collective head of a vague 'etcetera'. Thus it is very natural to say that they take quite a small group of 'perceptions' to be the object; for this small group is all that they fix their minds upon, and only its continuance is postulated determinately and attentively. But though this language is natural, it is not quite accurate. The Vulgar do include even queer and distorted sensibilia in the object. The plain man still says 'That's the cat' when he sees it through uneven glass, or reflected in a cylindrical mirror, or under the distortive influences of alcohol. And he adds, 'But it looks very odd', thereby acknowledging that his present sense-impression has an inferior status in the family.

We may conclude then that the Vulgar do regard a material object as a continuing family of sensibilia, though as a rule they conceive of its distorted members very indeterminately and with a minimum of attention. And we may suppose that this is the theory which Hume himself wishes to hold about the consciousness of the Vulgar, despite of some laxity of expression and some downright over-simplification, as in the passages quoted just now. At any rate, the theory we have stated comes straight out of his pages, and we can call it by no other name but his. Why then did he sometimes over-simplify it? Probably for polemical reasons. Like Berkeley before him, he was very anxious to show that the Vulgar do not do what the Representationist philosophers say they ought to do, that they do not regard their sense-impressions as fleeting representations of something different. And here he is obviously right. But it is a pity he was in such a hurry; for it prevents him from seeing clearly the full extent and importance of the supplementative and synthetic activity of the imagination, on which he was no less anxious to insist.

CHAPTER IV

THE EXISTENCE OF UNSENSED SENSIBILIA

THUS our ordinary vulgar consciousness of matter consists, according to Hume, of two sharply distinguishable elements: (1) the sensing of gap-indifferent and succession-indifferent sets of sense-impressions; (2) the imaginative postulation of unsensed sensibilia to fill up the gaps. It is now natural to ask a question: Do these unsensed sensibilia really exist or not? To this question Hume makes two quite different answers. One is clearly stated in the concluding pages of the section on *Scepticism with regard to the senses* (E. pp. 200–10; S.B. pp. 208–18). This we might call his official answer. The other and more interesting one is not so much stated as hinted at, chiefly in the earlier passages of the section; in a way it is not an answer at all, for it consists in saying that the question itself is meaningless, and so cannot even be asked. Each of them leads to some very curious speculations which Hume himself failed to pursue. We shall consider them in turn, and first the official answer.

The official answer is a plain 'No'. It can easily be shown, Hume says, that the existence of unsensed sensibilia is impossible; 'a very little reflection and philosophy [science] is sufficient to make us perceive the fallacy of that opinion'.[1] Thus the ordinary man in postulating their existence is just making a mistake. Yet in ordinary life we cannot help making it. (We might even *define* 'ordinary life' as that state of consciousness in which this mistake is made, and 'ordinary men' or 'the Vulgar' as the persons who make it.) Even when the mistake is pointed out to us we relapse into it almost at once. Carelessness and inattention reassert themselves and 'Nature' has her way again.

[1] E. p. 202; S.B. p. 210.

Worse still, the attempts of philosophers to substitute some better notion of matter for the vulgar one break down hopelessly, in Hume's opinion. In attempting to define matter in terms of nothing but primary qualities they fall into nonsense. A material object, they say, is a set of mutually impenetrable particles each occupying a volume of space. But this leads either to a vicious circle (*circulus in definiendo*) or else to a vicious infinite regress. The being of A is said to consist in the fact that something else B cannot penetrate it. Then what does the being of B consist in? Either in the fact that A in turn cannot penetrate *it*, or else in the fact that other entities C, D, E, &c., cannot. On the first alternative we have a vicious circle; we can only say what one material particle is by referring to another, and we can only say what the other is by referring to the one. On the second alternative we have a vicious regress. For exactly the same problem arises when we try to say what the being of C, D, E, &c., consists in. The difficulty is that impenetrability is a relational characteristic, and so cannot constitute the whole nature of anything; nor can space-occupancy, for the same reason. It is necessary to say *what it is* that cannot be penetrated and what it is that occupies space. And for this, we must assign some *quality* to it. But none are available except colour and tactual qualities. We know of no others which have the requisiteca pacity of pervading a volume of space. Indeed, Hume says, we cannot conceive of a volume of space at all unless we conceive it to be pervaded either by colour or by some tactual quality. But of course if we did attribute either colour or tactual quality to our particles, we should simply be admitting that there are unsensed sensibilia after all.[1]

Even if this difficulty of knowing what is meant by such phrases as 'an impenetrable particle' could be got over, the

[1] This argument occurs not in the present section, but in the later one *Of the Modern Philosophy* (Part 4, Section iv, E. pp. 218–21; S.B. pp. 228–31).

arguments which philosophers give for saying that there are in fact such entities are invalid, as we saw above. And Hume now brings an additional objection against them. The arguments which they use are bound to be *causal* arguments. For no other kind will establish the existence of something not at the moment presented to the senses. But in any causal argument the premisses are provided by the observation of constant conjunctions. Now we can observe constant conjunctions between perceptions and perceptions. But how can we possibly observe a constant conjunction between perceptions and entities which are *ex hypothesi* unobservable?[1]

The theory of the philosophers only seems plausible to them, he holds, because of the secret influence of the imagination, from which even they cannot free themselves. The fact is that they just cannot help thinking, like the rest of us, that material objects have a continued existence. And being thus sure all along of the truth of the proposition to be established, they overlook the utter feebleness of the reasoning which professes to establish it. For the same reason they also overlook the nonsense they have fallen into in their attempt to reformulate the proposition itself, that is, to improve upon the common-sense formulation of it in terms of unsensed sensibilia. 'This philosophical system, therefore, is the monstrous offspring of two principles, which are contrary to each other, which are both at once embraced by the mind, and which are unable mutually to destroy each other.'[2] (The two principles are: imagination, which postulates the existence of unsensed sensibilia; and reason, or reflection as Hume here calls it, which tells us that the existence of unsensed sensibilia is impossible.) The philosophical hypothesis then 'has no primary recommendation either to reason or to the imagination'. Such plausibility as it has it owes entirely to the Vulgar hypothesis which it professes to supplant.

[1] E. p. 204; S.B. p. 212. [2] E. p. 207; S.B. p. 215.

The conclusion which Hume draws is to all appearance purely destructive. There is, he says, 'a direct and total opposition betwixt our reason and our senses; or, more properly speaking, betwixt those conclusions we form from cause and effect [in our study of the physiology of the sense-organs] and those that persuade us of the continued existence of body'.[1] It is as certain as anything in science can be that the unsensed sensibilia postulated by the Vulgar—the unseen colour-expanses, the unfelt pressures, the unheard sounds, which are supposed to fill up the gaps in our fragmentary and interrupted sense-experience—do not in fact exist. Yet we all go on believing that they do exist. And when philosophers attempt to replace this manifest falsehood by something better, the substitute which they suggest is utterly unintelligible, not even false; and they are really believing the old falsehood all the time.

With this deadlock Hume's theory of the External World ends. He himself has no solution to offer; he has only a remedy, 'carelessness and inattention.'[2] He does indeed mention one or two further points in the later section *Of the Immateriality of the Soul* (Part 4, Section v), but they are only subsidiary. He explains there how the imagination leads us to suppose that the non-spatial qualities of taste and smell are somehow located in an extended object such as a fig or an olive; for those qualities, though they are literally nowhere, are constantly conjoined with the spatial qualities presented in sight and touch and are consequently associated with them in the imagination.[3] Also he again attacks the Representationist philosophy, or rather the theologians who have adopted it. They hold, he says, that there is a material world on the one hand and on the other a mental world of impressions which duplicates it, and they then proceed to suppose that these impressions are modifi-

[1] Section iv, *Of the Modern Philosophy*, last paragraph. E. p. 221; S.B. p. 231. [2] E. p. 209 *ad fin*; S.B. p. 218.
[3] E. pp. 224–7; S.B. pp. 235–8.

cations of a simple soul-substance. Hume takes justifiable pleasure in showing that this view is exactly analogous to the 'hideous hypothesis' that all finite things are modifications of a simple world-substance, and 'will serve to justify all those sentiments for which Spinoza is so universally infamous'.[1] And with that, we may fairly say, he drops the subject of the External World altogether; for the four or five pages which he allots to it in the *Inquiry* add nothing new and omit a great deal.[2] He clearly thinks that there is not even a prospect of resolving the direct and total opposition between our reason and our senses.

Now we cannot acquiesce in this conclusion as it stands. Here is a most promising and attractive theory of the External World, reminding us both of what we now call Phenomenalism and of Lord Russell's attempt[3] to resolve material objects into classes of sensibilia, and likely to throw light upon both; here is an account of the imagination which reminds us of Kant's, but is in some ways superior to his, because it lays special stress on the supplementative side of imaginative activity. And then, having made these interesting and original suggestions, Hume simply gives up in despair and says he can go no farther.

Why does he despair? Because he thinks it certain that there can be no unsensed sensibilia. Let us consider his reason for this. His reason is not that the existence of unsensed sensibilia is logically impossible. The statement that they do exist is not according to him self-contradictory, as the statement that 'there is an even prime number greater than 2' would be. To show that it is not, he introduces what would now be called a *Neutral Monist*[4] theory of sensation. A mind, he says, is nothing but a heap or

[1] E. p. 228 et seq.; S.B. p. 240 et seq.
[2] *Inquiry concerning Human Understanding*, Section xii, Part I.
[3] *Our Knowledge of the External World*, chs. 3 and 4; *Mysticism and Logic*, chs. 7 and 8.
[4] Neutral Monism holds that both mind and matter are constructed out of sense-data (in Hume's terminology 'perceptions'). Cf. Ernst Mach, *Analysis of Sensations*, and Lord Russell, *The Analysis of Mind*.

collection of perceptions. And 'there is no absurdity in separating any particular perception from the mind; that is, in breaking off all its relations with that connected mass of perceptions which constitute a thinking being'.[1] Therefore 'the supposition of the continued existence of sensible objects or perceptions involves no contradiction'. But though it involves no contradiction, Hume thinks there are *empirical* grounds which show conclusively that it is false. 'A very little reflection and philosophy is sufficient to make us perceive the fallacy of that opinion. . . . When we compare experiments, and reason a little upon them, we quickly perceive that the doctrine of the independent existence of our sensible perceptions is contrary to the plainest experience.'[2] ('Philosophy' here means Elementary Science.)

He then proceeds to mention these experiments. The facts are familiar enough. He refers to the concomitance of perspectival variations with our bodily movements, of double vision with the non-coordination of our two eyes, the concomitance again of colour variations and other variations in sensible quality with 'our sickness and distempers'. All these facts and many more of the same sort show us, he says, that 'all our perceptions are dependent on our organs, and the disposition of our nerves and animal spirits'. And we are bound to conclude that 'our sensible perceptions are not possessed of any distinct or independent existence'; from which it follows that they have not a 'continued' existence either.[3] This then is the origin of the direct and total opposition between our reason and our senses. Only, as Hume points out, it is really an opposition within the imagination itself, between the imagination in its *causal* or *scientific* employment and the imagination in its *supplementative* employment. Our supplementative postulations contradict some of our inductively established causal rules—roughly speaking, those of Physiological Psychology.

[1] E. p. 200; S.B. p. 207.
[2] E. p. 203; S.B. pp. 210–11.
[3] E. pp. 202–3; S.B. p. 210.

This is a formidable argument, and we may agree at once that it does establish something very important. But we must not let it sweep us off our feet, and certainly we cannot be satisfied with Hume's brief and airy manner of stating it. For as he states it, it is open to two sorts of criticism, one of principle and one of detail. I shall begin with the detail.

Let us first consider perspective, 'the seeming increase and diminution of objects according to their distance' and 'the apparent alterations in their figure'.[1] Is there really any evidence to show that perspectival distortions have anything to do with processes in the percipient's sense-organs or nervous system? What the evidence does show is that they are relative to certain positions in space. The flat and perspectivally distorted shape which I see when I look at a distant mountain could still continue in existence —for all that has been shown—when I go away or shut my eyes. But it would only exist *from a certain place*, not from other places. The like could be said of the data of reflection and refraction, which Hume does not mention. In the case of a mirror-image, for instance, there may perfectly well be a group of sensibilia which continue in being whether I (my eyes and nervous system) am present or absent, asleep or awake; but they would only exist from a set of places in front of the mirror. There is evidence to show that their continuance depends on the presence of light-rays impinging upon the surface of the mirror at suitable angles; but is there any evidence to show that it depends upon my eyes or my brain? So too when something, a tree for instance, is seen through a piece of red glass; the tree-sensibilia which exist from places behind the glass will be reddish in colour, while those existing from other places will not. There is no evidence to show that the reddish tinge which I see when I stand behind the glass depends upon my organism in any way, though there is much to show that it depends on the glass.

[1] E. p. 203; S.B. p. 211.

There is indeed evidence to show that *some* qualities of *some* sense-impressions only exist from places occupied by suitably disposed sense-organs and nervous systems; for example, the yellowish coloration said to be seen by persons suffering from jaundice; the fuzziness of parts of the visual field in short sight, and the analogous effects of astigmatism; the 'paradoxical cold' felt when one of the cold-spots of the skin is touched with a hot wire; the alteration of sensible size when a small object, such as the butt-end of a pencil, is placed first on the cheek and then on the tip of the tongue. There is even evidence to show that *all* the qualities of certain sense-impressions exist only from places thus occupied, so that if the sense-organs and nervous system were removed or altered, those particular sense-impressions would be entirely annihilated. After-images are an obvious example, or the private noises heard by the partly deaf. So are the dark patches which float about the field of view when our liver is disordered; or again the very peculiar sense-impressions, commonly called hallucinatory, which are sensed by the delirious, the insane, and by people under the influence of drugs. As the mirror-data are found only to exist in the presence of the mirror, and vary when it varies, so it is with these. They are only found to exist in the presence of certain peculiar physiological states and vary as those states vary. We therefore suppose in both cases that the sensuously-qualified particulars continue in existence only so long as the conditions continue on which their existence depends. If the mirror were broken or covered with a cloth, the mirror-image would perish; when the nervous system recovers from the effects of the fever or the drug, the visionary landscape ceases to be.

Perhaps the case of Double Vision requires special consideration; partly because Hume himself lays special stress on it, and partly because on any theory there is a peculiar difficulty about it, the solution of which will help us later. As we have seen, the empirical evidence forces us to admit

that some sense-impressions are dependent on the nervous system in respect of *some* of their qualities, and that a few are dependent on it in respect of *all* their qualities. It is natural to say that sense-impressions of this second class depend on the nervous system for their *existence*[1] and would be altogether annihilated if the corresponding physiological processes ceased to occur: whereas those of the first class—so far as this evidence goes—might perfectly well continue in being if we shut our eyes or went away, though some of their qualities (e.g. their colour or their shape) would then be different. Now the difficulty is, which of these two classes do the sense-impressions of Double Vision belong to?

One is naturally tempted to answer that they belong to the first class, like the visual impressions of the jaundiced or the short-sighted. For, we say, although their doubleness is obviously dependent upon the peculiar condition of the eyes, their other qualities are not, or at least there is no evidence to show that they are. (The parallel in the case of jaundice would be: the yellowish colour is dependent on the state of the nervous system, but the shapes and sizes are not.) But this answer will not do. For unfortunately 'doubleness' is not a quality at all. When we say that x is doubled we do not mean that it has suffered a change of quality, as we should if we said that x has turned yellow. We mean that there are now two x's instead of one. In fact we are making an *existential* statement. It seems therefore that the alteration of our eyes has not just changed something which was there before—modified it or distorted it. It seems that a *new entity* has been brought into being, something which owes its very existence (not merely one or two of its qualities) to the physiological conditions which brought it about. This is not change; it is creation. But there is worse to follow. There is no way of differentiating between the two impressions which we now sense, apart

[1] Cf. Prof. Broad's distinction between Existential and Qualitative Mind-dependence.

from the fact that one is on the right and the other on the left. As Hume himself puts it, 'they are both of the same nature'. In shape, size, and colour they are exactly alike. They are even alike in their spatial contexts, for the surroundings have been doubled too. If we admit that the one depends for its whole existence upon a physiological process, we must admit the same of the other. There is nothing to choose between them.

This line of thought is very persuasive. But it does not satisfy us. Certainly it is nonsense to say 'only the doubleness is physiologically conditioned, the other qualities are not', for doubleness is certainly not a quality. But still the facts which made us want to say this are perfectly genuine; we have merely failed to find a tenable way of stating the conclusion which is to be drawn from them. The facts are these: (1) the new impressions are extremely like the old one which existed before I pushed my eye out of place; apart from the doubling there is no discernible difference, unless it be a slight decrease of brightness. (2) When I have pushed one eye aside, I see two impressions instead of one whichever way I look. But I do not always see the *same* two, as I ought to if they were wholly dependent on my physiological state. If I look one way I see two tables instead of one. If I turn round, I see not two tables but two doors. If I look to the right, I see neither two tables nor two doors; I see two trees and two college chapels. With after-images, which *are* totally dependent on my physiological state, the situation is quite different. The after-image follows me about wherever I go. Whichever way I look, I still see it. The same thing happens in hallucination.

Let us now try to restate the conclusion which these facts suggest. The difficulty was that doubling is not a kind of change; it is the creation of a new entity. But perhaps the two alternatives—either change of an existing entity or creation of a new one—do not literally apply to sensible

particulars at all. Perhaps they apply only to *substances*; and even if one says, as a modern Humian might, that substances are just logical constructions out of sensible particulars, still no substance is just *a* sensible particular. At any rate, it is clear that the notion of change is closely connected with the notion of persistence. ('Only the permanent can change.')[1] But perhaps what we call the persistence of a sensible particular, whether sensed or not, consists in *any* case in the continuous coming into being of new particulars from moment to moment; when we say that 'the same' particular has persisted through a certain period, we may only mean that there has been a continuous series of mutually resembling ones. In that case, when a new particular comes into being which resembles its predecessor fairly closely but not exactly, we shall be inclined to say 'it is the same particular still, although it has suffered a change'. But if there is a drastic difference between them in quality or spatial position or both, we shall be inclined to say that a new particular has been created. But strictly speaking neither expression is accurate. For the distinction is really only one of degree. It all depends how great the difference is between the new particular and its predecessor; and we should expect to find cases where we cannot decide which expression to use. Or if we like, we may say that there is creation in both cases. But then we shall have to add that creation may be continuous both temporally and qualitatively, and may even be completely monotonous over a long period. We shall also have to add that though in some cases this creation is dependent on processes in a nervous system, it need not always be so. It might be going on all the time whether a nervous system is present or absent. Lastly, there need not always be something which *does* the creating. The perpetual coming about of new particulars might just happen of itself, exactly as substances are supposed to persist through time without external aid.

[1] Kant, *Critique of Pure Reason*, First Analogy.

However, in the case of Double Vision the nervous system *is*, of course, concerned. Here we have a single particular succeeded by a pair of particulars. And the question we have to ask is, Are they sufficiently like it to count as continuations of it? It seems clear that they are. We may show this by inventing an imaginary instance in which they would not be. Suppose that I am looking at a black cat, and then on pressing one of my eyes to one side I see no cat at all but two brown dogs. Here we should all say that the new pair of impressions could *not* be counted as a continuation of the old one. We should say, 'This is not double vision at all. It is a queer kind of hallucination.' Ordinary double vision is not hallucination, precisely because the likeness between the new particulars and the old one is so great.

It appears then that those who regard the doubling as a merely qualitative change (parallel to alteration in colour or spatial distortion) are after all substantially in the right, though they stated their view in objectionable language. The phenomena of Double Vision have no tendency to prove that any of our sense-impressions are *totally* dependent on 'our organs and the disposition of our nerves and animal spirits', as Hume thinks they have, and still less that all are. They have no more tendency to prove this than the phenomena of astigmatism or short-sightedness have, to which they are in principle parallel. If we want to find instances in which the dependence is total, we must turn to after-images and hallucinations.

Lastly, we must consider one further point which Hume regards as important. This is that in Double Vision we do not attribute a continued existence to *both* our sense-impressions. He then points out that they are 'both of the same nature'; and so, he says, 'we clearly perceive that all our perceptions are dependent on our organs and the disposition of our animal spirits'.[1]

[1] E. p. 203; S.B. p. 211.

But in what sense do we *ever* 'attribute a continued existence' to a sense-given particular? If we were right in what we said above, we never literally do this. What we do is to imagine or postulate the existence of other precedent or subsequent particulars, which are numerically different from this present one, but sufficiently like it to count as continuations of it. And we do the same here. There was never any question of our supposing that the two sense-impressions literally persist, as two substances might do. The most that we could conceivably have supposed is that they are succeeded by two more particulars similar to them, and those again by two more. Actually we do not. We suppose that once we have shut our eyes or turned our back the two particulars will be succeeded by a single one resembling them both, and that by another single one resembling *it*, and so on. And we are perfectly consistent in supposing this. For we have noticed previously that the particulars only began to be generated in pairs when one of our eyes was displaced. Before that, we had a series of single ones, of which the series of pairs is a continuation. It is therefore very proper to suppose that the series of pairs will itself be continued into a series of single ones when the disturbing condition is removed.

So much for the detailed criticisms which may be brought against Hume's attempt to show that the existence of unsensed sensibilia can be disproved by empirical evidence. His argument when we look into it breaks up into several different and mutually independent arguments, one applying to one special group of sense-impressions, another to another. The different arguments are indeed parallel, though independent. Each shows that a certain special class of sense-impressions—perspectivally distorted ones, refractional ones, after-images—depends in some respect on a certain special kind of condition. But the conditions are different for the different cases. Perspectival distortions are shown to exist only from certain places. Here then the

conditions are purely spatial. For the sense-impressions of reflection and refraction they are physical. Only in certain restricted cases are they physiological. No evidence is produced to show that *all* our sense-impressions are 'dependent on our organs and the disposition of our nerves and animal spirits'; though evidence is produced to show that certain ones are *partially* dependent on them, and it could be produced to show that a very much smaller number (e.g. after-images and hallucinations) are *totally* so dependent.

There is another curious point. The conclusion which we were asked to accept was that the *unsensed* continuance of sense-impressions is impossible. But the evidence which is offered has no concern with *sensing* at all. The argument, or group of arguments, moves wholly within the sphere of the observed. It calls our attention to certain observed correlations between one sort of observed entity and another; it has nothing to say one way or the other about the relation between the observed and the act of observing. What it does concern is various sorts of spatial, physical, and physiological circumstances. No evidence has been offered to show that the occurrence of sensing is necessary to the existence of any kind of sense-impression, however queer. Provided that the requisite circumstances continued, every one of these sense-impressions—for all that the evidence shows—could perfectly well continue in existence whether sensed or not. Even the physiologically-conditioned ones, such as after-images, could continue in existence when unsensed, provided that the requisite physiological processes continued too. So could mirror-data, provided the mirror remained and was still suitably bombarded with light-rays; or rainbows, provided the light continued to be refracted; or perspectival distortions, though only from their appropriate places. Even psychically-conditioned sense-impressions, if such there be (for instance hallucinations dependent upon our expectations or fears or wishes), could continue in existence unsensed, provided that the

requisite psychical processes continued; for these processes, though psychical, are not processes of sensing.

But quite apart from its details, Hume's argument against the existence of unsensed sensibilia is open to a most serious difficulty of principle. If it is to prove its conclusion, its premisses must be true. But Hume himself is bound to hold that they are false, and even that their falsity *follows* from the truth of that very conclusion which they are supposed to establish. For the eyes and fingers, sense-organs, nerves, and 'animal spirits' are all material objects, and the sickness and distempers are processes occurring in a material object. But if there are no unsensed sensibilia (which is what the argument is supposed to prove), then there are *no* material objects. At least, according to Hume himself there can be none. For, as we saw, he argues elsewhere that by the phrase *material object* we mean a group composed wholly of 'perceptions', that is, a group of sense-impressions and/or unsensed sensibilia; any other analysis of material-objectness, for instance that proposed by Locke, is according to him nonsensical. And every material object would have to contain many unsensed sensibilia among its constituents, for actually sensed sense-impressions are always too few and too fragmentary; while some must consist entirely of unsensed sensibilia. Thus if there are no unsensed sensibilia, neither are there any material objects. The difficulty is most glaring with regard to the central nervous system itself. For this, so long as it is functioning, is never observed at all; *all* its constituents then must be unsensed sensibilia. And yet by consideration of its workings we convince ourselves that no unsensed sensibilia can exist! This is surely a most curious argument.

It may, however, be thought that this objection could be met if the argument were stated more carefully. Could it not be restated in terms of nothing but actually sensed sense-impressions, without any mention of such material objects as sense-organs and nerves, or of such material

(physiological) processes as sickness and distempers? Among our sense-impressions we find a certain sub-class of *somatic* or *organic* impressions, such as aches and pains, feelings of drowsiness or giddiness, and kinaesthetic data of various sorts. Could not the argument be formulated in terms of these? We should then say that when such and such somatic impressions occur, such and such alterations regularly follow in our visual field, for instance the whole visual field is doubled; when such and such other somatic impressions occur, our auditory field is altered—the existing sound-impressions are replaced by such and such others. The conclusion would be that *non*-somatic impressions are dependent upon somatic ones, and cannot exist apart from them.

But this attempted reformulation breaks down when we try to make it specific. We then find that the argument *has* to be formulated in the 'realistic' language of organs, nerves, &c., despite the difficulties to which this language leads. For otherwise the empirical facts which are its premisses cannot be stated at all: they are not reducible without remainder to facts about actually sensed sense-impressions and nothing else. The reason is one which we have already hinted at elsewhere.[1] No causal law can be derived from the examination of *unsupplemented* sense-impressions. The sense-impressions, if we take them just as they come, are far too few and fragmentary. We must first fill up the gaps in them by postulating unsensed sensibilia if we are to be aware of any constant conjunctions. There are no constant conjunctions of pure and unsupplemented sense-impressions.

Unfortunately this is a point about which Hume himself is never clear. As we remarked earlier, he ought to have rewritten his section on *Necessary Connexion* in the light of his own theory of the External World. One of his examples in that section is the constant conjunction of flame and heat. If these words stand for states or processes

[1] Cf. pp. 7–8, above.

in material objects, no doubt there *is* a constant conjunction. But now suppose that they stand for sense-impressions, as Hume himself sometimes seems to think that they do. Is there a constant conjunction between bright yellowish-red visual data of a certain flickery shape, and thermal data of a certain intensity? There is not. It might well be that my skin was anaesthetized; then I shall sense the yellowish-red visual impression, but the thermal impression which is supposed to be constantly conjoined with it will not occur. Or again, just when the visual impression had occurred, I might be struck on the head and fall dead or unconscious, and again the thermal impression would not occur. Conversely, of course, the consequent might occur without the antecedent. I might feel the thermal impression without ever seeing the yellowish-red flickery expanse which is supposed to be its constant antecedent. I might be blind; or I might merely be looking the other way while someone struck a lighted match behind the back of my neck. If, however, we supplement our actually sensed impressions by postulating unsensed sensibilia in accordance with the principle of Gap-indifference (as in ordinary life we automatically do), then we *can* establish constant conjunctions. But then they are not conjunctions between pure sense-impressions; they are between groups consisting of sense-impressions *plus* unsensed sensibilia.

Now these considerations hold good in the present case no less than in the case of flame and heat. It is true that our observation of our own body by means of organic sensation is less interrupted than our observation of anything else. So long as we are awake, there is always a stream of somatic sense-impressions, which are temporally and qualitatively continuous, though usually their intensity is small and their details very unobtrusive. And this stream has a certain thickness; at any moment it constitutes a voluminous mass. But after all, we are not always awake. And even when we are, this continuing voluminous mass

is only a background. Against this background, and emerging as it were from this or that part of it, there are *other* somatic impressions occurring from time to time. And these others are by no means uninterrupted, as the background is. On the contrary, they are full of interruptions and extremely fragmentary. As we say, there are many parts of our body, and many processes in it, which we only 'feel' occasionally and intermittently, when something goes wrong with them (just as the insides of a machine are only *seen* occasionally). And of course there are many processes which we believe to occur in it but never feel at all. No one feels the circulation of his blood. No one feels the nervous impulses passing down his nerves. Nor does anyone ever feel processes occurring in the retinae of his own eyes. For instance, organic sensation tells him nothing of those retinal processes which cause dark patches, or again after-images, to float about his visual field; nor does he feel the retinal changes which cause the after-image to change colour.

Let us consider a very drastic example—the effect of drugs on our visual and auditory fields. I might, of course, taste the drug and feel the kinaesthetic impressions of swallowing it. Or if it were administered by injection, I might feel the prick. (But one felt prick is very like another. Could I distinguish it from the prick of a harmless pin?) Now it might be claimed that there is an observed constant conjunction between these somatic impressions (let us call them S) and the very peculiar visual and auditory impressions (call them V) which I experience subsequently. But this is not really so. The drug might be administered while I was asleep, and I might wake up to a strange and visionary world without ever experiencing the somatic impression at all. What matters is that the drug should in fact get into my blood-stream; provided it does, the visions will occur. It does not matter whether I am *aware* of its entering my body or not. Thus V can occur without S.

Conversely, S can occur without V. Even when I do experience the gustatory impressions and the kinaesthetic impressions of swallowing, it is not certain that the visions will occur. For all that somatic sensation can tell me, the dose may easily be too big or too small, in which case I shall merely feel very ill and see no vision. Or again, some perfectly harmless bread pill might be made to have the right taste and the right feel when swallowed, and an injection of plain water would yield just the same sort of pricking pain.

Of course *visual* observation—my own or my doctor's—would settle the question whether it was indeed the right drug or only some counterfeit. But that is not relevant. The theory which we are examining professed to show that there is a constant conjunction between certain *somatic* (organic) data and the subsequent hallucinations. And as a matter of fact even visual observations will *not* settle the question if 'observation' means mere sensing of visual impressions without supplementation. It is necessary to assume that the pill or the liquid remains in being and retains its properties even when we cease to look at it. In carrying out such visual tests we are moving (so to speak) in the world of material objects; we have already postulated the existence of unsensed sensibilia. But the argument we are examining professes to prove that there are no unsensed sensibilia.

Thus, to return: there is *not* a constant conjunction between a certain kind of somatic impression S and a certain kind of visual hallucination V. For V can occur without being preceded by S, and S can occur without being followed by V. The constant conjunct of V is certain physico-chemical processes in a certain material object, my body. The antecedent member of the constant conjunction is not a somatic impression or set of somatic impressions; it can only be described in the 'realistic' language of Common Sense and Science.

Lastly, we may once again consider Hume's own example of Double Vision. It may be suggested that here at any rate there is a constant conjunction between a certain sort of felt muscular strain (a kinaesthetic impression) and a doubling of the visual field. But here again the felt strain is not a necessary condition of the doubling. What matters is that my eyes should *in fact* alter the degree of their convergence. Provided they do in fact undergo this purely physical change, the doubling will occur. It does not matter whether I feel the strain or not. A local anaesthetic—administered if you like while I was asleep, so that I was quite unaware of it—might prevent the strain from being felt. But the doubling of the visual field would occur all the same. We cannot even say that the felt strain is a *sufficient* (though not indispensable) condition of the doubling, i.e. that when it occurs the doubling always occurs too. There are illusions and hallucinations in kinaesthetic experience, just as there are in other forms of sensation. The afferent nerves coming from the eye muscles, or the relevant brain centre, might for instance be electrically stimulated. Then I should feel the muscular strains, but my eyes would not in fact be moving at all, and so no double vision would occur. Or the strain-impressions might be produced by hypnotic suggestion.

We must now return to Hume. The attempt to reformulate his argument for the Physiological Dependence of sense-impressions seems to have broken down. It cannot be restated in terms of actually sensed somatic (organic) impressions. If we confine ourselves to actually sensed impressions, the constant conjunctions which the argument requires cannot be found. It can only be stated in the 'realistic' language of eyes and fingers, sense-organs, nerves, and animal spirits—the language which he himself uses. And yet if we do state it so, we land in an intolerable paradox. For that language throughout presupposes the

existence of unsensed sensibilia—the very thing which Hume professes to be disproving.

Thus what we have called the difficulty of principle in his argument still remains: provided always that he sticks to his analysis of the notion of Material-Objectness, according to which such phrases as 'unobserved table' or 'unobserved physiological process' mean, and can only mean, groups of unsensed sensibilia.

It may be helpful if we state the difficulty in a rather different way, as follows. There are two theories concerning the part played by physiological processes in sensation, the Selective or Instrumental Theory on the one hand, the Generative Theory on the other.[1] The Selective Theory holds that these processes merely *reveal* an objective entity which existed all along in the external world, so that a sense-impression is just an objective sensibile which happens to get itself sensed by someone on a particular occasion. The Generative Theory holds on the contrary that the sense-impression is actually *brought into being* by the physiological process which precedes the sensing of it, and would have no existence otherwise. These two theories appear to be quite incompatible with each other. Now Hume's argument professes to establish the truth of the Generative Theory. But in its premisses it assumes the truth of the Selective Theory. And it cannot help doing so. For it is confessedly an empirical argument, whose premisses are provided by observation, observation of physiological processes in human bodies; and it has to assume that these processes go on whether we observe them or not, i.e. that they are independent of (and in no way generated by) the processes which enable us to observe them. But this is just what the Selective Theory maintains.

We have now stated the difficulty of principle which there is in Hume's argument. Is there any way of removing it?

[1] These terms were introduced by Professor C. D. Broad. Cf. *Scientific Thought*, p. 523 et seq.; *The Mind and its Place in Nature*, pp. 200–1.

Perhaps it may be replied that for Hume himself it is not a difficulty at all.[1] For, it may be said, his aim in this passage is purely destructive. His whole point is to show that there is a *contradiction*—a 'total opposition' as he calls it—'betwixt those conclusions we form from cause and effect [in our scientific study of the Physiology of Sensation] and those that persuade us of the continued existence of body'.[2] He does not want to show that the Generative Theory is true, as we have supposed, or indeed that any positive theory about the origin or nature of sense-impressions is true. He only wants to show that the belief in unsensed sensibilia is untenable. And he does so by means of a *reductio ad absurdum* argument, which is this: if the assumption of unsensed sensibilia were true, and if certain universally accepted empirical propositions are also true, then it would follow that the assumption of unsensed sensibilia is false. Let us call the proposition 'there are unsensed sensibilia' p; let us call the empirical propositions q, and the Generative Theory r. Then his argument is that p and q together entail r, and r in turn entails not-p. Thus p and q together entail not-p. Our criticism of him is only relevant in so far as it shows that q consists of two parts: one, which we may call q_s, states that such and such organic impressions have actually been sensed on such and such occasions; the other is just p over again, without which we cannot pass from these actually sensed organic impressions to statements about physiological processes which exist whether observed or not. But then he has only to restate his argument in the form: p and q_s together entail not-p. And this gives him what he wants. (If, however, he had been trying to show that the Generative Theory (r) is actually true, our criticism would have been damaging. For we suggested that r in turn entails p and q_s, given that Hume's analysis of material-object-phrases is the right one. But p entails

[1] This suggestion is also Professor Broad's.
[2] E. p. 221; S.B. p. 231 (already quoted).

not-r. Accordingly the Generative Theory too entails its own contradictory, and so it too is untenable.)

Thus Hume's aim, according to this interpretation, is simply to show that our ordinary view of the external world is a complete muddle. We start by assuming that there are unsensed sensibilia. But if we then consider certain quite commonplace facts and apply our assumption to them, we find that the assumption must be false; or at least we can only stick to it by abandoning causal reasoning altogether. And yet it is psychologically impossible for us to give up the assumption, whatever arguments there may be against it; 'Nature' is too strong for us. And we cannot give up causal reasoning either. If we try to, Nature is too strong for us again.

Now I am not sure that this *is* all that Hume was aiming at in the present passage. When he says, 'we clearly perceive that all our perceptions are dependent on our organs and the disposition of our nerves and animal spirits',[1] he seems to be actually accepting the Generative Theory himself. He does not seem to be saying merely that the truth of that theory would follow if certain other propositions were granted. But still, whatever he may have intended, his argument does appear to show that there is a muddle in our ordinary view of the external world. And the objection of principle discussed above is irrelevant to this purely destructive side of his contention. It forces him to modify his argument slightly, but it does not get us out of the muddle.

Is there any way out of the muddle? I think there are two, one which he explicitly rejects, and another which he might have accepted. The first is the one commonly taken by scientists ever since the seventeenth century. According to this we do *begin* our scientific investigation of the world by assuming the existence of unsensed sensibilia and by accepting the Selective Theory of the sense-organs, which

[1] E. p. 203; S.B. p. 211 (already quoted).

goes with that assumption; and probably it is psychologically inevitable that we should begin in that way, whether we are studying Physiology or Physics or any other branch of Natural Science. But the conclusions which we reach do not *logically entail* the truth of that assumption, and if we find empirical evidence against it (as we do) we may consistently give it up. The assumption whose truth the whole of Natural Science, including Physiology, does entail is a much less determinate one: namely that certain specifiable sense-impressions, notably certain specifiable impressions of sight and touch,[1] are *reliable guides* to the structure of an external world which is independent of us and exists whether we are sensing or not, particularly to its spatio-temporal and causal structure. There is no logical necessity for assuming that these sense-impressions—still less any others—are actually *constituents* of such an independent external world, though we did assume this at the beginning and still do in ordinary daily life. They might only be remote effects of that world, or of changes which go on in it. But they may still be reliable guides to its structure even though they are not actually constituents of it, and even though the entities which *are* constituents of it differ from them in many important respects.

Now this way out of the muddle would take us too far from Hume's philosophy, and I shall not pursue it any farther. It is in effect what he calls the Theory of a Double Existence of Perceptions and Objects, which he discusses in the concluding part of the section on *Scepticism with regard to the Senses*[2] and again in Section iv, *Of the modern philosophy*.[3] As we have seen already, he emphatically rejects it; he thinks that it is nonsensical, not even false.

[1] Which sense-impression would they be? I think they would be those which are spatially synthesizable into complete three-dimensional wholes and so demarcate for us those spatial regions in which causal properties are located. Cf. *Perception* (Methuen, 1932), especially ch. 9.

[2] E. pp. 203–10; S.B. pp. 211–18.

[3] E. pp. 215–21; S.B. pp. 225–31.

But there is another possible solution, to which we must now turn. It is somewhat peculiar, but we are bound to consider it, because it seems to be consistent with the main principles of Hume's philosophy.

Let us return for a moment to the antithesis between the Selective Theory and the Generative Theory. The gulf between them appears at first sight to be absolutely unbridgeable. It is true that when the empirical facts which support the Generative Theory are first brought to our notice we are inclined to hold a kind of mixed theory; we are inclined to say that the physiological processes involved in sensation are sometimes selective and sometimes generative and sometimes both at once. (This fits in fairly well with the distinction between 'appears' and 'really is' which is perfectly familiar even to the Vulgar, though Hume never mentions it.) We try to set up a kind of scale. At the bottom end come the physiological processes which occur in connexion with hallucinations; these processes, we think, are purely generative. At the top end come the physiological processes which occur in optimal or completely normal perception; these are purely selective. Between these two extremes there would be a large class of intermediate cases in which the physiological process is *both* selective *and* generative at the same time; so to speak, it would both reveal and distort. In some of them the selective function would predominate, in others the generative; and in some they would be mixed in more or less equal proportions. We should probably be prepared to admit that *pure* selection is an ideal limit which is never quite attained, and that in all actual sensation there is an element of generativeness, though often a very slight one. As we say, nobody's eyes or ears are quite perfect even at the best of times.

But unfortunately a mixed theory of this kind is very difficult to hold. Consider, for instance, the visual field of the short-sighted. A large part of it has fuzzy outlines and only a small part has sharp ones. Can we really maintain

that the fuzziness of the fuzzy parts is *produced* by a process going on in the physiological apparatus of vision, whereas the sharpness of the sharply-outlined parts is *revealed* by another process going on in it? Whatever stage we examine, from the retina to the optic centres in the back of the head, the two processes are similar in kind. Both alike consist of complicated physico-chemical changes occurring in nerve-cells. Can we suppose that processes so similar can have such utterly different results? It is very difficult to suppose this. To do so is surely contrary to all the principles of causal reasoning. It seems, therefore, that this mixed theory is untenable, however attractive to common sense, and that we have to make our choice between a completely selective theory and a completely generative theory. Unfortunately either choice leads to very distressing consequences, as we have seen.

But let us now reconsider the antithesis between the two theories in connexion with our discussion of Double Vision on pp. 108–13 above. We suggested there that a distinction should be made between sensible particulars and substances, or things. We saw that sensible particulars could not literally be said to persist through time in the way that substances are supposed to persist. What we are tempted to call the persistence of a sensible particular is really the continuous coming into being of a series of particulars one after another. They are numerically different, though they may all be exactly alike. What is the same is only the series of which they are all members, and in a rather different sense of the word 'same', the rule or law in accordance with which they successively come into being. In that discussion we were mainly concerned with actually sensed sense-impressions. But what we have said will apply equally to unsensed sensibilia, if such there be. They too will come into being successively from moment to moment, and if we talk of the persistence of an unsensed sensibile, we must really mean that there is a series of sensibilia which come

into being successively and are numerically different from each other, though continuous with each other temporally and qualitatively. The relation between sense-impressions and unsensed sensibilia must be explained on the same lines. Hume says that the Vulgar attribute a continued existence to sense-impressions, or rather to those of them which are gap-indifferent. But when I am said to attribute 'a continued existence' to a certain sense-impression S, what I am really attributing to it is membership in a temporally and qualitatively continuous *series* of particulars. I am postulating the existence of *other* particulars, unsensed ones, which are *continuations* of the actually presented sense-impression. I am not believing that S itself literally persists in being when I shut my eyes. For even if I had not shut them, it would not have done that, though it would have been succeeded without a break by other sense-impressions like itself.

Now if we take this view, which is the one Hume himself ought to have taken on his own principles, we find that the distinction between Selection and Generation loses its sharpness, just as the distinction between Change and Creation does (cf. pp. 110–11 above). For, in a sense, particulars are *always* being generated in any case, quite apart from the presence of sense-organs and nervous systems. Let us suppose that the table in my rooms continues to exist when I am not there. The table will be a very complex group of sensibilia continuously renewed from moment to moment, and each of these sensibilia will exist from a certain place and in a certain direction from that place.[1] Let us consider one of these places, which we will call P. From that place at any one moment many different sensibilia will exist, each in a different direction, and not all of them will be members of the group which is the table—one will be a member of the mantelpiece-group, another of the carpet-group, and so on. Let us consider one of these directions, and let it be

[1] Cf. pp. 207–8, below.

such that any sensibile which exists in that direction from P *is* a member of the table-group: and let us call this direction D. Then the situation is as follows. Throughout the period when there is no sentient being in the room there is a series of particulars existing from P in the direction D. They are generated (come into being) successively from moment to moment, and they are temporally and qualitatively continuous with each other.

An hour passes, and all the time this unbroken generation of sensibilia goes on, not only from this place and in this direction, but from many places and in many directions. At the end of the hour someone comes into the room. His eye occupies the place P and faces in the direction D. While he is there, there will still be a series of particulars existing from place P and in direction D. But now they will be visual sense-impressions, whereas their predecessors were unsensed sensibilia. They too are generated anew from moment to moment. It is true that the generation in their case is conditioned by a complex process in the eye and nervous system of a sentient being. But this need not prevent them from being extremely *like* their unsensed predecessors in shape, size, colour, and spatial position; nor need it prevent them from being extremely *like* the particulars which would now have existed from that place and in that direction supposing the eye and nervous system had not arrived. If the likeness is sufficiently close, they may be counted as *continuations of* their unsensed predecessors; and again if there is a sufficiently close likeness between them and their unsensed successors, which occur when the eye and brain have gone away again, these successors in turn may be counted as continuations of *them*. In short, the sensed particulars and the unsensed ones which precede or follow them will all be members of one single series. One short stretch of the series is actually sensed, the earlier and later stretches are not sensed. But the series goes on without a break all through. It does not matter that the

sensed members are generated from moment to moment by processes in a nervous system. For *all* the members of the series are generated from moment to moment. None of them has a permanent existence. The unity of the series depends simply on the continuity between them, continuity in respect of time, quality, and spatial characteristics. So long as a sufficient degree of continuity is preserved the series goes on, before, during, and after the period in which the eye and nervous system are present. It does not matter whether the generating of the members is autonomous or conditioned. As a matter of fact, even if the eye and nervous system had not been there, it need not have been autonomous. It might have been conditioned by the presence of lenses or prisms or smoke, any of which would have made a difference to the sensibilia existing from places behind them.

The antithesis between Selection and Generation now appears in a new light. If the particulars which come into being while the eye and nervous system are present resemble their predecessors and successors very closely, we shall be inclined to say that the nervous system is exercising a *selective* function, since its activities have made no difference to the nature of the series, though they have enabled us to sense a short stretch of it. If there is no such resemblance between the sensed particulars and those which existed previously from that place, we shall be inclined to say that the nervous system is exercising a purely *generative* function, and we shall call the sense-impressions hallucinations. If there is some resemblance but not a complete one, we shall not know which to say; we shall perhaps want to say that both selection and generation are occurring at the same time. But really none of the three statements is accurate. The differences are only differences of degree, in the degree of resemblance which there is between the sensed particulars and their unsensed predecessors and followers.

In a way, then, the Generative Theory was right. The

particulars which we sense *are* generated by the physiological processes which enable us to sense them. But in another way it was wrong. For in certain favourable cases they may be perfectly continuous with unsensed predecessors and successors which are otherwise generated; and then, although just these particulars which I sense would not have existed from that place and in that direction if no physiological process had been going on there, others exactly like them would have, so that the generativeness of the nervous system has not, so to speak, done any harm. In such a case, therefore, it is reasonable to say, with the Selective Theory, that the particulars we sense are a 'selection from' a series of particulars which goes on continuously whether we are sensing or not. But the Selective Theory in turn was wrong in thinking that this is *always* so. In hallucination there is a complete break between the sensed particular and the unsensed ones which precede and follow it, so that the hallucinatory sense-impression is in no sense a 'selection from' a series which goes on before and after it. Even in many ordinary illusions, namely those conditioned by what we call defects in the sense-organs or the connected physiological apparatus, there must obviously be a considerable difference between the sense-impression and its unsensed predecessors and successors; or rather, what we mean by calling them 'defects' is that a difference of this sort results from them. It may even be that the particular which is sensed is never completely similar to its unsensed predecessors and successors in quality or spatial characteristics. But to get out of the difficulty which originated this discussion, we shall have to maintain that it is often *sufficiently* similar to its unsensed predecessors to count as a continuation of them, and sufficiently similar to its unsensed successors for them to count as continuations of it. And we may suppose that the biological function of the sense-organs and the connected nervous apparatus is precisely to ensure that in most cases our sense-impressions

shall be continuations—even if somewhat modified continuations—of whatever sensibilia existed from a given place before the organism came there; that is, to ensure that on the whole they approximate fairly closely to being undistorted selections from a stream of particulars which goes on continuously whether the organism is present or not. We shall also have to maintain that we have criteria—namely those of gap-indifference and spatial synthesizability[1]—for deciding whether there *is* a sufficient similarity between the given sense-impression and its unsensed predecessors and successors; or rather, for making it reasonably probable that there is this similarity, or is not.

Now this theory does get us out of the muddle with which we began. If certain specifiable sense-impressions are just sense-given portions of series which go on continuously whether we are sensing or not, then by means of them we can get information about an external world independent of us, and about processes which go on in it. Among other things we can get information about processes in human sense-organs and nervous systems. (Actually we shall get most of it by examining other people's sense-organs and nervous systems and then arguing by analogy to processes in our own.) We then find evidence to show that all sense-impressions are dependent for their existence upon these physiological processes, and are generated by them continuously from moment to moment so long as sensation is going on. But this conclusion is not inconsistent with our starting-point. For the particulars which we do *not* sense are equally generated from moment to moment, though in their case the generation is autonomous or independent, and in the case of sense-impressions it is dependent on physiological conditions. And despite this difference in the mode of generation, a sense-impression may still be continuous with unsensed particulars which precede or follow it, and so may be a portion of a series which goes on un-

[1] On spatial synthesizability, cf. the present writer's *Perception*, pp. 217–23.

interruptedly whether we are sensing or not. To suppose that it cannot be, is to confuse two questions which are quite independent of each other: a question of *origin*, and a question of *continuity*. Once we have distinguished these two questions, and once we have realized that all sensible particulars whatever, both sensed and unsensed ones, are generated anew from moment to moment, we can reconcile the Generative Theory with the Selective Theory, and do justice to both. And the question whether a given sense-impression is in fact a portion of a continuous series of sensible particulars, which goes on whether we are sensing or not, now becomes a question of detail. We have to apply the criteria of gap-indifference and spatial synthesizability to each special case. For after-images and hallucinations, the answer is 'No'. For other sense-impressions the answer is 'Yes', though the degree of continuity which there is between the sensed particular and its unsensed predecessors and successors will differ in different cases; for instance, it will be more complete in normal vision than in short-sighted or astigmatic vision, and it will be more complete for the central parts of the visual field than for the margin.

I think that this solution is one which Hume would be ready to consider favourably. It does not ask us to break with the natural procedure of the imagination, as the first one did, or to give up our ordinary 'vulgar' view of the external world. It merely tries to formulate that view in a more accurate way, by stating clearly just what it is that we are imagining when we supplement our fragmentary sense-impressions. By means of this more accurate formulation, it claims to show that the vulgar conception of the external world is *not* a muddle after all, and can accommodate the admitted facts of Physiology without any inconsistency. It is true that if Hume is to accept this solution he will have to modify some of the things he says. But the modification is not serious. It only amounts to

reinterpreting certain statements in the light of what he himself says elsewhere. He can no longer say that we 'attribute a continued existence to our sense-impressions', if this means that we literally take them to be persistent entities, and believe that the very same particular remains in being when we cease to sense it. He cannot say that we take the present sense-impression to be identical with one which we sensed two hours ago, if this means that we literally take two particulars to be the same one. The sameness in both cases must be the sameness of a *series*, which we imagine as going on continuously between the earlier impression and the later one; it is not the sameness of an individual particular. But this is exactly the point he makes himself in his own later discussion of Sameness in the section on *Personal Identity* (Part iv, Section 6). I do not see why he should scruple to allow it here.

If all this is so, the way is now open for a further development of Hume's constructive theory of Perception and the External World. He need not have abandoned it in despair. Let us consider what lines it might take.

Let us go back to the stage which he had reached before he got into his physiological impasse. He had shown that although there is some continuity in our actual sense-impressions, the majority of them are fragmentary and full of gaps. He had shown that in spite of this some groups of sense-impressions are gap-indifferent. And he had shown that, when this is so, the imagination supplements them by postulating unsensed sensibilia to fill the gaps, thereby assimilating the gappy series to such continuous ones as have been sensed in the past. The question then arose whether these unsensed sensibilia which we postulate actually exist or not; and he admitted that their existence is logically possible, but proceeded to produce empirical reasons against it. If we have now disposed of these reasons, the question arises again. How would he answer it this time?

Now one possible answer is the Realistic one. It might be said: Of course we cannot *prove* the existence of the unsensed sensibilia which we imaginatively postulate, but we can find evidence which makes their existence probable. This evidence would be of an analogical kind. In fact, according to this interpretation, Hume's imaginative supplementation is just a sort of unreflective argument from analogy. We should start from the admitted fact of Gap-indifference. When we say that a certain set of sense-impressions together form a gap-indifferent series, despite the actual gaps between them, we mean that they show a fragmentary resemblance to a standard continuous series presented in the past. We should then try to argue from the observed fragmentary resemblance to an unobserved complete resemblance. We actually observe that AB . . D, A . . CD, A . . . . D, &c., all have a fragmentary resemblance to the continuous series ABCD, which has been observed previously; and we notice that the distribution of the gaps is random, i.e. varies as between one of the fragmentary series and another. And this, we say, is evidence that the resemblance is really complete, which it can only be if there are unsensed sensibilia filling up the gaps; it is evidence that in AB . . D there is an unobserved C filling up the gap, in A . . CD an unobserved B, and so on. Thus according to this view the answer to the question 'Are there any unsensed sensibilia?' is that very probably there are, though we cannot prove it.

Whatever we may think of this answer, Hume clearly could not have accepted it; so we need not examine it any further. For it is inconsistent with his Empiricist principles. The hypothesis of unsensed sensibilia, he would say, is unverifiable by definition, since to verify it one would have to sense them; and if a hypothesis is unverifiable, not merely *de facto* (owing to human incapacity) but by definition, then it is meaningless to ask whether it is true, and any argument which professes to establish its truth must be

irrelevant. In that case his answer to the question 'Are there any unsensed sensibilia? Do they really exist?' must simply be that there is no such question. It is as if one asked, 'How many miles is it to Utopia?' when by definition there is no such place. This perhaps is why he finally recommends 'carelessness and inattention' as the one infallible remedy for our philosophical puzzles about the External World.[1] Carelessness and inattention have their defects, but they do at least prevent us from asking pseudo-questions. The shocking remark at the beginning of the section, ''Tis in vain to ask whether there be body or not', might be interpreted in the same way. And when he goes on to add, 'That is a point which we must take for granted in all our reasonings', he might perhaps mean that anyone who professes to doubt it is not talking sense.[2] But, as we saw, in that passage he has not clearly distinguished between this contention and another quite different one, namely that doubts of the existence of body happen to be psychologically impossible to human beings, and he seems to be maintaining both things at once.

But if he really intended to maintain that there is no such question, why did he himself offer an argument (the physiological one discussed above) professing to prove that the hypothesis of unsensed sensibilia is false? Does he not thereby admit that it *is* sense to ask whether the hypothesis is true? How can he both hold that a question is meaningless and at the same time offer the answer 'No' to it?

Now we must confess that Hume was not altogether clear about what he was doing. He had not had the advantage of reading the works of twentieth-century Empiricists. He attempts to do two things in his physiological argument whereas he is only entitled to attempt one. (I do not mean that he succeeds. I have tried to show that in fact he does

[1] E. pp. 209–10; S.B. p. 218.
[2] E. p. 183; S.B. p. 187. Cf. pp. 11–13, above.

not. I mean that he is entitled on his own principles to make the attempt.) He should have been content to argue merely that there is an *inconsistency* in the Vulgar view of the external world, when certain notorious empirical facts are taken into account. Actually he goes farther, and professes to show that the existence of unsensed sensibilia can be disproved. Here he is attempting more than he is entitled to, and is open to the charge of inconsistency himself. But if he had been more modest, he would have escaped it. For he could then have said: 'The Vulgar view of the external world is in any case unverifiable, since it asserts the existence of unsensed particulars. But when we take physiological facts into account, we find that it is inconsistent as well. Not that there is any contradiction in the hypothesis of unsensed sensibilia taken by itself (he has admitted that in itself it is logically possible),[1] but when it is taken in conjunction with certain empirically given correlations a contradiction results.' We have tried to show, on the contrary, that the contradiction vanishes if the Vulgar view is formulated more carefully. But he may still reply: 'Very well then, it is *not* inconsistent after all; but the fact remains that it is unverifiable. It is still meaningless to ask whether there are unsensed sensibilia or not, even though the postulation of them does not result in any contradiction.' Let us suppose for the future that this is the theory which Hume really intended to maintain, and see what can be made of it.

The theory could be stated in an old-fashioned way as follows: 'The material world is just an imaginative construction incorporating actual sense-impressions, a gigantic piece of imaginative extrapolation. There is no sense in asking whether the imaginative construction corresponds to the facts, for there is no conceivable way of getting to a realm of facts outside it with which it might be compared. Indeed, what we commonly call "facts", e.g. the fact that

[1] E. p. 200; S.B. p. 207 (already referred to).

there is a black cat behind this sofa, are simply parts of the construction.'

But perhaps some will object to this sort of language, and will find the theory easier to understand if it is translated into the Formal or Syntactical Mode of Speech. It then becomes a theory about a certain sort of *sentences*, and tells us what other sentences they are equivalent to. The translation is roughly this: Material-object sentences may be divided into two groups according as they mention *observed* material objects, such as Cambridge railway station, which various people touch and look at from time to time, or *unobserved* ones such as the mountains on the other side of the Moon. Let us call the first group A and the second B. Any sentence in group A is equivalent to a very complex set of sentences. And this set may be divided into two sub-sets. One sub-set, usually quite small, mentions actual sense-impressions, their sensible qualities, and their sensible relations. Every sentence in this sub-set is either true or false; it is always sense to ask whether it is true, and the question can always be answered. The other sub-set, on the contrary, mentions only unsensed sensibilia, their qualities and relations (including their relations to sense-impressions, e.g. likeness, continuity). All the sentences in this second sub-set are unverifiable by definition, so that it is senseless to ask about any of them whether it is true or false. We now turn to group B. Any sentence in group B is likewise equivalent to a very complex set of sentences. But here they are not divisible into two sub-sets. They all refer exclusively to unsensed sensibilia. They are all unverifiable, and it is senseless to ask about any of them whether it is true or false.

Now this view, however we state it, is at once confronted with a very awkward fact. Whatever we may think about sentences concerning unsensed sensibilia, and even if we agree that there is no sense in trying to distinguish between

true ones and false ones, it is certain that material-object sentences are in a very different position. There is certainly *some* extremely important distinction to be drawn between one material-object sentence and another, and we commonly *call* this a distinction between true and false. If all material-object sentences are analysable partially or wholly into sentences about unsensed sensibilia, it is most surprising that this distinction should apply to them, whereas —we are told—it does not apply to the sentences into which they are analysed. Again, Hume may say that it is in vain (meaningless) to ask the *general* question whether there be body or not; but there is clearly some very good sense in which it is *not* in vain to ask whether there be such and such a *particular* body or not, e.g. whether there is an aquatic monster in Loch Ness, or whether there is a signpost round the next corner. Such questions can be asked, and they can frequently be answered. Are we to say, then, that it is meaningless to ask whether there are unsensed sensibilia in general, but meaningful to ask whether there are such and such specific groups of unsensed sensibilia? This seems most paradoxical.

The difficulty comes out in another way as follows. When we assert that a certain material-object sentence is true, it may be that the word 'true' is being used in some complex and derivative sense which requires further analysis. But whatever analysis we give of it, we are surely applying the word to the sentence as a whole. The sentence 'this cat is black' may be saying a great many things, and some or even most of them may concern unsensed sensibilia. But when we assert that it is true, we surely mean that the *whole* of what it says is true; it is not merely that one very small part of what it says (the part referring to actual sense-impressions) is true, and the rest neither true nor false. It is not as if one had said 'Here is an elongated black sense-impression. Boo! Aha!' where the 'Boo!' and 'Aha!' are utterances to which the notions of true and false do

not apply at all. The difficulty is still more glaring if we consider a sentence about an unobserved material object. There is some very good sense in which a sentence of this sort can be called true, or false, no less than a sentence about an observed one. But how can it be, if it is equivalent to a set of sentences *all* of which are about unsensed sensibilia? If it is not sense to ask whether any of the sentences in this set is true or false, how can the set as a whole be true or false, and how can any conceivable evidence either increase or decrease its probability, as it manifestly can?

We may now put the same point in the language of imaginative construction. We were told that our consciousness of the material world, so far as it contains more than the mere sensing of actual sense-impressions, is just a gigantic piece of imaginative postulation, about which no question of truth and falsity arises. The fact remains that there are postulations and postulations. There is a very good sense in which some are justified and others unjustified, even if we are forbidden to use the words 'true' and 'false' about them. When one sees a mirage, it is wrong to imagine sensibilia of the sort which compose a pool of water, and right to imagine sensibilia of the sort which compose a hot piece of sand, even if it is nonsense to ask whether either group of sensibilia 'really exists'.

Now of course Hume himself is the last man to deny that in some good sense or other there is a distinction between true material-object sentences and false ones, whatever analysis he may give of it. Though he sometimes tries to shock us by calling himself a sceptic, he is very far from holding that there is nothing much to choose between superstition and science, myth and history, delirium and sanity. Those who think that he wants to deny these distinctions (despite his own express words to the contrary) are so debauched with learning and High Seriousness that they cannot recognize irony when they meet it; and so unphilosophical that they cannot see the difference between

rejecting a proposition, and rejecting those analyses of it with which they happen to be most familiar.

Thus he would certainly attempt to meet the difficulties which we have just pointed out. There seem to be two ways in which he might do so. The first is a kind of *As-if* Theory. The second may be called the Expressive Theory. In the next chapter we will discuss the As-if Theory.

CHAPTER V

THE AS-IF THEORY

THE problem which the As-if Theory has to solve is this: even though it be nonsensical to ask whether there are unsensed sensibilia or not, statements containing a reference to them certainly are true or false. It is certainly sense to ask whether there is a table in the next room or not, even when no one is looking at it (and even if he is in fact looking, he will only see a part of it). And yet we are told, first, that there is no meaning in asking whether unsensed brown patches exist or not, and secondly, that the unperceived table consists entirely of unsensed brown patches and other such entities.

How does the As-if Theory solve the problem? We must first notice that there are two different sorts of As-if Theory, only one of which is relevant. The fundamental contention of the first, and most usual, form of it is that the complex proposition *x is as if p* may still be true even though *p* is false. Let us consider a forged coin. It is false that this piece of metal is a Roman coin. But still it may be true that it has the visible and tangible qualities which it *would* have, *if* it were a Roman coin. And it may be very valuable to know this; it may form an essential premiss for subsequent inferences. On the other hand, it is *not* as it would be if it were an ancient Athenian coin. We can distinguish between the two 'as-if' propositions *x is as if p* and *x is as if q*, and we can be certain that the one is true and the other false, even though *both p and q* are alike false. And this distinction may be of the utmost importance, despite the common falsity of both *p* and *q*. There might be a whole class of such as-if statements, some true and some false, although the clause following the 'as if' was *always* false. Now according to some philosophers, what we commonly call material-object statements are such a class.