them off from other concepts, and (2) invests them with real importance in philosophy. Their universality is generally admitted in all accounts of them with which I am acquainted. Hence their necessity is what we have to concentrate our attention on. We need not consider here the validity of the idealistic conclusions which Kant sought to draw from the universality and necessity of the categories. He concluded that they are, like space and time, forms which the mind imposes upon reality as a pre-condition of reality entering into knowledge. We are not concerned with this argument. But if it is established that the categories are a source of 'necessary truth', this will obviously be of the utmost importance for epistemology. It will establish the existence of a new tie in knowledge at this point. If, on the other hand, we do not find that the claim of the categories to necessity is justified, it will then become doubtful whether philosophy need retain the distinction between categories and other concepts. In that case the philosophy of the future might well allow the whole doctrine of the categories to die out. Its sole importance has been derived from Kant's ascription of necessity to the categories. If this is omitted or denied, we have nothing left except 'pervasiveness'. And pervasiveness, without necessity,

becomes no more than a curious and interesting fact.¹

Our study of the categories will make no pretence of being complete, if only because no authoritative list of them has ever been given. We may ignore, from our point of view, Aristotle's list. It is not very clear from what point of view he drew it up, and it cannot in any case withstand modern criticism. The list given by Kant—the famous Kantian twelve—has had the most influence in modern philosophy, but has nevertheless not been universally accepted. Some of Kant's immediate successors and admirers reduced his list below twelve, while Hegel increased it inordinately to over a hundred. Professor Alexander has his own list. The majority of modern writers somewhat vaguely describe as categories such concepts as quality, causality, substance, relation, without attempting to make a complete list and without precisely delimiting the boundaries between categories and those other concepts on which they do not confer the honour of categoriality.

In these circumstances it would be difficult for us to attempt a complete study of *all* categories. Fortunately it is not necessary. For the conclusion to which, as we shall see, our investigations will lead us, is that the Kantian doctrine of necessity is false in regard to the categories as it was in regard to geometry. We shall find that any necessity they possess is derived, like the necessity of geometry, from the laws of logic, and has to be pushed back over the boundaries of categorial knowledge into the realm of logic. Categories will therefore cease, in our theory, to play any role of first-class importance. They will take their place in the theory of knowledge along with other concepts, among which they will be accorded no special seat of honour. All that is necessary for us, therefore, is to investigate a fairly representative list of those

¹ This remark applies, of course, only to concepts. It must not be interpreted as meaning, for example, that the universality of laws is unimportant!

concepts which appear to have been regarded by common consent as having the best claim to be considered categorical. If these prove not to possess the character of necessity as conceived by Kant, it does not appear likely, in the absence of proof to the contrary, that that character will attach to any of the more obscure and doubtful claimants to the position of category which might be raked up from the limbo of philosophical literature. At any rate, the onus of proof will lie upon those who disagree with us.

Nor shall I study the categories in any special order. The order of our investigation will be determined purely by convenience of exposition.

The object of our inquiries will be threefold, (1) to ascertain whether there is or is not in the categories any such necessity as Kant supposed, (2) to determine whether the categories fulfil any special function in knowledge which would distinguish them from other concepts, and (3) to throw upon the theory of knowledge and the problem of truth any further light which it seems possible to obtain.

The categories which I shall select for our study will be the following: being, existence, quality, unity and plurality, identity and diversity, substance and accident, possibility, causality, reality, relation. This appears to be a fairly representative list, and to contain typical and important categories. They have all of them been treated as categories by the majority of philosophers who have written on the subject.

I. BEING

1. *The meaning of the category.* I shall distinguish being from existence, and existence again from reality.

The connotations which we attach to these terms are bound to be to some extent arbitrary. Different writers have used them in different senses, and there is no universally accepted 'right' sense. How this could be the case if these categories are in any significant sense necessary I leave it to those who defend their necessity to determine.

Being cannot be defined because it is an ultimate simple notion incapable of further analysis. Whatever is has

being. It follows that whatever exists has being, and that whatever is real has being. But the term being is wider than the terms existence and reality. Reality and existence are both more specific determinations of being. Hence although all existences and realities have being, it does not follow that all being is existent or real. There may be beings which are neither.

The distinctions between being, existence, and reality may be made clearer by the following. The term existence as I shall use it here applies to all beings which are apprehended as belonging to the public independent world of things. By existence, in short, I mean public independent existence. Thus a red patch appearing to the solitary mind and apprehended merely as a red patch has being. It certainly 'is'. But it has not attained the level of 'existence'. When, however, this same red patch is apprehended as a pillar-box, when it is believed to be visible to other minds and to exist when no one is aware of it, then it is credited with 'existence'.

By reality I mean what is apprehended in veridical perception as distinguished from what is apprehended in dreams, hallucinations, and delusions. What is apprehended in these latter states is unreality.

The reader may be tempted to think that existence as here defined is the same as reality as here defined. This would be an error, however. I shall not discuss the point now. It will become clear when we investigate existence and reality specifically. At the moment we are investigating the category of being.

2. *The question of necessity.* If it is now clear what is meant by being as distinguished both from existence and reality, we may proceed to consider the question whether it possesses necessity in the sense in which Kant attributed necessity to all the categories. Now clearly it does in some sense possess necessity. The proposition 'Whatever is is' is necessarily true. Not all things are white. But all things have being. Not only do they all have it as a matter of fact, but they all *must* have it. The white object merely happens to be white as a fact. It might as well have been blue or

any other colour. But every object must *be*. It is impossible to conceive of anything to which the character of being does not attach, since that anything should *be* without *being* is a contradiction in terms. This category therefore does possess necessity.

But this necessity is merely that of the identical proposition 'Whatever is is'. That proposition is necessary because it is merely analytic, or rather identical. It is necessary in precisely the same sense as 'All horses are animals' is necessary. In other words its necessity is not in itself. It is derived from logic. The position is the same as that which we find in mathematics. The proposition $2+2=4$ is necessary only because to contradict it would involve a breach of the laws of logic. We found that there is no such thing as mathematical necessity in the sense of a necessity peculiar to, and having its foundation in, mathematics. The necessity of mathematics is derived from logic. And as far as the category of being is concerned we may say similarly that there is no such thing as a special categorial necessity. There is nothing but the logical necessity which applies to the category of being as to all else in the world. Hence once more the 'necessary truth' of which we are in search eludes us, escapes over the boundaries of categorial knowledge into the territory of logic, where we shall, in due course, pursue and study it.

3. *Epistemological type*. Categories will be found to be of two types, factual and constructive. Factual categories are concepts of what is actually perceived. Constructive categories are concepts of what has been engendered by mental construction. Such categories are themselves mental constructions. This distinction corresponds, it will be seen, to the distinction between factual and constructive existence which we discussed in Chapter VII.

Since factual categories are concepts of what is actually perceived, it follows that they are simply *concepts of the given*.

Being as a category does not show any traces of mental construction. Being, of course, includes existence, in the sense that whatever has existence also has being. Existence,

however, includes the existence of sense-objects when they are not being perceived. That existence is constructed. And it might therefore be argued that being possesses to that extent a constructive character. But that is not the correct way of regarding the question. The concept of being might have been formed by the solitary mind contemplating its colour patches, its sounds, and its other sense-data. Therefore the concept of being is possible without any constructive element, and does not rest upon any construction. It is simply a concept of the given. That it is afterwards extended to unperceived objects does not make it a mental construction. For the same might be said of such a concept as 'red'. 'Red' is a concept of the given, and no one would suggest that it is a construction. Yet we extend it to unperceived objects. We conceive that the pillar-box is red when no one is looking at it. It is the same with being. Being is, therefore, a factual category.

2. EXISTENCE

1. *The meaning of the category.* To say that anything 'exists' means that it is a public object, whose being is not dependent on its being perceived, and which does, or may, continue to exist when no mind is aware of it. This statement of connotation appears to be in accord with common usage. For when the plain man speaks of what exists, he is thinking of tables and chairs, of stars and comets, of horses and dandelions. He is not thinking of the fleeting colour patches of the solitary mind, the existence of which, as distinct from the tables and chairs and other things which they afterwards become, he hardly recognizes.

Some philosophers have distinguished existence from being by defining existence as that which fits into the systematic network of relations which we call the world-order. We have reserved this connotation, however, for the term 'reality'. So for us existence means public independent existence.

2. *The question of necessity.* A category is necessary if it is impossible to think the universe without it. Thus 'being' possesses necessity (though this necessity is not original,

but derived from logic) because it is impossible to conceive a universe of which it would not be true to say that 'it is' and that the things of which it is composed 'are'. The concept 'white' is not necessary because it would be quite possible to think of a universe with no white objects in it. In the same way it is quite possible to think of the universe without using the category 'existence'. It is quite possible to hold that things do not exist when I am not perceiving them, that they are not in an external world common to all minds, and indeed that there are no other minds to whom they could appear. It is quite possible for me to hold that there is nothing whatever except *my* given. We are not, of course, speaking of what is *practically* possible or impossible, but of what is possible to thought. The question of necessity which we are investigating is a purely theoretical question. However much practical exigencies may compel us to think this or that, such compulsion is not what is meant by necessary truth. My present contention is that it is *logically* possible to thought to refuse to accept the category of existence and to remain at the level of the solitary mind. No doubt this is a practical impossibility, but it is not impossible, or even difficult, for thought.

The difference between thinking the world without the category of existence and thinking the world with it seems to be similar to the difference between the Ptolemaic and Copernican astronomical systems. You can, if you like, work out the motions of the planets, stars, moon, &c., with the cycles and epicycles of the Ptolemaic system. The disadvantage of doing so is not that any one can prove it to be 'untrue', nor even that any instructed person will suggest that it is untrue, but solely that it is complicated and inconvenient. But think in terms of the Copernican system, and the motions of the heavenly bodies are reduced to simplicity.

It is just the same with the idea of existence. The mind began, we saw, with a crowd of fleeting phantasms which we called the given. Each mind had its own world and its own given. But these many worlds coalesced into one. This

one world was assumed, not because there was or could be any 'evidence' for it, not because it was 'truer' than the theory of the many worlds, but because it enormously simplified thought. There is therefore nothing to prevent any one who pleases from thinking of the universe in terms of the many minds, each with his own separate world, in which phantasms come and go, but in which there is no permanence and no solidity. It is, in other words, quite possible to think the universe without the use of the category of existence.

We are not here speaking, of course, of questions of *practical* necessity or convenience. And yet it is perhaps worth while to point out that, even from a purely practical point of view, it is not impossible for a mind to do without the category of existence. No doubt for us *now* to do so would be highly inconvenient and indeed quite absurd. But the human race *might* have chosen to adopt that course. And it is not clear that animal minds do not actually do so. The organism can feed itself and avoid danger (its two chief necessities) without any belief in existence. Bread satisfies hunger just as well whether you believe that it goes on existing when it disappears into your stomach or whether you suppose that it ceases to exist when you no longer see it. It also makes no difference to its practical effect whether you believe that other minds exist and see it or whether you regard it as your privately existing bread in your private world. All you have to do if you wish to do without the category of existence is to think that a certain kind of white patch, if caused to disappear in a certain direction (i.e. down your throat) is followed—though it no doubt itself ceases to exist—by the sensations which we associate with satisfaction of hunger. But of course, as already noted, this question of practical possibilities is not really relevant to the problem of necessity which we are discussing. The point is that there is no impossibility of thought in doing without the category of existence, and hence that the category does not possess the character of necessity in the sense in which we are employing that term.

3. *Epistemological type.* The notion of existence in the

sense in which we have defined the term is an existential construction; or rather it is a complex of such constructions. The category, therefore, is to be classed as a constructive category.

3. QUALITY

1. *The meaning of the category.* The term quality may be used in two quite different senses. It may be used to refer, firstly, to the qualities of a *thing*, and the quality may be conceived specifically as not standing alone but as appertaining to something *of* which it is the quality. Taken in this sense quality belongs to the same group of concepts as 'property' in the conception of the 'thing and its properties' and 'accident' in the conception of 'substance and accident'. This meaning of the term quality will receive consideration under the heading of the category substance and accident. And we need say nothing further of it here.

The other possible meaning of the term quality is its connotation as one of the simple concepts of the given. Before ever mind came to be aware of 'things', it was aware of the given and noted those simple relations of resemblance which the given presents. Not only does red resemble red. Red also resembles blue, and the common character of the two is called colour. If we rise a step yet higher in degree of generality, we find that there is a resemblance between the characters of being coloured, sweet, hard, scented, loud-sounding, smooth, rough, &c. All these are said to be *qualities*. Quality as here conceived is thus a very elementary concept which comes into being, or which at any rate might logically come into being, at a stage of mind so early that the conceptions of existence and of 'things' have not yet been constructed. This is the category of quality. It is a 'concept of the given'.

2. *The question of necessity.* Quality is essentially bound up with being, and we cannot conceive any being without some quality. For that which had no quality, no character, no distinguishing feature of any kind, would *eo ipso* be nothing and void. It could have no being. It was by

means of this reasoning that Hegel identified quality with being in one of his famous logical deductions. The quality of anything, he argued, *is* its being. The greenness, softness, shape, &c., of the grass *is* the grass. If we try and imagine the grass with these and all other qualities removed, what would be left standing before the mind after such removal of all the qualities would be absolutely nothing. The being of the grass thus disappears with the quality. Being and quality are, he urged, identical.

We need not, of course, follow Hegel's actual identification of quality and being. It is no part of our plan to do so. For us, being and quality are essentially different concepts. But the argument brings out very clearly the fact that, since it is impossible to conceive of any being without quality, quality is a *necessary* concept. Things not only do possess qualities as a matter of fact. They *must* possess qualities, since a thing without qualities is inconceivable.

But on examination it soon appears that this necessity is not anything which has its source in the category itself. It is derived, like the necessity of the category of being or of those geometrical axioms which are not constructions, from the laws of logic. For if we fix our minds on the idea of the given, we shall find that being and quality are merely two aspects of the given. Consider a red patch. Its redness and its being are the same thing viewed from different angles. The being of a red patch is its redness. The being of a blue patch is its blueness. Therefore blueness and redness are different *kinds* of being. The quality of a thing, then, is the particular kind of being it has. Therefore quality might be defined as 'kind of being' or as 'specific being' or as 'determined being'. And the proposition that 'all being must have quality' is equivalent to the proposition that 'every being must be some particular kind of being'. It seems clear that this is necessary, but that its necessity is derived from logic. It is in reality analytic. This will become clearer if we consider the proposition 'every animal must be some particular kind of animal', i.e. must be either a lion or a tiger or a giraffe, or . . ., &c.

It may be argued that this is not analytic because the concept 'animal' does not contain the ideas of the specific characters either of the lion or of the tiger or of any other particular beast. It is true that it does not. But I maintain that the concept 'animal', though it does not contain a reference to the specific characters of the tiger or the lion, does contain the thought that every particular animal must have *some* specific character. Otherwise the concept 'animal' would be completely contentless and empty. This would be the case even if there existed in fact only one kind of animal, i.e. if the genus animal contained only one species. Thus the proposition 'every animal must be some particular kind of animal' is a necessary truth, and it is necessary because it is analytic.

It appears that the proposition 'every being must have quality' is on all fours with this. Quality means nothing but the specific character of any being. And the concept 'being' must contain the thought that all being has *some* specific character, although it does not contain the thought that it has this or that particular character. For if not, being would be completely without content and equivalent, as Hegel thought, to nothing. Hence to assert that there could be being without any quality would involve a breach of the logical law of contradiction. For it would involve that there could be a being which is not a being. Hence the proposition that 'All being has quality' is a necessary proposition because it is analytic. And we conclude that the category of quality is in the same boat as the category of being. It possesses necessity, but this necessity is merely derived from logic.

3. *Epistemological type*. In the category of quality there are none of the constructive elements which we found, for example, in the category of existence. It contains nothing whatever which is not *found* in the given, except of course its abstract character as a concept. It is of precisely the same character as the more sensuous concepts such as 'red', 'blue', 'loud', &c. Its 'truth' consists in the correspondence of the thought with the percept, i.e. with the given. Quality is given in sensation, and when we think

it conceptually we have the category. It is clear therefore that it is a category of the factual type.

4. UNITY AND PLURALITY

1. *The meaning of the categories.* There does not appear to be any likelihood of misunderstanding or ambiguity in regard to these categories. There may be *one* sovereign in my pocket, or there may be *many*. The categories of unity and plurality are simply the 'one' and the 'many' of such a statement.

2. *The question of necessity.* We cannot conceive a universe of things to which the categories of unity and plurality do not apply. A thing must necessarily be one thing. And there must necessarily be many things in existence. For even if we try to imagine a universe consisting of only one object, we can only conceive it as containing a multiplicity of parts. Hegel was apparently right in thinking that the one and the many imply each other, so that the idea of one is impossible without the idea of the other. The 'one' is only intelligible against a background of multiplicity; it is the *not*-many. Likewise the 'many' is only intelligible as the *not*-one. Hence if it is admitted that the idea 'one' is implied in the thought of any possible being or any possible universe, it follows that the idea 'many' is also implied therein.

But this is because unity and plurality are parts of the concepts of whatever we think of. The idea of 'a house' contains within itself the thought that it is one object. So of course does the idea of 'a flower', or 'an atom', or 'a planet' or 'a red patch', or any other object. It would clearly be self-contradictory to try to think of a house which is not one house. And if we take any other single thing it would be self-contradictory to think of it as not being 'one'. If, on the other hand, we take any collection of things, whether the whole universe or some smaller collection, it would be self-contradictory to think of it as not 'many'. That is to say, the proposition 'this thing is one thing' is an analytic proposition. And the proposition 'these things are many' is likewise analytic. They are

therefore necessary. They differ from such a proposition as 'this thing is white' which is synthetic, and which does not possess necessity.

Hence it is plain that the necessity of the categories of unity and plurality is not in themselves, but is derived from the laws of logic.

3. *Epistemological type.* Unity and plurality are not constructed, but given. They make their appearance in the earliest conceivable experiences of the mind, before any constructive world-building begins. They are concepts of the given, and belong to the factual type of category.

5. IDENTITY AND DIVERSITY

1. *The meaning of the categories.* If the given experience which confronts us at any moment consists, shall we say, of a green patch and a red patch side by side in the same visual field; and if we symbolize these by A and B respectively; then it is at once evident that ' A is not B ', or in other words that these are two *diverse* experiences. If both the patches are green, and even if they are exactly the same shade of green, yet if they are spatially separated it will still be true that ' A is not B ', i.e. that they are diverse. Diversity is thus an ultimate notion, a concept of the given, which, as such, cannot be defined, although its application is quite clear.

The meaning of *identity* is not so clear. If it entirely excludes diversity, it appears to be practically meaningless. In order to have any real significance the concept of identity must assert the identity of two things which are, or originally were, thought to be diverse. The assertion that *one* thing is identical with itself does not appear to contain much meaning or value. It is what we may call *pure* identity, and is symbolized by the formal proposition ' A is A '. It is true that this appears in the logic books. But even if it has any meaning (which I doubt) it is a wholly trivial meaning.

In order to give any real significance to an assertion of identity, it must assert the identity of two diverse things. It is then of the form ' A is B '. This is the case if I say

that the piece of paper now before me is *the same* piece of paper which I had before me thirty seconds ago when I began writing this sentence. It is often carelessly assumed that this is an assertion of empty self-identity of the form '*A is A*'. It is forgotten that the white patch *now* and the white patch *then*, even though they continue into one another, are *two* experiences, not one. And their identification is the assertion of the identity of two diverse presentations. It is possibly because this is forgotten that significance is attached to the empty self-identical '*A is A*'. It is supposed that the propositions 'This house is the same house as I was living in yesterday', and 'I am the same man as I was a year ago', are propositions of that form. And as they are certainly both significant and important it comes to be thought that empty self-identity is significant and important. But this is a mistake. The propositions just quoted clearly assert the identity of diverse things, and are therefore of the form '*A is B*'.

Suppose now that I assert that the green tree which I am now seeing is identical with the green tree which you are seeing at the same instant. This is the ordinary assertion involved in the coalescence of our many private worlds into one public world. This again is clearly an affirmation of the identity of two diverse things, and is of the form '*A is B*'.

For the purposes of our discussion here I shall take the category of identity to mean the significant and important '*A is B*', not the futile and barren '*A is A*'.

2. *The question of necessity.* Diversity is given and is a feature of all experience. It is closely bound up with the category of plurality. For whatever is many is diverse, and whatever is diverse is many. Diversity certainly possesses the character of necessity, since we cannot conceive any universe without diverse elements. But this necessity stands on the same footing as the necessity of the category of plurality. What was said of the necessity of plurality applies *mutatis mutandis* to the necessity of diversity. That necessity is, therefore, not in the category itself, but borrowed from the laws of logic.

Identity, however, is by no means on the same footing. If by identity we mean pure identity, the barren ' A is A ', then it may be the case that this kind of identity (if any meaning can be attached to it) is a feature of the given, and no doubt possesses the same kind of necessity as the other pervasive concepts of the given which we have already studied. But if by identity is meant the identification of two diverse experiences, then it is clear that it is not given. It is clear that it is the mind which declares to be one what is given in experience as two.

It is also clear that the category does not possess any necessity. It is on a par in this respect with the category of existence. In fact it is involved in, and is a part of, the category of existence. The most important step which the mind took in its establishment of a public external world was the identification of the many private worlds as one world. But this was not a necessary step in any sense which is relevant to the search for 'necessary truth'. The mind could have remained, if it had chosen, in its private world of phantasms. It might have continued to think in terms of many worlds instead of one. Nothing would have been different except that all thinking would have been more difficult, complicated, and inconvenient. Its choice was similar to the choice between Ptolemaic and Copernican astronomy. The concept of identity is a device of the mind for simplifying the universe. But there is no compulsion of thought to use it.

3. *Epistemological type.* Diversity is a factual concept. So is identity in the barren sense of $A = A$, if identity in that sense has any real significance. Both diversity and identity in this sense merely repeat in *thought* what is given in the *thing*. They are merely the universals of certain particulars. This is the same as saying that they are factual.

But identity in the more advanced sense, in which what is asserted is the identity of two diverse givens, is an interesting example of the constructive type of category. Let us consider a very simple example of its application. I am looking at a green book now lying on my table. I say it was also there a minute ago, that it has been there during

the intervening sixty seconds, and that what has been there during all that period is the 'same' book. Here, in this idea of the 'sameness' of the book, is the category of identity. Now this identity, this sameness, is certainly not given. What is given is a series of experiences bearing to each other the relation of resemblance; a series of green patches occupying a series of 'specious presents'. They follow each other continuously in time. There is no break between them. But, in spite of this continuity, any two in the series are just as much diverse or numerically different from one another as if they were two patches of colour separated by an interval of empty space. Nowhere can we find the identity among the elements of the given. A 'thing' which persists in time is a series of *different* appearances strung together like beads on a string. But the string is invisible. It is not given in sight or in any other sense. It is *thought*. It is a fiction, an invention which the mind makes for its own purposes.¹

In order to support the fiction of identity the mind invents further concepts, such as *substance*, to help it out. The identity is made plausible by supposing that there is one substance beneath the many diverse appearances. This phase of thought will be studied in the next section.

People frequently raise what appear to be most puzzling questions of identity. If only it were realized that identity is a convenient fiction, and that consequently it can be used when it is found useful but dropped when it is not, these questions would all cease to be puzzling. It will be worth while to give one or two examples. The identity of the series of appearances of the 'same' book is not usually called in question by common sense. It is considered obvious. But trouble begins when more or less rapid changes are observed to be taking place within what is supposed to be the 'same' thing. A wave travels across the face of the water. We know that the particles of water do

¹ Since writing this I find the following at p. 164 of Dr. F. C. S. Schiller's *Logic for Use*: 'All identification involves fiction, because it feigns the non-existence of the differences which always exist between two cases of "the same".'

not move horizontally forward with the wave. They only move vertically up and down. All that moves forward is the *shape*, and even this, of course, changes as it goes along. Is it, then, the *same* wave which travels across the water? Or is it a series of *different* waves? The supposed identity of our bodies throughout a period of years raises a similar problem. It may be that not one of the molecules which constituted my body ten years ago is still included in it. Wherever change is in progress within the boundaries of what is supposed to be one and the same persisting object, the same problem arises in more or less acute form. The leaf which changes slowly in the autumn from green to red is really just as much an example of the problem as the rapidly changing wave.

These enigmas all arise because we persist in thinking that identity is something which is 'there' in exactly the same way as the appearances themselves—the red patches or whatever they may be—are 'there'. It is supposed that to assert that anything remains the 'same' throughout a period of time is to assert an objective fact about it. Consequently the identity must be either really 'there' or not 'there'. It cannot be partly there and partly not there. Nor can it be there for one person and not for another. Hence the wave puzzles us since it seems to be partly self-identical and partly not, and since it seems to depend to some extent upon the way of looking at it which each person has whether he regards it as identical or not; so that in a sense it seems to vary from person to person. Then we ask ourselves 'Is the identity really there or not? How are we to decide whether it is the same or different?' And these questions appear very difficult to answer.

All these difficulties disappear as soon as we realize that identity is not given, is not factually 'there', but is simply a convenient fiction. Hence if the mind *thinks* identity, then there *is* identity, while if the mind does not think identity, then there is none. For as with all constructions, the only reality which identity has consists in its *being thought*, not in its factual thereness. It may be said to be there if you like, but its thereness is a mental construction.

Whether the mind thinks identity into any particular subject-matter or not is purely a matter of convenience. Is it simpler to think of the moving wave, the growing body, as one rather than as many? If so, then the wave or the body will be thought of as one, and will *be* one for all purposes of theory and practice. But if it is more convenient to think of the successive appearances as many, then they *are* many. These are alternative truths, and the mind can take its choice.

There is, of course, nothing which is not changing. But some things change very slowly, others very fast. Those which change very slowly, such as the mountains or even the pyramids, we consider relatively permanent. And with regard to these the troublesome questions about identity do not seem to arise. The wave appears to give rise to a problem, but the mountain does not. No one ever dreams of doubting that the mountain is the 'same' to-day as it was yesterday. This shows how entirely arbitrary is the question whether we are to regard a series of appearances as one or many.

Is the picture which is thrown on the screen by a cinematograph many or one? We know that the film itself consists of a series of pictures which are spatially separate, so that no one would think of identifying them. But the series of pictures thrown on the screen all appear in the same spatial situation, but one after another in time. The series of appearances of the pictures thus exactly resembles the series of appearances of the green book. Is the picture, then, as we see it on the screen, one or many? I am watching, say, a man's face on the film, the features of which are quite motionless. I watch it for half a minute without perceiving any change. Is it the same face all the time, or is it a series of different faces?

When the matter is put in this way it becomes obvious that the question is without substance, that it is, as we are wont to say, 'merely a matter of words'. You can think of it as one picture or you can think of it as a series of many pictures. It does not matter in the least which you do. The concepts of identity and diversity will both be 'true'

of it. You have your choice between alternative truths. It is the same with all these questions of identity.

The alternative truths regarding identity and diversity differ from most other sets of alternative truths, however, in the following respect. In most cases all normal human minds choose one and not the other of the alternatives. For example, it is theoretically a matter of choice whether we think of one common world or of many private worlds. But the human mind in general long ago decided on the first alternative. No one ever adopts the latter. This is because it is *always* more convenient to think in terms of a common world. But this is not so with identity and diversity. One mind may choose to regard the wave as one. Another may prefer to think of it as many. But there is no difference in principle between the two sets of alternatives.

It may still be asked of the supposed self-identical green book which lies before me on the table: is its identity 'real'? Is the identity 'really there'? The answer to these questions clearly depends on what you mean by 'reality' and 'there'. Taking the latter first, we might interpret 'there' to mean 'actually given in perception'. In that sense identity is certainly not there. For it is not given and it cannot be perceived. But then in that sense the table which no one happens at this moment to be perceiving is not there. If, on the other hand, we admit, as I think it is reasonable to do, that the unperceived table is nevertheless there, then its thereness is a construction, and we shall also admit that the identity is there. Similarly with reality. If you insist that reality only includes what is there in the first sense, i.e. what is actually perceived, then the identity is not real. But for our part we shall not take such a narrow view of reality. We have included in 'existence' both factual and constructive existence. We have made it clear that valid constructions are a part of 'truth'. Constructive existences must also, therefore, be admitted to be a part of reality. Consequently to the questions whether the identity of the book is real and is there we reply in the affirmative.

Certain mystical philosophies, not content with using the category of identity in its usual limited application, attempt to force the whole world into its groove, and to make the entire universe one huge identity. 'All is One', they say. Certainly this One is not given, at least not to most of us, although the true mystic is apt to assert that it is given to him in a vision or in some kind of supersensuous 'intuition'. But if it is not given, it is a construction of thought. It is not my purpose here to consider the validity of this kind of transcendental philosophy. But in view of our recent investigations it is impossible not to reflect that, even if it be held that such a philosophy is true, its truth must still be considered a mental construction. It is no more than a 'way of looking at' the universe which may be true, i.e. legitimate, but which will not for that reason exclude from truth other equally legitimate ways of looking at the universe—alternative truths. It is quite possible that there may be several true philosophies, just in the same way as there are several true geometries.

6. SUBSTANCE

1. *The meaning of the category.* It is not clear that the terms substance and accident have always meant exactly the same thing throughout the history of thought, or that they have even now any one determinate connotation which is universally accepted. Can it be said that the word substance has and had the same meaning to Aristotle, to Spinoza, to Descartes (when he spoke of 'thinking substance'), and to the modern chemist? It is obvious that Spinoza and the chemist *apply* the word differently. Spinoza applied it to that ultimate reality out of which he considered that the whole world arises. The chemist, on the other hand, applies it to lumps of clay or metal. But in spite of this wide difference in application, it does not follow that there is not a single connotation in both cases, since the chemist may attribute to lumps of matter the very same characters which Spinoza attributed to ultimate reality. And this is, in fact, roughly the position. Absolute sameness of connotation there cannot be. It is quite true,

as Dr. Schiller and others have pointed out, that no word is ever really used twice in the same sense. There will always be small variations. But it may be said that, allowing for such variations of meaning, the various senses in which the word substance has been used in the history of thought seem all to go back to a common root-idea. If we can state this root-idea we shall have at least the main features of the meaning of the category.

The conception of substance and accident seems to be an attempt to define more precisely and scientifically the vague and popular concept of the 'thing' and its qualities. It has, at any rate, grown out of that popular concept. Here is the thing before me, the physical table. It is square, brown, shiny, and hard. These adjectives express its *qualities*. They do not appear to stand for *things*. Brownness and shininess are not things for the reason that they are not conceived as existing on their own account apart from the table. You can have a brown table, a brown pair of trousers, a brown piece of paper, a brown anything. But there must be, it is supposed, something which is brown. Brownness cannot exist by itself. Thus the 'thing' comes to be regarded as *that which has its being in itself, that which exists independently of anything else*. This gives us the definition of substance. The 'quality' comes to be regarded as *that which cannot exist by itself, but depends for its being on the substance*. This gives us the definition of accident.

This is the ordinary meaning of the category of substance as applied both by the plain man and by the chemist to material things—although it is probable that neither of them makes that meaning explicit before their minds. It is also the meaning of Spinoza's Substance. His Substance was equivalent to God, or the ultimate reality. It was not material or physical. But it was defined as 'that the conception of which does not depend on the conception of another thing from which it must be formed'.¹

Strictly speaking, no doubt, the idea of permanence is not necessarily involved in the concept of substance. We

¹ Spinoza, *Ethics*, Definition 3.

might, logically, think of a quite momentary existence in which the relation of substance and accident held good. But in practice the idea of permanence is invariably super-added to that of substance. It is then conceived that the substance remains the same, self-identical, while the accidents or attributes undergo change. The leaf changes from green to yellow or red. It is supposed to be the same leaf all through its many changes. It is thought that the substance remains immutable, but that the colour changes. Hydrogen and oxygen combine to form water. The atoms before and after the metamorphosis are supposed to be the same. The substance is unaltered. But the qualities have become different.

2. *The question of necessity.* In no sense can the category of substance and accident be regarded as a necessity of thought. It was invented by the Greeks. But men thought quite reasonably about the world before the Greeks began to philosophize, and they managed to conceive it, to think and to reason, and to control experience, without this category. It may be urged that it was implicit in their thought, that it was actually used by them without its being realized, and that all Aristotle did was to make it explicit. But this is clearly not correct. Substance and accident is plainly a philosophical refinement of the popular concept of 'the thing and its qualities'. That is the category which is used by the plain man, and was so used before Aristotle. And its use was not implicit but explicit. Substance and accident was the result of an effort on the part of the philosophers to analyse and clarify this popular concept, and to give precision to its vagueness. Substance and accident, therefore, in so far as it differs from thing and quality, is nothing but a philosophical theory, an invention of the philosophers. How is it possible to maintain that an idea which no one but a few philosophers understands is a necessity for all human thinking?

The absence of necessity also follows in another way from the fact that substance and accident is the philosophical version of thing and quality. The concept of 'thing' implies 'existence'. It is bound up with that whole

circle of ideas. But 'existence' itself has been shown not to be necessary. If you choose to think of the table, not as a substance having qualities or attributes, but as a bundle of qualities, without substratum, which happen to accompany each other about the world in a regular kind of way, you can get along perfectly well. You can even control and predict experience. You have found that the experiences 'brown' and 'shiny' and 'square', in certain conditions which you know with fair accuracy, go about in company with the experience 'hard'. Hence when you get the former experiences in those conditions you can predict that if you thrust your finger out towards the brown patch you will get the experience 'hard'. There is no necessity to think either of 'things' or of 'substances' at all.

3. *Epistemological type.* The concept substance is closely akin to the concepts thing, existence, and identity, and like them is a constructive category.

We say of the table, 'It is brown, shiny, &c.' 'It' is thus conceived as something existing apart from its qualities. But what sort of a thing is 'It' apart from its qualities? Abstract from the table its brownness, its shape, and *all* its qualities, and what is left? Absolutely nothing. The supposed substance, lying beneath the qualities as a support or substratum, can never be perceived and cannot even be imagined. To think a substance without any qualities is the same impossibility as to think of being without quality. Hence the thought of substance is not given in perception. Nor is it inferred. It is therefore constructed.

The construction is of the existential type. A substance is supposed to exist in order to support the accidents. The assertion of its existence can only mean 'If we could strip off the accidents, we should then perceive the substance'. In reality no such 'stripping off' is possible, nor is such an act of perception. It is surely clear that it is absurd solemnly to invent philosophical subtleties to explain away the difficulties in the conception, for the reason that the whole conception is nothing but a makeshift device of the mind, a 'way of looking at things', which it happens to

find convenient, but which was never intended to withstand precise and searching philosophical analysis and criticism. The category of substance and accident, properly understood, should not take itself so seriously as that.

Hydrogen and oxygen are supposed to combine to form water. The substance remains the same throughout the change of qualities. That is the mind's *way of putting* the facts. But what are the facts? I am not concerned here with the meaning of the scientific theory of atoms. I shall have something to say about that in a later chapter. I am only here concerned with the implications of the concept of substance, whether its structure is conceived as atomic or not. The facts, then, i.e. the givens, are as follows. Firstly, we have a group of experiences, a group of sensations, which we conceptualize as due to the presence of hydrogen and oxygen in a retort, the presence of a flame inserted into the retort, &c. This whole group of presentations suddenly disappears and is replaced by a totally different group. There is the loud sound of the explosion, and a set of presentations comes into existence which we conceptualize as due to a number of drops of water in the retort. That is *all* that is given. These are the only 'facts'.

We may 'explain' these facts how we like. We may say simply that the oxygen and the hydrogen have ceased to exist, and that water has been created or has begun to exist. Or we may adopt the more elaborate and complicated hypothesis that there are certain 'substances' which have remained the same, while the 'qualities' have changed. There is absolutely no evidence for this view, nor is it possible that there ever should be any. There cannot in the nature of the case be any evidence for the existence of a substance which is by hypothesis without sense qualities and which it is therefore impossible to perceive and entirely outside any possible experience. Thus the view that hydrogen and oxygen atoms remain unchanged while their qualities change, and that the two gases 'combine' to form water, is a dodge of the mind.

We have here a clear case of alternative truths. The view usually adopted is that just referred to as a dodge.

But the view that the oxygen and hydrogen cease to exist and that water suddenly begins to exist is certainly quite as 'true'. It is indeed simpler and nearer to the facts. But the reason why the more complicated alternative is adopted in this case is that it fits in better with the mind's previous constructions of the external world. The idea of permanence has been definitely adopted into those constructions. The world of 'things' becomes the world of substances. It is part of this whole scheme of ideas that the substance or the 'thing' persists unchanged while it hides shyly beneath the veil of its changing qualities. The mind which has once taken this line will prefer to explain the phenomena of the water by the hypothesis of a 'combination' of atoms which in themselves persist unchanged, the change being somehow mysteriously attributed to the influence of the fact of 'combination'.

In general, of course, the mind adopts the *simpler* of two alternatives. But the simpler of two general world-views may involve taking the more complicated of two possible views of some smaller problem or of some particular patch of the world. That is what has happened here. It is simpler to believe in a single public world of 'things' than in millions of private worlds of fleeting presentations. But belief in the single public world inevitably led on to the idea of things which persist unchanged under a change of qualities. And so, though this is not in itself a simplification, but rather a complication, it is yet implied in what is in general a simplification of the whole world-view.

7. POSSIBILITY

1. *The meaning of the category.* Possibility is one of the group or cluster of categories—identity, substance, and now possibility—which centre round and are closely bound up with the category of existence. This will appear as we proceed.

Possibility as a category, i.e. as a character of the external world, must clearly apply to that world and not merely to our knowledge of it. It must not be merely a characterization of our state of knowledge or ignorance.

A possibility must be something which, in some sense, is part of the real world. For example, it may rain to-morrow or it may not. We commonly say that either is a possibility. But the possible in this sense is a concept which does not qualify the outer world at all, but only qualifies our knowledge of it. What is meant is simply that we do not know whether it will rain to-morrow or not. To-morrow's weather, when it comes, will be *actual*. This notion of our uncertainty about the world, which is often expressed by means of the word possibility, is *not* the meaning of the category which we are to examine. I mention it only in order to exclude it and to avoid ambiguity.

Genuine possibility is opposed to actuality. The possible is in some way a part of the world which is never actual. The possible, therefore, is something which has no existence. How the real world can be regarded as somehow including a part which has no existence is at present a mystery which we shall have to clear up. But nothing is easier than to give examples. 'If the Germans had sunk the British fleet, they would have invaded England.' 'If the horse I backed had won the Derby, I should have won a hundred pounds.' But the Germans did not sink the British fleet and they did not invade England. The horse I backed did not win the Derby, and I am still without my hundred pounds. It is clear that these propositions do not express any facts which ever did or ever will exist in the world. They are supposed to express possibilities which might have happened, but did not. Things and events in the world are considered as frequently coming to points at which their roads fork in several directions. Of the several possible roads events can only take one. The one they do take is called *actual*. All the others are, or were, *possibilities*.

The propositions quoted above as examples refer to the past. I chose past possibilities to illustrate my point designedly. For possibility cannot in that case be confused with our ignorance of the future. But examples of present and future possibilities are just as easy to find. 'If I stretch out my hand, the wall will feel hard.' 'If I bite the apple,

it will taste sweet.' 'If I look at Mars through a large enough telescope, I shall see the polar ice caps.' Propositions of this kind express possible, as distinguished from actual, experience. I am now looking at the wall. The present visual experience is actual. The feel of the wall is a *possible* tactile experience which I might have *if* I stretched out my hand. It is essential to the notion of possibility that the antecedent of the hypothetical proposition which expresses it shall *not* be fulfilled, that I shall *not* touch the wall, bite the apple, &c. For if I do these things, the experience then ceases to be possible and becomes actual (assuming that my prediction has been correct). The proposition 'If I stretch out my hand I shall feel the wall' expresses a possible experience, which is not actual, only so long as I do *not* reach out my hand.

Possibility is only expressible by means of an hypothetical proposition. We may no doubt say '*x* is a possibility'. But this nominally categorical proposition is in reality hypothetical. It means that *if* certain conditions were fulfilled, then *x* would actually exist.

2. *The question of necessity.* There can be no kind of necessity in this category. It is, of course, essential to any rational prediction and control of experience. Our thinking would, without it, be confined to an almost inconceivably rudimentary stage. It is, therefore, a practical necessity. But it is in no sense a necessity of thought. We could theoretically confine our attention to what is actually given or actually existent to the exclusion of all mere possibility. There would be nothing illogical or self-contradictory in such a course.

3. *Epistemological type.* Possibility is a constructive category. The construction is existential, for it creates in imagination an existence which is not actual. It sets up an hypothesis which cannot conceivably be proved, and which, in fact, posits an existence which is not a part of the actual world. That it cannot conceivably be proved will be evident if we consider the following case. Suppose we are in a totally dark room. I say 'If I had switched on the electric lights, we should now see the walls of the

room.' This is alleged to be *now* a possible experience. It is not a prediction of future experience. It cannot be that, since it does not assert that I *shall* turn on the light, or that we *shall* see the walls. It does not assert anything whatever as to what *will* happen in the future. It purports to make an assertion about the present. It asserts that if the room were now light, instead of being dark, we should see the walls. But it is obvious that this can never be proved. If I turn on the light, the resulting visual experience of the wall will in the first place exist at a time future to, or later than, the moment in which the assertion was made. And in the second place the experience will have ceased to be possible and will have become actual, so that it cannot prove the existence of a possibility.

Not only can possibility never be proved. It is even contrary to the facts, which makes its character as a construction or fiction even clearer. Consider the proposition 'If I put out my hand, I shall feel the wall hard.' This does not assert that anything *is*, but only that something *might be*. But what does this 'might be' mean? A fact, an existence, a reality, either is or is not. There is no half-way house in the universe for any 'might be'. A 'might be' is simply an 'is not'. Hence possibility is no part of the actually existing universe. There is no such thing as a possible experience. This makes its character as a fiction quite apparent.

The importance of the category of possibility is, however, very great. It is involved in every existential construction. It is involved in every scientific hypothesis which asserts the existence of something which cannot be perceived, e.g. atoms, ether, electrons, &c. These all depend on the concept of possible experience. That concept lies at the root of, and renders possible, the construction of the external world.

For the notion of possible experience is simply the assumption that things exist when no one is aware of them, the wall when the light is out, the hardness of the wall when no one is touching it. We must remember that in the early stages of knowledge, when the mind was aware of presentations and nothing else, *esse* was identical with

percipi. Even now all existence has to be conceived in terms of perception. Even an unperceived existence is thought of, and can only be thought of, *as if* it were a perceived existence. To exist does not now mean simply to be perceived, because the mind has determined otherwise, has projected existence out beyond its own perceptions, has invented an unperceived world. But all thought, all knowledge, has its roots in perception. The unperceived world which the mind has invented also has its roots in perception, and is made in the image of what is actually perceived. The mind could not invent anything really new. It merely perceives, and builds them up into its fictitious worlds. The table which exists when no one is aware of it is supposed to be brown, shiny, hard, square, and in all other ways just like the table we see. In the last resort everything that the mind invents or constructs has its roots in perception, goes back to perception, and has to be understood in terms of perception. Thus if we say that a thing exists when no one is aware of it, what do we mean? We mean, simply and solely, that although no one is now looking at, or perceiving, the thing, yet *if* any one looked he *would* see it. This, however, is the formula by means of which the category of possibility is expressed. So we see that the category of possibility and the notion of unperceived existence which we discussed at such length in Chapter VI are really one and the same construction.

A few examples may serve to make the point clearer. What do I mean by saying that Melbourne exists on the other side of the planet? This existence must be ultimately explained in terms of perception. My statement means probably that some minds (the inhabitants) are actually perceiving Melbourne. But if by any chance there are no minds there to perceive it, then my statement can only mean that *if* I travelled round the globe I should perceive Melbourne—or in general, of course, that if any mind were suitably situated it would perceive Melbourne. What is the meaning of the assertion that the moon has a side turned permanently away from the earth, so that it has

never been seen? It means that *if* any one could look round the back of the moon, he *would* see the other side.

Thus the mind's invention of the notion of possibility was perhaps the most important step it ever took in its advance to knowledge. By inventing an imaginary realm of possible, as distinguished from actual, experiences, it opened up the way to all future existential constructions. It rendered possible the notions of permanence, existence, and of a public independent world.

8. CAUSALITY

1. *The meaning of the category.* I shall make no attempt to analyse or define the concept of causality, for the simple reason that it is too difficult. It is so complicated and controversial a matter that it would require an elaborate and extended treatment which it cannot be given here. It has proved a stumbling block to a long series of philosophers and logicians, and many varying views have been expressed.

Here is Mill's definition:

'We may define, therefore, the cause of a phenomenon to be the antecedent or concurrence of antecedents, on which it is invariably and *unconditionally* consequent.'¹

The following is Professor Alexander's view of the meaning of the concept:

'Space-time or the system of motion is a continuous system, and any motion within it is continuous with some other motion. This relation of continuity between two different motions is causality, the motion which precedes that into which it is continued in order of time being the cause and the other the effect.'²

Mr. Bertrand Russell is for ousting the words cause and causation altogether from the philosophical vocabulary. The notion of cause, he considers, is useless and is not actually used in the sciences. He would substitute for causality the notions of law and functional dependence.

Miss L. S. Stebbing, commenting on this, points out

¹ Mill's *Logic*, Book III, Chapter V.

² *Space, Time, and Deity*, vol. i, p. 279.

that though Mr. Russell's observations apply well enough to sciences such as astronomy and mathematical physics, they are inapplicable to such sciences as biology, where the notion of cause is still freely used. Causality is in general a concept which is useful in the less advanced stages of knowledge. Miss Stebbing concludes that there is no reason for rejecting the notion of cause, that 'there are causal uniformities', and that 'scientists continue to investigate causes'. She considers that 'the main reasons for the attempt on the part of philosophers to reject the notion of cause are to be found in the difficulty of stating precisely what exactly the concept involves, and in the close connexion between the traditional treatment of causation and the general problem of the validity of inductive inference'.¹

With these essentially sane remarks we may agree. We shall believe that the word causality does represent a reality in the universe. Its definition is, however, a matter of great complexity and difficulty. There is no reason to think that the problem of defining it is not completely soluble by the human mind. But it may be admitted that a satisfactory solution has not yet been found. The task of finding one obviously cannot be undertaken here. And we must rest content with the belief that causation is a reality, and that though we may not be able accurately to define it we nevertheless know in a general (if vague) way what it means.

2. *The question of necessity.* Necessity has been asserted of causality in two quite different senses. It has been thought (1) that between a cause *A* and its effect *B* there is a necessary bond, and (2) that causality is necessary in the sense that it is impossible to conceive a universe without it.

It is difficult to understand how the first of these two views can now be put forward. The anthropomorphic attribution of compulsion to the cause, the idea that the cause *compels* the effect, has long been given up, and need not be discussed, since it is not likely to find any advo-

¹ *A Modern Introduction to Logic*, pp. 289-90.

cates. The only other sense in which it might be supposed that an effect *necessarily* follows its cause would be exemplified if it could be alleged that the relation between cause and effect is similar to that between premiss and conclusion in an inference. This would be a case of logical necessity. But that no such relation holds has been clear ever since the days of Hume. Given the premisses on which Euclid builds, we can deduce his conclusions without waiting on experience. But no one could predict that the explosion of oxygen and hydrogen in a retort would give rise to water until experience had shown that it is so. It cannot be said, therefore, that cause *A* is necessarily followed by effect *B*. The utmost that we can assert is that *A* is *always* followed by *B*. The relation is believed to be invariable and universal, but not necessary.

The second sense in which necessity has been asserted of causality is similar to that in which it has been asserted of other categories. Just as it is said that there could not possibly exist a universe without quality, or without being, or without unity and plurality, so it said that there could not exist a universe without causality. But this assertion is clearly without foundation. Kant and his followers seem to have mistaken the great importance of the category, the fact that it underlies all knowledge and is the main pillar of science, for necessity. But this, as has been repeatedly pointed out, is a confusion. Practical necessity, practical importance, are not the same thing as necessity of thought. The fact that causation is not a necessity of thought is shown by the fact that it is quite possible to conceive a universe in which it has no place. It is quite easy to imagine a world in which changes occurred without regularity, rhyme, or reason; in which a boy sometimes grew up into a man and sometimes turned into a melon; in which sugar sometimes tasted sweet and sometimes bitter; in which nothing could ever be predicted for the reason that nothing ever turned out twice alike; in which there were no uniformities. That such a world is conceivable is proved by the fact that we have already a

recognized name and concept for it, namely 'chaos' as distinguished from 'cosmos'. And we have before us nightly in our dreams a world which is partially of this chaotic kind.

Thus causality does not possess the same kind of necessity as do quality, being, unity, and plurality. A universe without quality or being cannot even be brought before thought. But a universe without causality can.

3. *Epistemological type.* Causality is a category of the factual type. It is a generalization from what is actually given in experience, not a constructive positing of some entity which is not given. It is based ultimately on elementary repetitions or patterns of sensation. We notice that a certain kind of green patch is followed by a certain kind of sound. This pattern repeats itself incessantly. But it is observed that not all green patches of the same kind are followed by the sound. It is only so when the green patch is accompanied by certain other kinds of sensation. By observation of the various conditions which are present, and by eliminating those which seem irrelevant, it gradually becomes possible to frame laws of succession in such a way that they shall be invariable. The illustration of the green patch and the sound is, of course, purely diagrammatic, and is not intended to represent any real case of causation. For the only point with which we are here concerned is to show the factual character of the category, the fact that it is based upon what is actually given in sensation, and not, like existence or possibility, upon fictions of the mind.

It is true that the law of causation as usually stated assumes that the future will be like the present and the past. But this does not render the conception a construction. What the justification of the assumption is need not be discussed here. It is a question for logic. But the assumption is not, in any case, a construction. For it neither abolishes a superfluous existence (unificatory construction) nor invents any new existence (existential construction). When we say that the sun will rise tomorrow we are not inventing any new existence. The

rising of the sun to-morrow is, or will be, factual. It will be actually perceived.

Moreover the assumption that the future will resemble the past is not confined to the concept of causation. It applies equally to all other factual concepts. We assume that the concepts 'red', 'loud', 'colour', 'unity and plurality', will apply to the world in the future as in the past. The assumption is not peculiar to causation, but is applicable to all concepts, factual and constructive alike. Hence it clearly does not show that causality is a constructive category.

Another possible source of confusion on this point must be briefly eliminated. The concept of causality no doubt covers causes and effects which are not experienced but constructed. It is extended by the mind from the area of actual experience in which it originated over the whole of existence, factual and constructive. The cause of a noise in the room is believed to be a rat behind the chest of drawers. In so far as the visual rat is unseen, it is a constructive existence. But this, again, does not make causality a constructive category. For the element of construction lies in the concept of 'existence' as applied to the rat. It does not lie in the category of causality. And we must not credit it twice over in our accounts. The factual character of causality is proved by the consideration that it *could* have been formed by simple observation of what is actually perceived. It could theoretically have been formed by the solitary mind before it created any constructions at all. The fact that we apply the concept 'brown' to the table which no one is perceiving does not make 'brown' a construction. As we know, it is a factual concept of the given. Exactly the same argument applies to causality.

9. REALITY AND UNREALITY

1. *The meaning of the category.* By this category I do not mean Reality, with a capital R, as opposed to appearance—some ultimate transcendental metaphysical Reality which may be supposed to lie behind and beyond the ordinary world of things. Such a use of the word reality

may be perfectly legitimate, and such a conception of reality may, for all I know, contain truth. But reality in that sense is a highly sophisticated concept of philosophers. It is understood only by a few people, and is certainly not one of the underlying primary categories of common thought. By reality I mean here *what is apprehended in veridical perception*. By unreality I mean what is apprehended in dreams, hallucinations, and delusions. The house in which I am now writing this book is, I believe, a real house. The house of which I dreamed last night was unreal.

But we must probe farther into the meaning of the category. How do we distinguish between the real and the unreal? Why do we say that the house seen in a dream is not real? What is the principle of differentiation?

Perhaps the most obvious reply, the one which we should be inclined to give off-hand when first faced with this question, would consist in suggesting that there is, in real presentations, some intrinsic superiority of quality by which they can be distinguished from unrealities. Their images, it may be thought, are more vivid, strike with greater force, are clearer, steadier, and so on. But the suggestion that the distinction between what is real and what is unreal can be based on such supposed intrinsic qualities is wholly untenable. Images in hallucination may be just as vivid, may strike with just as much force, as images of reality. The fact that they completely deceive the subjects of them shows that there cannot be any intrinsic quality in the presentations which distinguishes them from realities.

If we pass from the consideration of hallucinations to that of ordinary dreams, it may be supposed that here at least we have some intrinsic inferiority in the dream-image. It may be alleged that dreams are usually *fainter* than reality. But is this not a mistake? Is it not our waking *memory* of the dream that is faint? The dream itself, I suspect, is as vivid as reality. But we usually carry back only a faint and obscure memory of it into the waking world.

It must at any rate be clear that so doubtful and variable a point of difference cannot be made a satisfactory criterion of the distinction between the real and the unreal. Vividness, clearness, and the like, are qualities which vary in degree. Therefore, if we had no means of distinguishing reality from unreality except by means of such qualities, we should expect the real and the unreal to shade off into one another. No sharp line could be drawn, but there would be between the two a kind of doubtful region of the half real. We should be in constant doubt as to how to classify our images, and as to whether we were, at any particular moment, dreaming, suffering from delusions, or awake and sane. There would be constant disputes as to whether a thing which appeared to a number of people was real or not. Some would take one view, some another. Evidently clearness and vividness are not the criteria by which we distinguish.

If we go back for a moment to our primitive solitary mind, with its elementary colour patches and other phantasms, it would seem that such a mind would be confronted with a procession of presentations none of which could be distinguished either as realities or as unrealities. Assuming that there were no distinctions of vividness and clearness, or at least that such distinctions were irrelevant, all the images would stand on the same footing. All would be alike. It must be *afterwards*, therefore, as a result of its own constructive operations, that the mind somehow sorts out its presentations into two heaps which it calls respectively real and unreal.

It may be suggested that those presentations are real which the mind projects out of itself into the public external world, those to which it attributes 'existence'; while the rest remain subjective, internal, and so unreal. This is quite true. But it merely repeats, without solving, our problem. For we are still left asking *why* the mind projects outwards *some* of its presentations into the world of reality and leaves others as mere presentations. How does it differentiate between those which it will project outwards and those which it will not?

If it be said that a presentation is classed as real if it is that of an object which is external to us, while a dream-image is not so, we are once more merely repeating the problem without solving it. For an external object means merely an image which the mind has decided to objectify, to thrust out of itself into 'existence'. And the question is why the mind treats some images in this way and some not.

The next suggestion is likely to be that in cases of reality the sensation is caused by certain definite kinds of external stimulus. When I see the table, light waves are travelling through space to my eyes; they stimulate the retina, and vision results. Parallel remarks apply to the other senses. The stimulation of the nerve-endings by external agencies is not found in dreams and hallucinations, or if found at all—as in the case of the man who, when the door bangs, dreams of an assassination—only in an incomplete, partial, or mutilated form. This is the type of explanation of our difficulty which is likely to be put forward by unphilosophical men of science.

But it is clear that men distinguished between realities and dreams before they had any knowledge of nerve-endings and their stimulation by waves or other agencies. Therefore the normal human method of distinguishing realities from unrealities cannot depend on such considerations.

This 'scientific' solution is, as we might expect, a part of the truth. It is true so far as it goes, but it is not sufficiently radical, does not get to the root of the matter. We shall find in it a valuable clue, but we must observe that the reference to 'external' stimuli begs the question at issue. The very question which we are trying to solve is: how do we know the difference between things which are 'really there', i.e. things which belong to the 'external' world, and things (or images) which do not? It is, of course, circular to make 'external' stimuli the criteria of differentiation. If we start, as we must, by taking all images as on an equal footing, none more real than others, then none of them will be more 'external' than others. We cannot, therefore, differentiate between them by asserting

that those are real which are caused by 'external' stimuli, since to do so would assume that we already knew which are external and which are not. This 'scientific' explanation amounts to no more than defining real things as those among our perceptions or images which are caused by, or interrelated with, real things (stimuli)—an obviously circular definition.

But this explanation, though inadequate, affords us the clue of which we are in search. To say that reality is what is connected, by causation or other systematic relationships, to other real things, does not define reality, since it is circular. But it suggests the truth that realities constitute an ordered system, while unrealities do not.

Originally, before the primitive mind in its solitude, there drifts a procession of colours, sounds, odours, &c., all equal in status, not differentiated into the real and the unreal. This procession is little more than a chaos. But the mind both *finds* order in it and *brings*, by means of its concepts and constructions, order to it. The presentations are sorted out and placed in pigeon-holes with proper labels attached. The relations which subsist among them are noted and classified. Groups of associated presentations in the course of time become 'things'. The categories come into operation, and above all the category of causality. Laws of co-existence and succession are discovered. There results what we call in general the 'world-order'. Things in the world are found to be systematically connected by means of a network of relations and categories. The vast majority, *but not quite all*, of the mind's presentations can be fitted into this world-order. And here we reach the solution of our problem. *Those presentations which fit into the world-order are classed by us as real. Those which are 'wild', in the sense that we cannot fit them into the world-order, we class as unreal and dismiss as dreams, delusions, and hallucinations.*¹

Suppose that I see a baby turn into a water-melon. I

¹ The differences between dreams, delusions, and hallucinations are important to psychology, but not to epistemology. All alike are, for us, unrealities.

at once conclude that I was in a dream or suffering from hallucination. The event which I saw take place before my eyes is disapproved and condemned as unreal. This is because it cannot be fitted into the network of causal and other relations. Babies usually grow gradually into adult human beings. This represents a regular systematic sequence among our presentations. When a regular sequence has been overwhelmingly established it becomes a causal law. If anything conflicts with it, then either we must modify our law, or we must condemn that which conflicts with it as an unreality.

Real fires, it has been said, leave burns on our flesh if we are so foolish as to place our bodies in them. Real knives cut and leave wounds. But fires in a dream do not burn us, nor do dream-knives wound us. But this only means that these dream entities cannot be fitted into the world-order, i.e. into the order of knives and fires which behave in a normal and well-brought-up manner. These disorderly fires and knives cannot be fitted into the jig-saw puzzle of existence. And they, and all other bits of experience which will not fit in, are lumped together and classed as unreal.

It may appear that this is mere majority rule. Because in the majority of cases our presentations follow the pattern AB , the minority of cases in which the sequence is AX or AY is condemned as unreality. This is to some extent true. I prefer to regard babies turning into grown men and women as real largely because this is so frequent, whereas babies turning into water-melons is comparatively rare. But we *might* have to revise our estimate. If I, with great frequency and regularity, noticed babies turning into water-melons, so that such cases became a majority, and babies turning into adults became rare; and if this experience of mine was confirmed by the experience of other people; we should then all certainly begin to wonder. We might come to consider the water-melon experience real and the other unreal.

It is not, however, fundamentally a question of majorities. It is a question of order as against disorder.

It happens that the orderly part of experience is by far the larger for most of us. But it is not on this account that we class it as real.

We are not usually confronted, of course, with two rival world-orders, but rather with a world-order on the one hand which we call the real, and with patches of orderless lawless chaos on the other which we call the unreal. But if dreams took on a systematic form and continued each night where they broke off the previous night, we might have something like two rival world-orders. And it is conceivable that we might then have difficulty in making up our minds which of the two was real. Or we might be forced to the conclusion that we inhabited two independent real worlds. But this is not the normal position. And it is usually easy, as things are, to distinguish the little patches of lawless chaos which appear here and there in our experience from the general fabric of ordered experience which is reality.

We can now see where the 'scientific' theory takes its place, a real but subordinate place, in the true view. The correlation of sensations with nervous stimuli is not the root of the matter. It is itself merely a particular instance of that general correlation of all parts of veridical experience with all other parts which constitutes the world-order.

It will be noted that the correlation of my sensations with my nervous processes does not exist *for me* as a direct experience, but only as hearsay. It exists primarily as part of the experience of some outside observer, which I take up indirectly into my world in accordance with the principle of the coalescence of the many private worlds into one common world. This correlation exists for the outside observer as follows. He observes the existence of the table and the existence of my eye in some position in space related to the table. He infers, from other observations made in the laboratory, the existence of changes in my retina, optic nerve, &c. He cannot observe my sensation of the table, i.e. the presentation in my mind, but he can infer the existence of this from my own statement that

I see a table. These experiences of his, his vision of the table, his belief in the existence of nervous changes in my body, and his hearing me say that I see the table, are correlated according to regular laws and form part of *his* world-order. His world-order, by further comparison and correlation of numerous private worlds, becomes part of the common world-order, and so exists for me too. My experience of the table is then pronounced by him, by me, and by all others in agreement, real.

Thus the point is that the nerve-stimuli which are regarded as the cause of my presentations are themselves only presentations in some one else's experience, or, if they are themselves invisible, are inferred from other presentations (pointer-readings in the laboratory, perhaps), and are conceived as presentations which *could* be seen or otherwise perceived *if* the circumstances were suitable. In the end, therefore, the correlation of nerve-stimuli with presentations is simply a particular case of the correlation of presentations with one another. To explain presentations by external causes does not get to the root of things because external things are themselves presentations. Hence the source of the distinction between the real and the unreal has to be sought, in general, in the relations of presentations, not to those particular presentations which we call nerve-stimuli, but to all other presentations in the world, i.e. to the world-order.

This truth also absorbs into itself the partial view that the real is what every one perceives (or would perceive if suitably situated), whereas the unreal is what exists only in an individual's private world. The real table exists in the public world. The dream table exists only in my dream, and no one else can perceive it. Thus, according to this view, *shareability* of perception is what distinguishes the real from the unreal.

This is no doubt quite true in a general way, although it is not certain that crowd-hallucinations might not exist. But however that may be, the fact that my presentation exists only in my mind, and is invisible to other people, simply means that it is a presentation which I cannot fit

into the general world-order, which is, of course, a public world-order.

Thus the true concept of reality is that which defines it as whatever fits into the world-order. And the error of the two other explanations which we have just considered, i.e. (1) shareability, and (2) correlation with nerve-stimuli, consists in the fact that they seize on particular instances of this general principle and give them as the explanation instead of giving the general principle itself. Thus these explanations, though true up to a point, are incomplete, partial, and one-sided.

2. *The question of necessity.* Reality represents part of the mind's deliberate decision to conceptualize the world and to build a cosmos out of its presentations. This procedure is no doubt forced upon the mind by the facts, i.e. presentations actually order themselves in such a way as to make their conceptualization and their ordering by the mind possible. But this might not have been so. There is no necessity of thought in it. Just as we can easily conceive a lawless chaotic world destitute of those regularities and sequences which we call causal, so we can easily conceive a world so chaotic that we could not reduce it to any intelligible world-order. From which it follows that the category of reality is not a necessity of thought.

3. *Epistemological type.* The category of reality is in a sense the concept of concepts. For it includes in itself all the mind's previously developed concepts, and is itself the concept of their applicability to the world. To say that anything is real is to say that the categories of existence, causality, identity and diversity, relation, and so forth, apply to it. For to say that the categories and concepts of the mind generally apply to it is to say that it can be fitted into its place in the world-order. Thus it includes the concept of existence and other constructive categories. But since it does not itself add any new construction to knowledge, it is to be classed as a factual category. This is on the principle, previously laid down, that we must not credit constructions twice over in our accounts. Moreover it is an observable *fact* that a real object is part of a

systematically ordered world of images. It is an observable fact that the objects in dreams and hallucinations are 'wild' and constitute part of a chaotic world.

10. RELATION

1. *The meaning of the category.* Relation appears to be an indefinable ultimate. It is true that certain particular kinds of relation may be defined in terms of simpler relations. For example, if succession is necessarily implied in causation, then the definition of causation will include the relation of 'before and after'. But relation as such cannot be defined. The term, however, denotes a vast multitude of different kinds of relations. There are spatial and temporal relations, relations of resemblance and unlikeness, the relation of cause to effect, of mind to its object, of logical antecedent to consequent, of ratio in numbers, of person to person in society or in any organization, and a whole host more. It is not to our purpose here to enter upon any detailed classification of the different kinds of relations.

2. *The question of necessity.* If things exist, even if no more than presentations exist, then relations between them must exist. The attempt to conceive a universe without relations is equivalent to the attempt to conceive a universe without things or even presentations. Even if the universe consisted of nothing but one patch of red colour, the relation of resemblance would hold between the parts of it. There would also exist the relations of diversity, whole and part, &c. As it is thus impossible to conceive anything whatever existing without relations, it follows that relation as a category possesses necessity.

But it is not necessary to labour over again the explanation of this necessity. As with being, quality, and other similar categories, the necessity of relation is derived from logic.

3. *Epistemological type.* Relation is a factual category. Relations exist in the simplest conceivable experiences, the colour patches, sounds, &c., of the solitary mind. Relation is thus a concept of the given, and therefore it is

factual. As always in such cases, of course, the concept gets extended to constructive subject-matter. Thus we speak of the relation of substance and accident. But this extension, as we have already seen in similar cases, does not alter the factual character of the concept.

CONCLUSIONS

(1) The following, out of the categorial concepts which we have examined, possess a necessity which is derived from logic: being, quality, unity and plurality, identity (of the empty kind, $A = A$), diversity, and relation.

The following possess no necessity of any kind: existence, identity (of the meaningful kind, $A = B$), substance, possibility, causality, and reality.

As we should expect, we find when we survey this list that the following propositions hold: (a) *No constructive concepts are ever necessary.* Constructions by their very nature are not forced upon us by any logic, i.e. they are not inferences. They are optional. This is true of existence, identity (of the meaningful variety), substance, possibility, and reality. (b) *Necessary concepts are always concepts of the given, i.e. factual concepts.* (c) *Some factual concepts are necessary, some not necessary.* Examples of necessary factual concepts are all those given above as necessary. Causality and reality are factual concepts which are not necessary.

These relations may be summed up in the following table:

	<i>Factual.</i>	<i>Constructive.</i>
Necessary	Being Quality Unity and Plurality Identity ($A=A$) Diversity Relation	
Not necessary	Causality Reality	Existence Identity ($A=B$) Substance Possibility

It must be remembered, of course, that this table does

not profess to be complete. It contains only those concepts whose claims to categorial honours we happen to have examined.

(2) Up to the present we have followed the usage common among philosophers in calling all the ten concepts investigated in this chapter 'categories'. But the results of our discussion show that this usage of the word is ill-conceived. For there does not seem to be any point in continuing to regard the non-necessary concepts as categories at all. In fact the term, as applied to them, would appear to be a misnomer. It seems reasonable to lay it down in the first place that *no constructive concepts ought to be called categories*. The very fact that a notion is a mental construction implies that it is *not* primordial and original, that it is *not* fundamental to thinking, but is a product of sophistication. The case in which this is most obviously true is that of substance. Existence, meaningful identity, and possibility are at least very ancient concepts the origin of which is probably lost in the beginnings of the development of mind from the pre-human to the human stage. All our everyday common knowledge, even the most elementary kind, involves them, and must have done so since the beginning of human thought. Although theoretically they are not necessary, in practice they are indispensable to all our thinking. But substance is an invention of yesterday. It is not much above two thousand years old. It does not belong to common thought at all, but to the sphere of philosophical speculation. It is surprising that it has ever been allowed to figure in lists of the categories.

What is true of substance is also true, though less obviously, of existence, identity, and possibility. Although their invention by the human mind is buried more remotely in the past, yet they too are the products of creative human thinking. They belong to the superstructure, not to the foundation. And we must conclude that they have been wrongly classed as categories.

It seems reasonable to lay it down in the second place that *even factual concepts, if they do not possess the character*

of necessity, should not be classed as categories. The examples on our list are causality and reality. Causality is no doubt primordial and fundamental in the sense that it is not a construction but a concept of the given, a concept which the solitary mind might theoretically have framed from bare observation of its data before it began any world-building at all. But then the same might be said of such concepts as 'red', 'loud', 'colour', which no one would dream of classing as categories. Hence in order that a concept may be included among the categories (whether it is supposed to be pervasive, like causality and reality, or non-pervasive like 'loud' and 'colour'), it is not enough that it is a concept of the given, or a factual concept. And it seems reasonable to suggest that, if we are to retain the doctrine of the categories at all, only those concepts of the given which are *necessary* should be included. For only thus will there be any important difference between categories and other concepts. The mere difference between pervasive and non-pervasive does not seem to be of much importance. Some concepts apply to only a few things, some to many, some perhaps to all. But because a concept happens to apply to everything, this does not by itself constitute it as a different kind of concept. For its pervasiveness appears to be purely contingent and a matter of chance. But if a concept *necessarily* applies to everything, this may reasonably be regarded as setting it in a class apart by itself.

If we follow this rule causality and reality will be ruled out. The reasons why causality has been wrongly called a category appear to be twofold. (1) Its enormous importance in knowledge has been mistaken for necessity. (2) It has been regarded as of vital importance to the logical theory of induction, and philosophers have supposed that unless causality were considered a necessary concept the validity of inductive argument would be in danger. As to this second reason, we must leave logicians, now deprived of the necessity of causality, to make up their accounts as best they can. I shall have something to say on this score in the next chapter. But what is relevant for us at present

to notice is that *both* these reasons imply that causality was classed as a category because of its supposed necessity; and that, now we have stripped it of necessity, there is no longer any reason to regard it as such.

Similar remarks, with minor modifications which the reader can work out for himself if he desires, apply to reality.

(3) Assuming that we are going to retain the doctrine of the categories as a part of philosophy, and that we are going to apply the principles just explained, then, of the ten concepts examined by us the only ones which are genuine categories are being, quality, unity and plurality, identity ($A = A$), diversity, and relation. The rest are excluded.

(4) The genuine categories possess necessity, but not in their own right. Their necessity is on a level with that of mathematics. It is derived from logic. In our search for necessity, then, we do not really find it either in mathematics or in the categories. We find only the shadow of it here. Or, to change the metaphor, the source of it is elsewhere. We must follow it over the boundaries of mathematical and categorial knowledge into the realm of logic, and study it there. This we shall do in the next chapter.

(5) This robs the categories of much of their old-time epistemological dignity. They are deprived of the right of posing as in some sense mysterious beings, very superior to mere 'empirical' concepts, constitutive of the world, ultimate realities, independent of experience, which existed in godlike beatitude 'before all the worlds'. They can no longer claim to be, as they were in the Hegelian system, identical with God himself. We need no longer burn incense to them. They are simply ordinary concepts, formed by the human mind in exactly the same way as other concepts. They are based, like the humblest sensuous concepts, 'red', 'loud', and the rest, upon observation of resemblances.

(6) It becomes a question, therefore, whether it is worth while to retain in philosophy any doctrine of the categories at all, or any distinction between them and other concepts.

It does not seem to be a matter of any great importance how we decide this issue. It is really no more than a question of words. The issue is whether the word 'category', thus robbed of the greater part of its connotation, can still perform any useful function, or express any valuable meaning. If not, we might erase it from the philosophical dictionary. But perhaps it will be more consonant with that moderation and tolerance which should characterize all philosophers if we decide to be mild and lenient with it. We will allow it to be retained as a name for those factual concepts which derive from logic the character of necessity, if and when there is any cause to distinguish them from other concepts. Categories may be allowed to exist, *very much humbled*.

(7) In some of those concepts which have been mis-called categories—existence, identity ($A = B$), substance possibility—we find once more the character of mental construction. Both unificatory and existential constructions made their appearance. This needs no further labouring. It is repeated here only to emphasize the wide range of construction in all knowledge.

essentially a form of the correspondence theory, though it is hoped that it is less crude. Both for us and for common sense truth is tied by the facts, and does not change Proteus-like from day to day, according to our wishes, as the pragmatists would have us think.

No doubt this means that we can never be certain, in regard to complicated scientific theories, that we have reached any measure of truth. We can never be certain until we know *all* the facts, i.e. until we are omniscient. But I see no objection to admitting this. It does not render science hopeless or vain. For although we can never attain certainty, there is a growing probability that our theories are true the more we come to know of the facts. Moreover it must be remembered that theories are complex, i.e. they consist of a large number of judgements some of which may be true, some false. When theory *A* is superseded by theory *B*, it is not usual to find that the whole of theory *A* is false. We are more likely to find that a very few of the judgements of which it was composed are inconsistent with the new facts, but that most of them are still left standing as true. In this way theories *A*, *B*, and *C* may be regarded as increasing approximations to the truth. And lastly, theory *A*, though false or partly false, was useful in its time since it explained the then known facts and yielded true predictions of experience. Even in 1942, when it has been superseded, it may still be used *within certain defined limits* to explain and predict. This means that it has become a methodological assumption.

There is one fact regarding the nature of existential constructions which may, if its implications are not discussed and cleared up, give rise to difficulties. This is the fact that such constructions are only expressible in hypothetical propositions whose antecedents contain impossible conditions. This appears so far as a strange peculiarity, a sort of eccentricity on the part of the existential construction. We have stressed it throughout, but made no attempt to explain it. The time has now come when we must endeavour to do so.

The difficulty which it seems to create is that it appears to involve the construction in a logical contradiction. And since it is one of the conditions of the validity of a construction that it shall be internally self-consistent, any such admission would be fatal to the validity of all existential constructions. The difficulty will be most easily examined if we take a concrete case. We assume the existence of the unperceived table. This means 'if any one were now looking, he would perceive the table'. But by hypothesis no one is looking. The belief in the unperceived table therefore attempts to combine the hypothesis that no one is looking with the supposition that some one is looking. This is what renders the condition which is contained in the antecedent an impossibility. This is, in fact, a logical contradiction. The point may be put otherwise by considering that since, in its ultimate meaning, *esse* is simply *percipi*, the hypothesis of the unperceived table amounts to believing in an unperceived percept, a non-existent existence. The same kind of contradiction may be found in every existential construction. And it may therefore be argued with some show of plausibility that no existential construction is ever valid.

The first point to notice here is that, although every existential construction contains an apparent logical contradiction, it is always one and the same contradiction which appears in them all. The assertion of the existence of the atom means 'if . . . , then we should perceive atoms'. The assertion of the existence of the invisible side of the moon means 'if we were on the other side, we should see it'. Every existential construction supposes an existence which we should perceive *if* The contradiction in all cases resides in the fact that we suppose something to be perceived while at the same time asserting that it is not perceived. It arises from the attempt which we are always making to get away from the fundamental identity of *esse* and *percipi*. It is, in short, the contradiction of the *unperceived percept*.

This primitive contradictory assumption is a kind of original sin which the human mind committed when man

first began to eat of the fruit of the tree of knowledge. It keeps breaking out afresh everywhere in knowledge, in the case of the ether or the atoms as much as in our common sense beliefs about tables and chairs. But we have at least only one contradiction to deal with in all cases, not a distinct contradiction for each existential construction.

We have thus only one problem to solve, and it does not seem difficult of solution when we come to examine it. There is in truth a contradiction involved, and the mind accepted it once and for all when it undertook the great adventure of admitting that, although *esse* is *percipi*, yet things can exist unperceived. There is only one possible way of reconciling the contradiction, and that consists in pointing out that this admission is, after all, only a supposal, a make-belief, a pretence which has been entered into for the purpose of enriching life and knowledge. The contradiction is reconciled, in fact, by pointing out that the unperceived object has not factual but only constructive existence. If it were supposed that the unperceived object has factual existence, then the contradiction would be final and insoluble. This is, in fact, the contradiction which lies at the root of all forms of the theory of representative ideas, and which has broken out perpetually in the history of philosophy in one form or another. If we persist in asserting it, we shall then either have to give up the doctrine that *esse* is *percipi*, or the doctrine that things exist unperceived. Realists follow the former course and deny to existence its essential relativity to perception. Phenomenalists, I suppose, would follow the latter alternative, and deny that anything exists unless it is actually perceived. Our theory is enabled to grasp together both sides of the dilemma and to reconcile them. The theory of constructive existence resolves the contradiction.

It is the character of knowledge as constructive which has given rise to the category of 'possibility'. Presumably every proposition asserts or denies something. Now what is asserted or denied by the proposition 'if it had rained to-day, the ground would have been wet'? It did not rain,

and the ground was not wet. Yet most people would say that the proposition is nevertheless true. What is it that is true? What is it that is asserted or denied to be true? Not any *actual fact* about the universe. What is asserted is a *possibility*. But what is the possible? By definition it is not anything actual. It is not anything that exists or is real. Is it then an absolute non-entity? And if so, how is it that it can be meaningfully asserted? Here is a flat self-contradiction which is yet admitted every day as a valid part of knowledge. The world of possibility, it seems, is neither an existence nor a non-existence. For what exists is the actual and not the merely possible. And what does not exist is nothing, and cannot be truthfully asserted about the universe. That is the contradiction involved in the notion of the possible.

The solution of the puzzle is that the contradiction involved here is the very same contradiction which we have been considering in existential constructions. It is the same 'if . . . , then we should perceive'. 'If it had rained, we should have perceived wet ground.' And it ceases to be a contradiction when it is recognized as a supposal, a realm set up and brought into existence by the mind for its own purposes, a realm which is not factual. It is neither existent (factual) nor non-existent (non-entity). It is constructive existence. If we believe that in asserting the possible, in asserting hypothetical propositions generally, we are asserting a factual or actual existence, then indeed we are involved in hopeless contradictions. But if we admit that the world of possibility is a world supposed or constructed by the mind, the contradiction vanishes.

This, then, is the explanation of the strange 'if' clause which dogs the steps of the existential construction.