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BERKELEY'S ARGUMENT ABOUT MATERIAL SUBSTANCE

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I SHALL begin by trying to state Berkeley's doctrine as clearly and fairly as I can. I want to be fair both to Berkeley and to his opponents, and I believe that it is impossible to do this unless one introduces certain modifications in his terminology. Berkeley conducts his discussion in terms of the word 'idea', which he took over from Locke, and Locke described ideas as the objects of a man's mind when he thinks. By 'thinking' Locke obviously meant to include all forms of cognizing, including sense-perception.

Now this unfortunate word 'idea' has certain implications which cause it to beg the question in Berkeley's favour. Perhaps we can see this most readily by taking the following example. I have sometimes seen St. Paul's Cathedral, I have sometimes remembered it, and I have sometimes thought discursively about it. Therefore St. Paul's Cathedral is or has been an object of my mind when I cognize. So, if we are to take Locke's description literally, St. Paul's Cathedral is an idea. Now this sounds extremely odd. The plain man would say: There are many ideas of St. Paul's Cathedral, and each of them is an idea which someone has of it at some time. There is my idea of it and your idea of it; there is the idea of it which I had as a child and the very different idea of it which I have now. On the other hand, there is one St. Paul's Cathedral; it is nonsensical to apply the possessive pronouns 'my' and 'your' to it; and it can remain unchanged when a person's idea of it changes.

It is plain how unfairly the word 'idea' operates in favour of Berkeley's views. We start with Locke's definition of an idea, in which St. Paul's Cathedral is an idea. Immediately the ordinary implications of the word overpower us, and we admit that it is nonsensical to talk of an idea which is not an idea in So and so's mind at such and such a time. And so we are brow-beaten into admitting that it is meaningless to suggest that St. Paul's Cathedral exists when no one is perceiving it. It is

hopeless to pursue the discussion in terms of an ambiguous word like this.

Let us therefore introduce words which do not have these question-begging implications. I propose to call such particulars as the colour-expanses, the sounds, the smells, &c., which we become aware of when we have visual, or auditory, or olfactory sensations *sensibilia*, and I shall extend this name to cover the similar objects of which we become aware in dreams and hallucinations. A sensible then is to mean any particular which has a sensible quality. Examples of such qualities are roundness, extension, redness, squeakiness, hotness, smoothness, and so on. When a person has a sensation, visual, auditory, tactual, or what not, I shall say that he is *sensing* a sensible and that it is *manifesting* to him such and such sensible qualities.

The two fundamental propositions of Berkeley's theory may now be stated as follows. (1) The phrase 'material thing' just means a group of *sensibilia* of various kinds which regularly accompany each other. (2) It is meaningless to suggest that there could be unsensed *sensibilia*. I am sure that Berkeley would add, though he does not lay stress upon it, that it is meaningless to suggest that the same sensible could be sensed by different people or by the same person at different times. It may be worth while, before going further, to point out the resemblances and differences between Berkeley and Hume on these points. Hume would, I think, agree with Berkeley on the first proposition. He would certainly differ from Berkeley about the second. He would say that it is perfectly intelligible to suggest that there might be unsensed *sensibilia*; but he would add that there are certain empirical facts which make it almost incredible that there are in fact any.

The next step in Berkeley's doctrine would have to be stated as follows. To perceive a material object is to sense a selection from that group of regularly interconnected *sensibilia* which constitute that object. Since there can be no unsensed *sensibilia* it follows that there can be no unperceived material objects.

This completes what I will call the negative or destructive part of Berkeley's doctrine. If the contention that there could be no unsensed *sensibilia* be admitted, we can drop the technical terms *sensing* and *sensible* and confine ourselves to the familiar term 'sensation' throughout the rest of the argument. For everyone would admit that there can be no sensing which is not directed upon a sensible, and Berkeley contends that there can be no sensible which is not sensed. Accordingly we can take

the sensation as our unit in stating the rest of his theory, and can regard the sensing and the sensible for the present as two distinguishable but inseparable aspects in it.

We can now state in our own way the more positive part of Berkeley's doctrine. It is a fact that a person's sensations tend to fall into a number of groups, each consisting of closely interconnected sensations of various kinds. It is a fact that, when sensations like some of those in one of these groups recur, sensations like others in that group tend to recur also. It is such facts as these which are the cash-basis of the statement that a person can perceive a number of different material objects at the same time and that he can perceive each of them on many occasions. Berkeley does not say much about the statement that two or more persons may perceive the same material object either at the same or at different times. But it is obvious that he must contend that this boils down to the fact that several people under certain assignable conditions may have groups of interconnected sensations which are similar as wholes and have correlated differences of detail.

Berkeley is naturally concerned to deal, in terms of this theory, with the statement, which is obviously often true in some sense, that a material object existed when no one was perceiving it. His first move is to reduce it from a categorical to a conditional form. To say that my table existed when no one was in the room is equivalent to saying that, if anyone had fulfilled certain conditions, which can be stated in terms of certain sensations which he would have had, then he would have had such other sensations as would lead us to say that he was perceiving a table. This solution does not altogether satisfy Berkeley, however. It is plain that he does not feel comfortable in reducing a categorical statement to a statement about what would have happened under conditions which were not in fact fulfilled.

It is at this stage that God is introduced. It is suggested that whenever it is true in the popular sense to say that a certain material object existed though no one was perceiving it, 'no one' must be understood to mean 'no man or animal'. The statement will not be true unless God actually had sensations sufficiently like those which a man or animal would have had if certain conditions had been fulfilled.

This, however, is not the only part which God plays in Berkeley's theory. Sensations are events, and a person's sensations come and go without and even against his will. It seemed obvious to Berkeley that a person's sensations must have

efficient causes which are active agents. It also seemed obvious to him that sensations can exert no agency; they are the purely passive effects of causes quite unlike themselves. So one's sensations are caused by something, and that something is neither one's own volition nor one's past sensations. Berkeley thinks it obvious that the only possible agents are minds or spirits, and that the only possible kind of efficient cause is volition. If we put all this together, it follows that one's sensations must be produced in one telepathically through the volitions of another person or persons. I think that Berkeley was probably influenced here by the analogy with voluntarily initiated mental images. If a person is good at imagery he can at will produce quite vivid visual or auditory images. These are evidently very similar to visual or auditory sensations, which occur independently of his volition. I suspect that Berkeley thought that each man's sensations are produced in him *telepathically* by the volitions of a foreign spirit in much the same way as each man's voluntarily initiated mental images are produced in him by the *immanent* action of his own volitions.

Now we have to consider, not merely this, that, and the other particular sensation, but also the fact that sensations come in such recurrent bundles as we have already described. Berkeley insists that there is no kind of logical necessity for sensations to come in recurrent bundles at all, and that there is also no kind of logical necessity for the special regularities of coexistence and sequence which actually hold among sensations. It is just a fact that the groupings and the recurrences are such as we express by saying that each of us perceives a number of more or less persistent things, that each of us can perceive any of these things on many different occasions, and that the same things can be perceived simultaneously or successively by many different persons. Now this intrinsically contingent unity and coherence among the sensations of each individual, and this further unity and coherence among the sensations of many different individuals, requires explanation. This explanation must lie in the nature of the causes of the sensations. We already know that these causes must be volitions; but, for all that has been said hitherto, some might be caused by the volitions of one mind and some by those of another. We can now go farther. The unity and coherence among the sensations strongly suggest that the volitions which cause them all belong to a single intelligent person who telepathically generates sensations in men's minds in accordance with a settled coherent plan. Such a being must

have superhuman intelligence in order to plan so complex a result. He must also have superhuman powers. For his volitions affect continually, directly, and telepathically the minds of all finite persons, whilst the only direct effect of any finite person's volitions is to generate an occasional image in his own mind or to modify some of his own kinaesthetic sensations.

Thus the one person whose volitions generate all the concatenated sensations in all finite minds may fairly be called divine in respect of his wisdom and his power. What about the further divine attribute of goodness? It is of great advantage to us that our sensations come in recurrent bundles, and that there are rules which we can discover in accordance with which a variation in one kind of sensation is accompanied or immediately followed by a correlated variation in sensations of other kinds. By attending to these rules we can secure sensations which are directly pleasant or are commonly followed by pleasant ones and we can avoid those which are directly unpleasant or are commonly followed by unpleasant ones. This is an uncovenanted mercy, since there need have been no regularities at all; and it shows that the being who produces our sensations is benevolently disposed towards us.

So much can be concluded from even a superficial view of the regularities among our sensations; but Berkeley thinks that the case is strengthened by the following considerations, which constitute an important part of his theory of matter. His contentions may be stated as follows. The more carefully we investigate nature with microscopes the more we seem to find a minute structure which accounts for large-scale phenomena. Scientists have pushed this further and have postulated a still more minute and wholly imperceptible structure of molecules, atoms, light-waves, &c. By means of this hypothesis they are able to make very elaborate and detailed predictions which are afterwards verified. Now this seems to raise a serious difficulty for Berkeley. Suppose, e.g., that a typhoid epidemic breaks out, and that afterwards a bacteriologist, investigating the milk-supply microscopically, discovers typhoid germs in it. He will say that these (or, more strictly, their ancestors) caused the epidemic. He will predict that, if other people drink this milk, they too will probably exhibit symptoms of typhoid; and, as a rule, his predictions will be verified. Now on Berkeley's view neither these germs nor anything like them existed until the bacteriologist saw them, i.e., until after the epidemic had started. How then can they or their ancestors have caused the

epidemic? Again, on Berkeley's view, these germs will cease to exist and there will be nothing like them as soon as the bacteriologist ceases to look through his microscope. How then can they or their descendants cause typhoid in people who afterwards drink the milk? The case is still worse with molecules, atoms, and light-waves. For, since they are imperceptible, they never exist at all. Yet we ascribe various observable effects to them, and these are found to take place.

Berkeley's solution is to distinguish between empirical regularities and genuine causal transactions. Even if germs and atoms could exist unperceived, they could not cause anything on his view. For they would consist of unsensed sensibilia, and sensibilia could not be agents. The only possible agents are minds exercising volition. We can therefore be certain at the outset that the real cause of typhoid symptoms or of colour-sensations could not be germs or light-waves. The real causes must be God's volitions in every case. The empirical uniformities are simply rules which God generally follows in the order in which he supplies us with sensations. The minute mechanisms, which we seem to *discover* with the microscope and which we wrongly regard as the *causes* of phenomena, are simply more minute and subtle signs from which we can infer God's intentions.

This theory will become clear if we go back to the example of the typhoid epidemic. The symptoms which appear in people who drink certain milk are directly due to God and not to germs. The characteristic visual sensations which a bacteriologist would have if he were to look at this milk through a microscope are also due to God. Now when God is going to cause symptoms of typhoid in people who drink certain milk he will always also produce these peculiar visual sensations in bacteriologists if they will take the trouble to look at the milk through microscopes. Hence the appearance of germs in milk is a sign of God's intention to produce symptoms of typhoid in anyone who shall drink the milk. The more carefully and minutely we investigate, the more subtle will be the regularities which we shall discover and the more we shall learn of God's habits and intentions. So the appearance of a minute structure in matter, which appears to explain large-scale phenomena, is a further proof of the wisdom and the benevolence of God, who thus deliberately gives us signs of what he will do under various conditions if we will take the trouble to look for them. Yet this minute structure exists only when it is perceived, and it really has no more to do with causing the phenomena which we infer from it than a time-

table has to do with causing the trains to run at the times stated in it.

I hope that I have now given a tolerably fair, clear, and adequate account of Berkeley's theory as a whole. I shall devote the rest of my lecture to discussing it critically.

1. Does the phrase 'material thing' just mean a group of sensibilia of various kinds which regularly accompany each other? I think that Berkeley's statement here needs to be limited in some ways and supplemented in others. It seems to me that an essential part of the ordinary notion of a material thing is that it is a solid object whose surface is quite literally pervaded by colour, by hotness or coldness, and so on. Suppose that I have the experience which would be described as looking at a cricket-ball. I sense a round brown colour-expanse. Now it does seem to me that I regard this visual sensible as part of the surface of a sphere which is brown all over in exactly the same way in which the sensible which I am sensing is brown. I regard the rest of the surface as something of exactly the same kind as the sensible which I am now sensing. From any one position I can sense only one part of this continuous brown spherical surface, and from any two positions I sense different parts, though these may overlap more or less. My natural tendency is to think of the round brown sensible which I sense at any moment from any position as simply one particular part of the complete brown spherical surface of the ball, a part which is selected from the rest of the surface by my particular position at the time in relation to the ball.

Similar remarks would apply, *mutatis mutandis*, to tactual sensibilia, such as I should sense if I grasped the ball in the palm of my hand. Moreover, although I cannot feel the brownness of the ball nor see its coolness and smoothness, I do not regard the tactual sensibilia which I sense when I feel it as numerically different from the visual sensibilia which I sense when I look at it. I think of all parts of the surface as being at once brown, in the way in which the part that I am now seeing is brown, and cool and smooth in the way in which the part which I am now feeling is cool and smooth. There are various qualities which pervade the whole surface, but each requires a different sense to reveal it to me. I may see and not touch a certain part of the surface at one moment, and I may touch and not see the same part at another moment. That very same part will manifest its brownness and not its coolness or smoothness on the first occasion, and will manifest its coolness and smoothness but not

its brownness on the second occasion. On the first occasion it will count as a visual sensible and on the second as a tactual sensible.

I am prepared therefore to accept Berkeley's statement if I am allowed to limit it and to particularize it as follows. An essential part of the common notion of a material thing is that its surface consists of visual and tactual sensibilia interconnected in the ways which I have roughly described above.

The ways in which Berkeley's statement needs to be corrected and amplified are the following.

(a) A material thing is not thought of as just a closed surface with colour and temperature and roughness or smoothness spread over it. It is thought of as a solid pervaded throughout by various qualities. Moreover it is conceived not only as having qualities but as being the seat of various active and passive powers, such as impenetrability, inertia, &c. This aspect of the ordinary notion of matter may best be dealt with in connexion with Berkeley's account of causation in general and the causation of sensations in particular.

(b) I think it is plain that the ordinary man does not regard sounds and smells and tastes as parts of material things in the straightforward way in which he thinks of visual and tactual sensibilia as being so. We naturally think of a sound or an odour as *emanating from* a material thing rather than as being in any sense a *part* of it. At most we might be inclined to identify a sound which we hear with a certain event in a material object which we might see, e.g., the striking of a clapper on the surface of a bell. But I think that we should rather tend to regard the sound as something that permeates the air round the bell in consequence of the stroke that has taken place within the bell.

Before I leave this topic and pass to the next I want to make it quite clear that I have been concerned here simply with the question: What do ordinary men understand by the phrase 'material thing', and what do they believe to be the relations between their sensations and the material things which they ostensibly perceive by means of these? I have not been concerned with the consistency of this notion or the truth of these beliefs. Whether Berkeley be correct or not, I agree with Hume that a careful inspection of the empirical facts makes the common-sense beliefs which I have been describing extremely difficult to accept without serious modifications.

2. Is it meaningless to suggest that there could be unsensed sensibilia? In § 3 of the *Principles of Human Knowledge* Berkeley says that the statement 'There was a sound' just means 'A sound

was heard'; 'There was an odour' just means 'An odour was smelled' and so on. He sums this up by saying that 'to exist', as applied to sensible objects, just means 'to be perceived'. (I shall substitute 'sensed' for 'perceived' in this connexion.)

I think it is plain from the later parts of the book that Berkeley would wish to modify this in the following respects. He would wish to say at the very least that 'There was a sound' means '*Either* a sound was heard, *or* one would have been heard if certain conditions describable in terms of sensations had been fulfilled'. He would even wish to go further, and to say that 'There was a sound' means '*Either* a sound was heard by some man or animal, *or*, if not, one was heard by God'. I think it would be fantastic to maintain that any proposition about God is part of the *meaning* of such a statement as 'A sound was heard'. So we can confine our attention to the first suggested modification of Berkeley's contention in § 3.

We may put this as follows. Unless the statement 'There was a sound' is interpreted as a conditional proposition about what would have been heard under certain unfulfilled conditions, it can mean only that a sound was heard. No other *categorical* interpretation of this categorical sentence is intelligible. Now I think that many of us would find this doctrine almost self-evident about odours and fairly plausible about sounds. But do we find it in the least plausible about visual sensibilia? Is it at all obvious that the statement 'There was a brown round colour-expanse' just means that such an object either was sensed, or, if not, would have been sensed under certain conditions? So far from this seeming obvious to me, it does not seem in the least plausible. When I look at a cricket ball I take myself to be aware of a part of its surface, and I assume without question that the rest of the surface which I cannot see from my present position is now brown in exactly the same categorical sense in which the part that I am seeing is brown. Arguments may be produced to show that this belief is false or highly improbable. But when I am told that I cannot really be believing this, since it is unintelligible nonsense, but must be believing some conditional proposition about what I should be sensing under certain unfulfilled conditions, I remain completely unconvinced.

Why is it that Berkeley's contention seems so obvious about odours and so unplausible about colour-expanses? We may note at once that the sensibilia about which it seems obvious are those which we do not regard as parts of material things, whilst those about which it seems unplausible are those which we do

regard as parts of the surfaces of material things. But there is more than this to be said about the question.

We give the name of 'sensation' to the experiences which we have when we feel toothache, when we smell an odour, when we hear a sound, when we see a colour-expanse, and so on. From a physiological point of view these experiences agree in the fact that they all arise directly from the stimulation of some receptive organ at the outer end of some sensory nerve. From a psychological and epistemological point of view they agree in the negative respect that none of them are discursive experiences, as thoughts, judgements, reasonings, &c., are. But there is a positive psychological and epistemological respect in which the first and the last of the experiences enumerated above seem to differ profoundly. It is not at all plausible to suggest that having a sensation of toothache consists in being acquainted with a particular which has and manifests a quality of 'achiness'. To have a sensation of toothache seems to consist in feeling achily and not in sensing an achy object. On the other hand it is equally unplausible to suggest that having a sensation of a brown round colour-expanse consists in feeling brownly and roundly. The expressions carry their absurdity on their faces. To have such a sensation does seem to consist in being acquainted with a particular which is round and has brownness spread over it and which manifests these characteristics.

I suggest, then, that among the very diverse experiences which are called 'sensations' there are some to which the analysis into act of sensing and sensible is obviously applicable and some to which it is *prima facie* inapplicable. It seems to me that, whenever it is applicable, it is intelligible to suggest that there might be unsensed sensibilia which have, but do not manifest, qualities like those which sensed sensibilia have and manifest. Where it is not applicable the question does not arise. Suppose that to have a sensation of toothache just is to feel achily. Then the question whether there could be an unfelt toothache would be meaningless, because achiness is a special way of feeling and is not a special quality which certain objects possess and which they manifest when someone senses them.

I think that philosophers have been tempted by considerations of continuity to treat all sensations as alike in structure. The various kinds of sensation can be arranged in a scale, starting from those to which the analysis into acts of sensing and sensible seems *prima facie* inapplicable and ending with those for which it seems to be plainly required. Sensations of smell seem to be

the last that could plausibly be treated like those of toothache, whilst those of sound seem to be the first that could plausibly be treated like sensations of colour-expanses. I do not think that direct inspection would enable anyone to decide with much confidence about the right analysis of either of these two intermediate kinds of sensation.

Since there is this continuity, and since reflective persons like to introduce as much unity as they can into their theories, there is a strong temptation to insist, in spite of all appearances to the contrary, that the structure of all sensations is alike. Some people will treat a sensation of toothache as if to have one were to sense an achy object and not to feel in an achy way. Others will treat a sensation of a round brown colour-expanse as if to have one were to feel in a certain way and not to sense an object of a certain kind. I suspect that each kind of unification does violence to the facts; but the second seems to me to be more palpably absurd than the first.

Now I am inclined to think that the alleged inconceivability of unsensed sensibilia owes such plausibility as it has to the following process. We see that sensations at the lower end of the scale are just feelings; that qualities like achiness are ways of feeling; and that there is no question here of a distinction, within the sensation, of a cognitive act directed upon a cognized object and revealing its qualities. In the case of sensations at the upper end of the scale we see that we can and must distinguish cognitive act and cognized object, and that qualities like brownness and roundness belong to the latter and are revealed by the former. Yet the continuity of the series of sensations makes us want to assimilate those at the two extremes as much as possible. So we compromise by insisting that the two factors which we have had to distinguish in the higher sensations are logically inseparable, like shape and extension. The brownness and the roundness do indeed belong only to the cognized factor; but then the cognized factor is logically inseparable from the cognitive factor, and so it is as inconceivable that there should be unsensed brown round colour-expanses as that there should be unfelt toothaches.

I should not venture to suggest that Berkeley himself reached his conclusion that the *esse* of sensible objects is *percipi* by this devious route. I think it much more likely that he was led to it by the ambiguities of the words 'idea' and 'perceive'. But other people who have been fully aware of these ambiguities have reached the same conclusion, and I can think of nothing less far-fetched to explain the fact.

3. Does perceiving a material thing just consist in sensing a selection from the group of sensibilia which constitutes that thing? Berkeley unfortunately uses the one word 'perceive' to cover both the non-inferential cognition of material things and events by means of sensation, and the non-discursive cognition of sensibilia which constitutes sensations of the higher kind. Consider, e.g., the following two rhetorical questions, which he asks in § 4 of the *Principles of Human Knowledge*. 'What are' houses, mountains, rivers, &c. 'but the things that we perceive by sense?' 'And what do we perceive by sense beside our own ideas or sensations?' In the first question 'perceive by sense' means 'perceive by means of sensation'. In the second it cannot mean this. It would be nonsensical to say that we perceive by means of sensation our own ideas or sensations. Here 'perceive by means of sense' must mean simply 'sense'; and the second rhetorical question could be put in the form: 'What do we sense beside sensibilia which are distinguishable but logically inseparable from our acts of sensing them?'

Let us now consider this question for ourselves. Suppose that a person has an experience which would be correctly described as 'ostensibly seeing a cricket-ball'. Then an essential part of his experience is to be sensing a certain kind of sensible, viz., a round brownish one. The nature of this would vary within limits from one occasion to another, e.g., according to what part of the ball he was facing, according to his distance from it and the lighting, and so on. But the limits of variation would be comparatively narrow.

But, although to have a sensation of this kind is an essential factor in any experience which could be described as ostensibly seeing a cricket-ball, it is not the whole of it. By a cricket-ball we mean something which is solid and spherical; which has coldness and smoothness as well as brownness; which has parts that are not now manifesting themselves to the observer's senses; and has powers, such as inertia and impenetrability. By 'ostensibly seeing a cricket-ball' we mean, not merely having a sensation of a brown round colour-expanse, but also being led by this without any explicit process of inference to believe oneself to be in presence of an object such as I have been describing. It would be possible to have such a sensation without being led by it to entertain such a belief. Probably this would happen in the case of a baby. And of course it would be possible to have such a sensation, and to be led by it to entertain such a belief, although that belief was mistaken either radically or in minor

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details. Presumably this happens when a person dreams that he is seeing a cricket-ball.

It is essential to notice that this kind of distinction between merely having sensations and ostensibly perceiving material things will have to be drawn on any theory of the nature of sensations and of their causes. Suppose that Berkeley were right in holding that colour-expanses are inseparable factors in visual sensations and are utterly incapable of existing unsensed. Suppose he were right in holding that visual sensations are caused directly by God's volitions. It would still be the case that, when God produces certain kinds of visual sensation in a man's mind, the man automatically entertains certain beliefs which go beyond anything that is being sensibly manifested to him in his present sensation. It would still be the case that ostensibly perceiving a material thing differs psychologically from merely having a sensation just by the presence of these non-inferential beliefs which are determined by the sensation.

Though Berkeley uses the word 'perceive' so carelessly, I do not think that he would deny what I have been saying. Where we should differ would be on the following point. I should say that when a man ostensibly sees a material thing he automatically takes the visual sensible which he is sensing to be part of the surface of a three-dimensional object in front of him. I should say that he automatically assumes that the rest of the surface is coloured in precisely the same literal and categorical way in which the sensible which he is sensing is so. I should admit that there are strong empirical arguments against these uncritical beliefs, but I should say that there is nothing logically absurd about them.

Berkeley, on the other hand, would, I suppose, have to say that nobody could entertain such beliefs as I have been describing, because the sentences which I have written down are meaningless if taken literally. He would have to say, presumably, that the non-inferential beliefs which constitute an essential factor in any ostensible perception are all conditional beliefs about the sensations which one would have if one were to do certain things or which one would have had if one had done certain things.

We can now deal very briefly with the three rhetorical questions which Berkeley triumphantly asks at the end of § 4 of the *Principles*. (i) 'What are' houses, mountains, &c., 'but the things we perceive by sense?' To this I answer that, if there are houses, mountains, &c., then they certainly are things which we can and sometimes do perceive by means of sensation, but

that they are a great deal more than that. They are particulars which, even when we do perceive them, have many parts and many qualities which they do not then manifest to our senses; for they have insides as well as surfaces, backs as well as fronts, temperatures as well as colours, and so on. Each of them is a thing which can be perceived by several people simultaneously or successively, and by the same person on many different occasions from various points of view and by means of various kinds of sensation. Lastly, they are things which have characteristic powers; which interact with each other; and which unfold their own chequered histories whether anyone perceives them or not. If we are to argue from the meanings of words and sentences—and this is what Berkeley is doing—then we must argue from their full meanings and implications and not from a small selection which specially favours one's own case.

(ii) 'What do we perceive beside our own ideas or sensations?' This is Berkeley's second rhetorical question. The first answer is that, if 'perceive' is being used in the same sense here as in the former question, we perceive rivers, houses, mountains, &c.; and that to apply the phrase 'our own' to such objects (except in the plainly irrelevant sense of legal ownership) is quite meaningless. You and I perceive *the* Thames; it is nonsensical to say that you perceive your Thames and I perceive my Thames. On the other hand, if 'perceive' is not being used in the same sense in the two rhetorical questions, the whole argument of which they are premisses collapses.

There is only one interpretation which I can put on the second question if its implications are to be generally acceptable. It is this. 'What do I sense, on any occasion when I am ostensibly perceiving a material thing, but a sensible which certainly cannot be identified with the thing as a whole and certainly does not manifest to me all the qualities which even a part of the thing is believed to have? And is not the fact that I sense such and such a sensible on any occasion, and that it then manifests to me such and such qualities, always determined to some extent by my position and by the sense-organs which I am using at the time?' If the question is interpreted in this way, I think that nearly everyone would answer Yes. But I can think of no other interpretation of the statement that each of us perceives nothing but *his own* ideas and sensations in which it does not beg the question in Berkeley's favour. It is the little phrase 'our own' which is so dangerous and question-begging.

(iii) 'Is it not plainly repugnant that any one of' our ideas or

sensations, 'or any combination of them should exist unperceived?' This is the third rhetorical question. I take it that 'repugnant' means 'internally inconsistent'. Now, as I have already said, I can detect no internal inconsistency in the doctrine that, when I look at a cricket-ball from a certain position, the brown round sensible which I sense is quite literally a certain part of a complete spherical surface which is brown exactly as this sensible is brown, and is also cool and smooth exactly as a tactually sensed sensible would be. This sensible would be private to me and subjective, on this view, in two respects only. My position relative to the ball at the time would determine that this particular part of the whole spherical surface shall then be sensed by me. And the fact that I am using my eyes and not my hands as sense-organs would determine that the brownness, and not the smoothness or the coolness, of this part is manifested to me at the time. When I ceased to sense it all that would happen to it is that it would no longer be selected from the rest of the surface, and that its brownness would no longer be selected from the rest of its qualities. But it would not cease to exist and it would not cease to be brown.

It seems to me, then, that Berkeley has failed to show that there is any internal contradiction even in the crudest and most naïve form of realism about material things and sense-perception.

4. If there were material things, in the sense in which Berkeley denies this to be possible, would it be impossible, as he alleges, that they should be agents? The first point to notice is that this would not follow from the premiss that individual sensibilia cannot be agents. For, on any view, even a visual or tactual sensible *is* not a material thing. Even on the most naïvely realistic view it is at most a subjectively selected part of the surface of such a thing, as explained above. And, on any view, an auditory sensible is not a part of a material thing even to this limited degree. So sensibilia might be incapable of activity, for these reasons, even if material things were agents. In this connexion everything turns on Berkeley's contention that the only possible way of being active is to exercise volition. I must confess that I have not a clear enough notion of agency to accept or to reject this contention with any great confidence. I should suppose that each of us derives his notion of being active and of being constrained from such experiences as he has when lifting weights, bending bars, being buffeted by a high wind, swimming against a stream, and so on. Another source is no doubt such experiences as trying to keep one's attention fixed on a certain

subject in the midst of inner and outer distractions, trying to remember a person's name or a word in a foreign tongue, and so on. If we call these 'conative experiences', then I should be prepared to say that each of us derives his notion of acting and being acted upon from his conative experiences. But it does not seem to me to follow that when we ascribe agency to anything we are *ipso facto* ascribing conative experiences in general or volitions in particular to it. I would rather be inclined to say that we are ascribing to it something which, in the case of conscious and self-conscious beings, manifests itself to them by way of their conative experiences. Since inanimate things would have no experiences at all, they would not have those experiences by which we become conscious of being active or being constrained. But is it really obvious that they might not *be* active or *be* constrained, as we are; though they could not have *feelings* of activity and of constraint, as we have?

5. I come now to the last topic which I shall discuss in this lecture. I have tried to argue that Berkeley has failed to show that there is any internal inconsistency even in the most naïvely realistic view of material things and our perceptions of them. But we must remember that Berkeley was not primarily concerned with that view. For him the only doctrine worth seriously considering and refuting was that of Descartes, Locke, and the Newtonian scientists, i.e., what Hume calls 'the view of Modern Philosophy'. Naïve realism might be described as a *selective* theory of sense-perception, whilst the Descartes-Locke doctrine might be described as a *causal* theory of it. According to naïve realism visual and tactual sensibilia, at any rate, are subjectively selected parts of the surfaces of perceived material things. This doctrine had been rejected, for reasons which were partly good and partly bad, by everyone whom Berkeley needed to consider seriously. According to the Descartes-Locke theory there are material things in the plain straightforward sense of solid objects bounded by closed surfaces and endowed with various powers. But, when a person perceives such an object, he is never being acquainted with any part of its surface. Nor is its surface pervaded with any of those extensible qualities, such as colour, coolness, smoothness, &c., which are manifested to us in sensation. Processes in external bodies affect our own bodies and produce sensations in our minds. But even if a sensation consists in sensing a coloured or hot extended sensible, the latter is something which is generated at the moment and is not a part of the surface of the perceived material thing. A material thing

is brown or smooth only in the sense that it has more or less permanent dispositions to generate sensations of brownness or of smoothness in human observers under certain standard conditions. But it is extended in the same literal way in which visual and tactual sensibilia are extended, though no part of its surface is ever sensed by anyone.

It is not difficult for a critic to make the Descartes-Locke theory look very foolish. The most annihilating criticism that I know of is to be found in Hume's *Treatise on Human Understanding*. Berkeley's objections are fourfold. (i) To talk of anything as merely extended without having colour or temperature or smoothness or any other extensible quality is to use sentences without meaning. (ii) Extension is a quality of certain sensibilia, and it is meaningless to suggest that any characteristic which can belong to a sensible can belong to anything which is not sensed. (iii) For the same reason it is meaningless to suggest that the surfaces of material things might have colour, temperature, &c., as the sensibilia which we sense do, although no part of these surfaces is ever sensed by anyone. For no quality which can belong to a sensible can belong to anything which is not sensed. (iv) Even if, *per impossibile*, there could be material objects, as conceived by the Descartes-Locke theory, they could not cause sensations. For, being inanimate, they could not have volitions, and therefore they could not cause anything.

Of these four objections I accept the first, whilst I reject the second and third and am doubtful of the fourth for reasons which I have already stated. I think it is quite plain that nothing could be extended unless it were pervaded and marked out by some quality which can cover an area or fill a volume, as colour and temperature pervade the extension of visual and tactual sensibilia respectively. But I see no absurdity in supposing that there might be substances which are extended as visual and tactual sensibilia are extended, although no part of their surfaces is ever sensed. I see no absurdity in supposing that such substances might be pervaded by colours or temperatures, or even by some kind of extensible quality which does not belong to any of the sensibilia that we sense. Lastly, it is not evident to me that, if there were such substances, the mere fact that they were inanimate would make it impossible for processes in them to cause anything and therefore impossible for such processes to cause sensations. I think that the Descartes-Locke theory is an extremely bizarre mixture of a causal theory of sense-perception, based on physics and physiology, with vestigial

elements which survive from the naïve realism of unsophisticated common sense. But, if it would consent to allow that the agents which cause our sensations are not *merely* extended, but are also pervaded by extensible qualities of some kind, I do not think that it would involve any internal contradiction.

Now it is important to notice that Berkeley's complete theory is a causal theory just as much as the Descartes-Locke theory. According to him, our sensations are caused by the volitions of God; and the groupings and correlations and sequences of sensations, which are the cash-basis of all our talk about persistent material things interacting in accordance with laws, are due to the fact that these volitions form part of a general plan in God's mind. According to the Descartes-Locke theory our sensations are caused by processes of motion and vibration in the minute particles of extended inanimate substances; and their groupings and regularities are due to the fact that these motions and vibrations occur in a single spatio-temporal framework and are subject to dynamical and kinematical laws.

Now suppose we grant (what Berkeley would not admit) that the amended Descartes-Locke hypothesis about the causes of our sensations and their correlations is just as intelligible and free from internal contradiction as his own rival hypothesis. Would there be any reason to prefer one hypothesis to the other?

It should be noticed that each hypothesis starts, as it must, from something which each of us is directly acquainted with. Each of us is acquainted with his own volitions by introspection, and with sensibilia of various kinds by sensing them. Berkeley's hypothesis about the causes of our sensations is that they are like our volitions, and that they are inter-related like the various volitions which form parts of a plan. The rival hypothesis is that the causes of our sensations resemble the visual and tactual sensations which we sense, at least in having extension, figure, and motion, and that their inter-relations are somewhat like those of individual sensibilia in a single visual field.

Now it seems to me that there is one fact which is *prima facie* in favour of Berkeley's hypothesis and one which is *prima facie* in favour of the amended Descartes-Locke hypothesis.

The fact which seems to favour Berkeley's theory is this. Each of us can actually observe himself producing images in himself by his own volitions. Images are plainly very much like sensibilia. Berkeley could therefore claim that when he alleges that sensations are produced in us by a foreign will, he is not postulating a purely hypothetical kind of agent or a purely

hypothetical kind of action. Each of us has observed by introspection actual instances of volitions producing something very much like sensations. On the other hand, if we are never acquainted with any material thing, but only with sensibilia which are inseparable factors in our sensations, the Descartes-Locke theory does postulate a purely hypothetical kind of agent and a purely hypothetical kind of action. It is true that, on this theory, material things are supposed to resemble sensibilia in certain respects, e.g., in having shape, size, position, and motion. But in ascribing to material things the power of producing sensations in minds, we are postulating something to which there is no observable analogy in sensibilia. There is not the least reason to believe that any of the sensibilia that I sense generate any of my sensations or images. So far, then, Berkeley's hypothesis seems to score over the Descartes-Locke hypothesis.

But I think that this *prima facie* advantage must be qualified in at least two respects. (i) What each of us knows by introspection is that some of *his* volitions produce some of *his* images. What the Berkeleian theory postulates is that certain volitions in *another mind* produce each person's sensations. There is a huge jump from the purely immanent action, which is all that anyone can observe by introspection, to the telepathic action which Berkeley postulates. (ii) The volition to call up an image of a certain kind is never *sufficient* to produce such an image. The image as a whole or its constituent parts seem to be always copies of sensibilia which one has sensed in the past. Thus the complete cause even of a voluntarily produced image includes the traces of one's past sensations as an essential factor. Now most of the sensations which one gets from moment to moment are in no way dependent on traces of one's previous sensations. So Berkeley has to ascribe to the foreign volition the power to generate sensations in us without the co-operation of traces of our previous sensations. Thus the analogy with the production of images in one's own mind by one's own volitions breaks down still further.

The fact which seems to favour the Descartes-Locke hypothesis is this. If we take each observable regularity among our sensations singly, there is very little to choose between ascribing it to a certain regularity in the behaviour of Descartes-Locke material things or to a certain habit of volition in God's mind. But, as Berkeley would admit, we do not rest at this stage. We try to co-ordinate various regularities with each other in a single system, and to infer further and more subtle regularities which

have not yet been noticed. To a very great extent we have succeeded in doing this. Now the suggestion that each observable regularity is due to a habit of volition in God's mind, and that these various conative dispositions are interconnected in the way in which the various conations in the mind of a person who carries out a plan are interconnected, is not in practice found to be helpful. It does not enable us to co-ordinate the various regularities among our sensations and to predict others. But the supposition that each of the observable regularities is due to the movements of extended particulars in a single spatial system subject to certain simple laws does enable us to co-ordinate these regularities and to predict others.

If Berkeley were right, theoretical physics would be the psychology of God's conative dispositions. In that case presumably the most hopeful way to unravel it would be by analogy with the psychology of our own conative dispositions. But actually this analogy does not help us in the least. On the other hand, the supposition that the persistent and independent causes of recurrent groups of sensations have shapes and sizes as visual sensibilia do, and that they move about in a public space as such sensibilia move in visual fields, does help us to co-ordinate the observed regularities and to predict new ones.