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We may therefore define Coherence as follows: two sense-impressions (or two sets of sense-impressions) having a temporal gap between them are said to be *coherent*, if they respectively resemble an earlier and a later part of a continuous series, which have approximately the same length of time between them: that continuous series being of a kind which has frequently been observed in the past, and always in the same order.

CHAPTER III

THE EFFECTS OF CONSTANCY AND COHERENCE

THUS both Constancy and Coherence turn out to be characteristics of series of impressions, not of single impressions in isolation; and here they differ from such characteristics as involuntariness, force, and violence, which we examined before—still more from ordinary sensible qualities like redness or hardness. Moreover, they both characterize interrupted or 'gappy' series.

We must now ask how exactly these two characteristics work upon the imagination, and so lead us into our belief in the continued and independent existence of matter. Hume's answer to this crucial question is somewhat difficult to follow. Indeed there seems to be a good deal of needless tortuosity about its details. For one thing, he holds that the two 'principles' (Constancy and Coherence) affect the imagination in quite different ways. This, as we shall try to show later, was unnecessary; he could very well have reduced the two principles to one. There is a second complication. On the one hand, he seems to think that neither principle is sufficient by itself. Coherence, he says, 'is too weak to support alone so vast an edifice, as is that of the continuance of all external bodies'. And he has previously implied, though he has not explicitly said, that Constancy by itself is likewise unequal to the task. Constancy, as we have seen, is not always to be met with. 'Bodies often change their position and qualities and after a little absence or interruption may become hardly knowable';2 and yet this does not necessarily prevent us from ascribing a continuous existence to them.

On the other hand, he also seems to think that Constancy

¹ E. p. 192; S.B. pp. 198-9.

² E. p. 189; S.B. p. 195. Cf. above, p. 34.

is much the more important principle of the two. Certainly he discusses it far more elaborately. 'The explication of this', he says, 'will lead me into a considerable compass of very profound reasoning.' And by the time he has got to the end of this profound reasoning, he seems to have forgotten about Coherence altogether. At any rate, when he comes to discuss 'the total opposition between our reason and our senses' (in the last part of the present section, and in the section Of the Modern Philosophy) he treats it as an opposition between Physiological Psychology on the one side, and Constancy on the other. Coherence is simply ignored.

Perhaps his view is that Constancy alone would be sufficient to make us believe in the continued existence of some bodies, whereas Coherence alone would not be sufficient to make us believe in the existence of any, supposing there were no Constancy to set the belief going. Thus Coherence would only put the finishing touches, so to speak, to a process which Constancy has already begun, and without Constancy we should not believe in the continued existence of any bodies at all. If this is indeed his view, it will be proper for us to discuss the effects of Constancy first, though he himself begins with Coherence.

In his own account of the effects of Constancy Hume distinguishes four successive stages through which the mind passes. I think we may fairly reduce them to two main ones: the first is a kind of mistake or illusion, the second is an act of postulation designed to correct it. The 'considerable compass of very profound reasoning', which Hume gives warning of, is chiefly concerned with the first stage.

The crucial operation in this first stage is the identification of two different but resembling sense-impressions. The sense-impressions are in fact numerically different, and there is a temporal gap between them. But because they resemble each other so closely, we regard them as being the same. For example, we have a view of the sycamore tree;

then a gap, while we shut our eyes or go away or look at something else; then we have a second view of the sycamore tree, exactly resembling the first. When this is so 'we are not apt to regard these interrupted impressions as different (which they really are), but on the contrary consider them as individually the same, upon account of their resemblance'. I

How does it come about that we thus confuse resemblance with identity? Before we can answer this question, we must consider what identity is, or 'explain the principium individuationis'. This Hume now proceeds to do.2 The very notion of identity, according to Hume, is a sort of paradox. The phrase 'identical with' stands for a relation, and it must hold between two terms at least. Where there is only one term, there is unity but not identity. On the other hand, if there are many terms, we cannot but admit that they are numerically different, however much they may resemble each other. It appears, then, that 'both number [multiplicity] and unity are incompatible with the relation of identity'. So it must lie in something that is neither of them.³ But how is this possible?

It is only possible, Hume replies, if we have recourse to the idea of time or duration. Consider any entity which remains absolutely unchanged throughout a finite period of time—'any unchangeable object' as Hume rather oddly calls it. We say 'it is the same as it was two minutes ago'. Now strictly speaking this is not true. Indeed, it is not even sense. For since our object has not changed at all, we cannot distinguish any multiplicity of successive stages of phases within it. Thus there are no distinguishable terms between which the relation of 'being the same as' could hold (for, as we have seen, it is a relation, and requires two terms at least). In fact the idea of time does not strictly apply to this unchanging entity at all. Where there is time. there must be succession; and in this entity, ex hypothesi,

¹ E. p. 192; S.B. p. 199.

¹ E. p. 193; S.B. p. 199 (my italics).

² E. p. 194; S.B. pp. 199-200. ³ E. pp. 193-5; S.B. pp. 199-201.

there is none. But during the period of its unchangingness, there is succession elsewhere. Let us invent an example, since Hume himself gives none. The stone at which I gaze remains absolutely unchanged for five minutes. However, all sorts of changes are occurring around it. The blades of grass among which it lies wave gently in the wind, a leaf falls, there is a drop of rain and then another, a beetle passes by. Now this leads us into a fiction, 'by which the unchangeable object is supposed to participate of the changes of the co-existing objects'. In this way, and not otherwise, we arrive at the notion of identity, or rather at the confusion to which the word 'identity' gives expression. We arrive at the notion of something which is at once multiple and unitary, by conceiving of the one object as existing at many 'points of time'. 'Here then', says Hume, 'is an idea, which is a medium betwixt unity and number; or, more properly speaking, is either of them, according to the view in which we take it: and this idea we call that of identity.'2 If we attend to the multiplicity of the points of time, we have the idea of number: if we attend to the object itself, in which, by hypothesis, there is no 'variation or interruption', we have the idea of unity.

Thus even in this, the most favourable type of instance, the type of instance from which the word 'identity' actually gets its meaning, we find that the identity is fictitious. Or rather, it is not even fictitious. We are not even holding a false belief when we say that the object A is the same as it was two minutes ago; for that would entail that sameness might characterize something else, even though it did not characterize A. We are just falling into a muddle or confusion, and the word 'identity' gives expression to this

confusion—the confusion between unity on the one hand, and temporal multiplicity on the other.

In the case just considered, we ascribe identity to an unchanging entity which is at least unitary and uninterrupted. Even here, we are falling into a muddle, according to Hume. How much worse is our muddle when we ascribe identity to a *pair* of entities, with an interruption between them! But this is what we do in the case of Constancy, the one which primarily concerns us.

How do we manage to do it? Hume holds that the imagination is seduced by the fact that the two senseimpressions, though numerically diverse, are exactly like each other. This leads us into a second muddle or confusion, which is superimposed as it were upon the first. We confuse the present situation, where A' exactly resembles A, with the other situation in which A remains unchanged and uninterrupted through a period of time. How do we come to mistake the one for the other? Hume says that two factors contribute to this. The first we may call an objective or phenomenological factor, since it consists in certain relations between the sense-given situations themselves; the second is psychological, since it concerns our attitude towards them. First, the objective factor: the 'likeness' situation (where A' is like A, though numerically different) is itself like the 'identity' situation (where A remains unchanged and uninterrupted throughout a period). This second-order likeness between likeness and identity presumably consists in the fact that qualitative difference is absent in both cases. Secondly, the psychological factor: in both situations our mental attitude ('disposition' as Hume calls it) is the same or almost the same. When we are considering the single unchanging entity 'the faculties of the mind repose themselves in a manner' and 'the passage from one moment to another is scarce felt'. And when we are considering a succession of resembling entities, our attitude

¹ E. p. 194; S.B. p. 201 (my italics). Hume adds 'and in particular [to participate] of that of our perceptions'. This is a mistake on his part. At this stage of his argument he is not entitled to distinguish 'perceptions' from 'objects'. He is supposed to be speaking only of what is immediately presented to us. Cf. below, p. 46.

² E. pp. 194-5; S.B. p. 201.

¹ E. p. 196 ad fin.; S.B. p. 203.

is extremely like this. 'A succession of related objects . . . is considered with the same smooth and uninterrupted progress of the imagination, as attends the view of the same invariable object.' The relation here in question is that of resemblance. And Hume explains that 'the very nature and essence of relation is to connect our ideas with each other, and upon the appearance of the one, to facilitate the transition to its correlative'. 'The passage betwixt related ideas', he goes on, 'is therefore so smooth and easy that it produces little alteration on the mind, and seems like the continuation of the same action.' Accordingly, 'the thought slides along the succession with equal facility, as if it considered only one object; and therefore confounds the succession with the identity'.

In the next paragraph Hume gives some instances to illustrate this curious process. I shall quote the greater part of it, since his own words can hardly be improved upon. 'We find by experience that there is such a constancy in almost all the impressions of the senses, that their interruption produces no alteration on them, and hinders them not from returning the same in appearance and in situation as at their first existence. I survey the furniture of my chamber; I shut my eyes, and afterwards open them; and find the new perceptions to resemble perfectly those which formerly struck my senses. This resemblance is observed in a thousand instances, and naturally connects together our ideas of these interrupted perceptions by the strongest relation, and conveys the mind with an easy transition from one to another. An easy transition or passage of the imagination, along the ideas of these different or interrupted perceptions, is almost the same disposition of mind with that in which we consider one constant and uninterrupted perception. It is therefore very natural for us to mistake the one for the other.'2

tWe see, then, how Constancy leads us to regard our inter-

rupted perceptions as the same, that is, to ignore the numerical difference between them. Now this ignoration has a very important consequence. For it in turn leads us to ignore the *gap* between the two resembling perceptions. Our sense-experience is, in fact, full of interruptions: but thanks to this queer process of the imagination—the process of 'identifying across a gap' as we might call it—the interruptions are simply overlooked.

But this is not the whole story. We still have to answer the most important question of all? namely, how the imagination is led to postulate additional particulars by which the gaps are filled, and so to supplement our exiguous sense-impressions with a vast multitude of unsensed sensibilia. Now if we could always succeed in overlooking the gaps, we should never postulate unsensed sensibilia at all. Our sense-impressions, though in fact gappy, would feel to us gapless, and so we should feel no need to supplement them. But actually we cannot always succeed in overlooking the gaps, strongly as we may be inclined to. If it is a mere blink or turn of the head, perhaps we can. But often the interruption is much longer. And when we reflect we cannot but remember that there was an interruption: a period occupied by alien sense-impressions of quite another sort (as when I go away to Cambridge and return to Oxford twenty-four hours later), or it may be by images, as in dreaming. Thus we find ourselves in a perplexity. We still have a strong propensity to identify the later senseimpression with the earlier one; yet we cannot quite do it, because after all we cannot forget the gap between them. 'The smooth passage of the imagination along the ideas of resembling perceptions makes us ascribe to them a perfect identity. The interrupted manner of their appearance makes us consider them as so many resembling, but still distinct beings, which appear after certain intervals.' How are we to get out of this contradiction? We get out of it

¹ E. p. 197; S.B. p. 204. ² E. pp. 197-8; S.B. p. 204.

by supposing that between the interrupted perceptions there were other *unexperienced* perceptions, which filled up the gap, and joined the two interrupted ones together: in short, we suppose that between the two resembling sense-impressions there was an intervening series of *unsensed sensibilia* resembling both, so that the whole forms one unbroken series of particulars, sensed at its two ends and unsensed in the middle.

I say we 'suppose' this, but the word is somewhat misleading. (Hume's own word is 'feign'.) We do not just entertain this proposition about unsensed sensibilia, as we might entertain the proposition that a yellow cat is now entering St. Paul's Cathedral; we go farther, and believe it. For according to Hume's theory of Belief, believing is just having a lively idea which gets its liveliness by association with an impression or impressions. This is what happens in the present case. The liveliness of the actually-presented impressions (the one before the gap and the one after it) is conveyed to the idea of the similar but unsensed particulars which we think of as coming between them: and so we not only think of these intervening particulars, but actually believe them to have existed.

Such is Hume's account of the way in which the observed 'constancy' of some impressions leads us to postulate the existence of unsensed sensibilia, and so to believe in the continued existence of bodies: or rather seduces us into that postulation and that belief, for the whole proceeding is nothing but a complicated muddle. The very word 'identity' stands for a confusion. Then, having got into the

way of committing this confusion whenever we observe an unchanging entity, we make matters still worse by committing a second one: we confuse a pair of resembling entities with a single unchanging entity, even to the point of overlooking the gap between the resemblants. But at last the gap obtrudes itself upon our notice. Then, horrified at what we have done, we try to escape from our difficulties by postulating a series of intervening but unsensed resemblants to join the original pair together; and so at last we find ourselves believing that material objects continue in existence through intervals of non-perception.

It is not easy to accept this nightmare story which Hume has told us. Its very elaboration makes us suspicious. Such tortuous refinements of confusion and self-deceit, we exclaim, are altogether beyond the capacity of unsophisticated human nature. It is incredible that the Vulgar—the 'children and peasants' of whom Hume speaks¹—should have passed through this labyrinth of hypocrisy whenever they attribute a continued existence to 'a hat or shoe or stone'.²

But I think it is possible to simplify Hume's account of the effects of Constancy and so to make it much more credible. Let us go back to the first step, the analysis of Identity, or of the *principium individuationis*, as he also calls it. 'The starting-point is the notion of a single 'unchangeable object' ('unchangeable', I think, is here equivalent to 'unchanging'). What sort of an 'object' has Hume in mind? He gives no instance in this passage, but in the section on *Personal Identity*, where the same topic comes up again, he speaks of 'a *mass of matter* of which the parts are contiguous and connected' and asks us to suppose that 'the parts continue uninterruptedly and invariably the same'. It seems likely that he is thinking of the same sort of instance here, and this suggestion is supported by the contrast he draws

This is not at all a satisfactory theory of rational belief, where we weigh the evidence for and against, and assent accordingly. But, allowing for the imperfections of Hume's 'idea'-terminology, it is quite a good theory of non-rational belief, or taking for granted. Even the idea-terminology is not so bad as it looks. For we must remember that Hume does have a theory of abstract ideas. He does not simply equate concepts with images, no more than Bradley does. He admits that an image may represent a class.

² E. pp. 200-1; S.B. pp. 208-9.

¹ E. p. 187 ad fin.; S.B. p. 193.

² E. p. 195 ad fin.; S.B. p. 202.

³ Part iv, Section 6. E. p. 242; S.B. p. 255 ad fin. (my italics).

between the unchangeableness of the object and the successiveness of our perceptions. But if this is the sort of thing he has in mind, we must accuse him of cheating. At this stage of his inquiry he ought only to be talking of sense-impressions ('perceptions'), whereas a mass of matter is obviously a complex material object. According to his own argument, the Idea of identity—or the confusion which goes by that name—must already be there, before we can arrive at any belief concerning material objects, whether changeable ones or unchangeable. Thus the identity-confusion, if confusion it be, must arise directly from acquaintance with sense-impressions. Indeed, Hume himself sees this later, for in summarizing his argument he speaks of 'one constant and uninterrupted perception'.²

But where shall we find an unchanging sense-impression? That is what we must have if Hume's account of Identity is to be saved. Obviously we cannot find it at all. Every sense-impression contains temporal parts within it. We see a colour-expanse which, as we say, remains quite unchanged throughout a period. But what we are aware of is still a series, a continuous series whose members are exactly similar to each other. It differs from other series only in being monotonous, whereas most series of sense-impressions are variegated. But why do we say that it is a series, if there is no discernible variegation within it? First, because we know from past instances that it could have been interrupted at any point (by a blink, say) even though actually it was not. And secondly, because there actually is a difference of relational characteristics within it, though there is no difference of quality. We have to distinguish temporal parts within it, because we want to say that one part of it is contemporary with A and another part with not-A. While we look at our so-called unchanging colour-expanse, we see

other neighbouring colour-expanses come and go; we hear a squeak, then silence, and then another squeak; there is a succession of different organic sense-impressions. All round it and contemporary with it there is succession and perpetual qualitative difference. Consequently we must regard it not as a single particular, but as a process or series, divisible into a succession of temporal parts. Nor is there any fiction in this, as Hume would suggest. Relational characteristics are not less real than qualities. Two mutually incompatible relational characteristics cannot belong to a single entity, no more than two mutually incompatible qualities.

We may put this in another way. Hume's whole theory of knowledge—the fact that he starts from impressions and will admit no 'idea' which is not derivable from themcommits him to what is called the Event-Theory of continuance; according to which the continued existence of any entity whatever is equivalent to the occurrence of a series of numerically different particulars, whether qualitatively similar to each other or qualitatively dissimilar. By 'an unchangeable object, without any variation or interruption' he can only mean a monotonous and continuous series of sensuously-qualified particulars. The other and more venerable theory of continuance-commonly called the Substratum Theory—which dispenses with the notion of temporal parts, and draws a radical distinction between 'things' and 'processes', is not open to him; he is bound to hold that it is not so much false as meaningless. For the idea of an unchanging substrate of change, or of a 'thing' which is not reducible to a process, is one which could not possibly be abstracted from impressions whether sensible or introspectible.

Thus Hume's analysis of Identity, and therefore his account of Constancy, goes wrong at the start: I mean, it starts with assumptions which are on his own showing inadmissible. How then ought he to have started? He

¹ E. p. 194; S.B. p. 20r. Cf. p. 40, footnote 1 above.

² E. p. 197 ad fin.; S.B. p. 204 ad fin. (quoted on p. 42 above). He is here using the word 'constant' in its ordinary everyday sense.

ought to have maintained that the word 'identical' is always applied to a whole, having temporal parts or spatial parts or both, and never to a single indivisible entity, if such there be. When we say 'this view (noise, smell) is the same as it was a minute ago', we mean that this present impression and that previous one are members of a single temporal series. Nor need the series be monotonous. It might be highly variegated; this noise and that noise are part of the same tune, though there is a striking qualitative difference between them. The only indispensable requirement is that the series be temporally and qualitatively continuous. If we are to use the word 'same' and say that 'this is the same as it was', all that is necessary is a single temporally and qualitatively continuous series, of which this present particular and that previous one are both members. Provided this is so, the two particulars may differ in quality as much as you please. But, of course, we shall only use the word 'unchanging' if the series is monotonous; that is, if all the successive members resemble each other exactly in respect of quality.

Let us now reconsider Hume's account of the effects of Constancy, in the light of this revised and truly Humian notion of Identity. For the present we will accept his view that the imaginative process divides into two main stages: (1) the initial overlooking of the gap between two resembling impressions, (2) the subsequent postulation of unsensed particulars to fill it. Let us begin with the first stage. When we sense two resembling expressions with a gap between them, we tend to say 'this is the same as what I saw (felt, heard) before'. But even if it had been undoubtedly the same, even if no gap whatever had occurred, there would still have been two particulars, resembling but numerically diverse. The sameness, even then, would have been the sameness of a series, consisting of a succession of temporal parts. Thus when we apply the word 'same' to the two impressions—the pre-gap one and the post-gap one—we

are not ignoring their numerical diversity, as Hume would make us do. Even if there had been no gap, we should not have done that. We are only ignoring the difference between A...A, where there is an interruption between the two resembling entities, and AA where there is none. In other words, all we are ignoring is just the gap itself. As Hume says later, "Tis a gross illusion to suppose that our resembling perceptions are numerically the same." It is indeed. But we have no need to accuse ourselves of any such enormity.

How do we come to ignore the gap? From this point onwards, Hume's own account of the imaginative process is clear and consistent. The resemblance between the two impressions is so striking that the later one reminds us forcibly of the earlier. Thanks to this association by resemblance, the imagination passes smoothly from the one to the other, exactly as it would have if there had been no gap at all. The gap is at first simply overlooked. When I return to my rooms after twenty-four hours' absence, my new impressions are so similar to my old ones that I easily forget I have ever been away.

Now we turn to the second stage. Strongly as the later impression reminds us of the earlier, we cannot on reflection deny that there was a gap between them. On the other hand, the propensity of the imagination to pass from the one to the other still remains in full force. If we now suppose that there were unsensed particulars, similar to both, which were interpolated between them and joined them together, we can still make our smooth transition from the one to the other, by way of these intermediate particulars; and yet we can manage to allow for the occurrence of the gap, that is for the period in which we were sensing something quite different. Moreover, the thought of these intermediate but unsensed particulars will be made vivid by the memory of the actually presented impressions between which they are

¹ E. p. 209; S.B. p. 217 ad fin.

interpolated. Accordingly we shall not only conceive of these intermediate entities: we shall believe that they actually existed, though they were not sensed.

In this way, by revising Hume's analysis of Identity, which is in any case inconsistent with the main principles of his philosophy, we can contrive to abbreviate the 'considerable compass of very profound reasoning' which caused him so much trouble; and we can contrive to offer a much simpler and more credible account of the effects of Constancy. We shall see later that a further simplification is possible when Constancy and Coherence are considered together. But first we must consider what he says about Coherence himself.

We turn then to the effects of Coherence. Hume holds that the imaginative process here is quite different from the one which occurs in the case of Constancy. He represents it as a kind of argument from analogy. The foundation of the analogy is a resemblance not between individual impressions, but between series of impressions; namely, between a fragmentary series now observed and a number of continuous series observed in the past. Thanks to this resemblance, our imagination is led to fill in the missing parts' of the present fragmentary series from our memory of the previous continuous ones. And in so filling them in, we are, of course, postulating the existence of particulars which we have not on this occasion sensed (though we have sensed particulars of that kind in like circumstances in the past). In other words, we are postulating the existence of unsensed sensibilia. For instance, I see a black cat in one corner of the room; then I turn to read The Times for half a minute; then I look up again and see a black cat in the opposite corner of the room, while the first corner is empty. But on many previous occasions I have watched black cats walk all the way across rooms from one corner to the other.

And owing to this analogy between this broken series and those continuous ones, I imagine that here also there has been a continuously existing cat which has walked continuously all the way across.

Now Hume holds that this analogical process is somewhat like ordinary causal reasoning. For Coherence, unlike Constancy, characterizes series whose members differ from each other in quality. Such series have an order or structure. For instance, the past continuous series, with which we assimilate the present broken one, have all had the order ABCDE (while the present broken one is of the form A . . . E). Since this order has been repeated on so many occasions, we regard it—according to Hume's theory of Causality—as a *causal* order; that is, we are confident that if there is at any time a further instance of some one of these characteristics, e.g. a new B, then there will also be instances of the other four, related to it and to each other in the same old way. (In the section on Necessary Connexion Hume takes account only of transeunt causality, where the events 'conjoined' are events in different things, as in the transmission of motion by impact. But his theory would apply equally to immanent causality, where they are events in the same thing. And indeed in the present section he himself seems to be thinking of both types of causality. He could hardly avoid doing so; for in all the processes of Nature both seem to be present at once, though sometimes one is more prominent and sometimes the other.)

However, Hume holds that the imaginative process which here concerns us is not by any means the same as that which occurs in ordinary causal reasoning, although in some ways like it. This is precisely because it is concerned with *broken* series. If we try to regard it as ordinary causal reasoning, we are involved in a serious paradox. To bring this out, Hume gives an ingenious illustration, in which several such broken series are combined. While sitting in an upstairs room he hears a noise as of a door turning on its hinges,

¹ E. p. 192 ad fin.; S.B. p. 199.

but does not actually see the door. He then sees a porter, who gives him a letter professing to come from a friend two hundred leagues distant. 'To consider these phenomena of the porter and the letter in a certain light,' he goes on, 'they are contradictions to common experience, and may be regarded as objections to those maxims which we form concerning the connexions of causes and effects.' For instance, when I have heard that particular sort of creaking sound in the past I have always seen a door opening. That sort of auditory impression has been constantly conjoined with that sort of visual impression. And I have accordingly formed the 'maxim' or rule that whenever the one occurs the other occurs as well. But on this occasion I hear that kind of noise without seeing any door open; the auditory impression occurs without its customary visual companion. My rule then seems to be contradicted, or refuted. Again, from previous experience I have formed the rule that any human being who gets into a first-floor room must come up the stairs. How then has the porter managed to get here? I did not observe him coming up the stairs; I was not observing any stairs at all at the time. It looks as if my rule were false. For here is somebody who apparently has arrived without coming up the stairs. Lastly, previous experience tells me that letters can only pass from one place to another when they pass through intermediate places, and when there are 'posts and ferries' to convey them. But in this case I have observed no intermediate places, nor indeed any place but this which I am in; and certainly I have observed no posts and ferries. Here, again, my rule, my customary expectation derived from the constant conjunctions in my past experience, seems to be refuted.2

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Now there is one way in which I can save my rules from refutation. All I have to do is to suppose that objects can exist and events occur when I am not observing them;

i.e. that my fragmentary sense-data are continued into unsensed sensibilia. 'And this supposition,' Hume goes on, 'which was at first entirely arbitrary and hypothetical, acquires a force and evidence [evidentness] by its being the only one upon which I can reconcile these contradictions, viz. the contradictions between my established rules and the present apparently contrary instances. By thus 'supposing the continued existence of objects' and not otherwise 'I can connect their past and present appearances, and give them such a union with each other, as I have found by experience to be suitable to their particular natures and circumstances', i.e. I can save my established causal maxims from refutation. And Hume points out that there is 'scarce a moment of my life' when I do not have occasion to do this.1

It is now easy to see why this process of imaginative supplementation cannot be a case of ordinary causal reasoning, though it may resemble it 'as being derived from custom and regulated by past experience'. It is something which ensures the truth of the very causal rules upon which such reasoning depends. It is not itself causal reasoning, because it is something more fundamental, without which causal reasoning would not stand; for without it all the major premisses used in such reasoning would be utterly precarious, and any drowsy nod would refute them.

Hume puts this point in a curious way of his own, in conformity with his view of Causality and of causal reasoning. According to him, causal reasoning is nothing but a customary transition of the imagination, and the causal rule (which I have called its major premiss) is simply the expression of such a custom. But in the present case, e.g. that of the cat or the porter or the creaking door, we find ourselves imagining a regularity greater than that which we actually observe; and this cannot be accounted for by mere custom. The difficulty is, he says, that 'since nothing is

¹ E. p. 190; S.B. p. 196 (my italics).
² E. pp. 190-1; S.B. pp. 196 ad fin.-197.

¹ E. p. 191; S.B. p. 197 (my italics).

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really present to the mind besides its own perceptions, it is not only impossible that any habit should ever be acquired otherwise than by the regular sequence of these perceptions, but also that any habit should ever exceed that degree of regularity'. We may try to make his meaning clearer as follows. When we fail to observe some regular sequence to which we have been accustomed—as when we see the cat first here and then there, without seeing it pass through any intermediate places—we should expect that our custom of believing the movement of cats to be continuous would be broken, or at any rate that our confidence with regard to it would be greatly weakened. We should expect that we should alter our rule, and believe in future that most cats move continuously, but some are annihilated at one place and then re-created at another. But this is not at all what we actually do. On the contrary, we obstinately refuse to modify our original rule. We insist upon preserving it, by supposing that this cat too moves continuously although we have failed to observe it doing so; and the confidence which we feel in our rule is not diminished in the least. Obviously this procedure puts the empiricist philosopher in an extremely awkward position. It almost seems as if the mind were confronting experience, in Kant's words, 'not as a pupil but as a judge'.

HUME'S THEORY OF

To solve this difficulty, Hume introduces a new element in Human Nature. We may call it the inertia of the imagination (unfortunately he himself gives no name to it, perhaps because he did not see how important it is). "The imagination', he says, 'when set into any train of thinking, is apt to continue even when its object fails it, and like a galley put in motion by the oars, carries on its course without any new impulse.' And again: 'as the mind is once in the train of observing a uniformity among objects, it naturally continues till it renders the uniformity as complete as possible.'2 He quotes as a parallel a process which he described earlier in the Treatise in the course of his discussion of equality of size. Starting from the direct comparison of one 'whole united appearance' with another, we pass from this to juxtaposition and the use of measuring-rods, which gives us a more accurate standard of comparison; and from this, to the use of more finely graduated measures, which give us still a better one; and then to the use of other measures more delicate still. So far we remain within the sphere of observation. We do actually apply these more and more delicate means of measurement, and observe the results. But then the imagination, surveying this progressive improvement in our standards, proceeds to complete the series by postulating a perfect standard of equality, which is to be such that it can be corrected by nothing whatever. And with this we have passed beyond the sphere of the observable altogether. For any standard which we apply or ever could apply would, of course, be liable to correction by a better one.1

Let us consider this Inertia Principle a little farther. It may be objected that Hume has no need to introduce anything so curious and questionable. The problem to be solved is, how a habit of the imagination can extend itself beyond the regularity which we actually observe. Now it might be suggested that this extension is inherent in the nature of habit, and therefore needs no special explanation

¹ E. p. 191; S.B. p. 197 (my italics).

² E. p. 102; S.B. p. 198 (my italics).

¹ Part II, Section iv (E. pp. 52-4; S.B. pp. 47-8. In Selby-Bigge's edition, the interesting paragraph beginning 'There are many philosophers who refuse to assign any standard of equality' is to be found in the Appendix, p. 637). Further discussion of this curious and interesting theory would be irrelevant here. But we may just mention three points in passing: (1) Hume does not sufficiently distinguish the concept of equality from the standard or criterion by which we decide that two things are equal. This extrapolatory process of the imagination only concerns the standard; the concept might still be directly abstracted from sense-given instances. (2) He does not notice that all estimations of equality—and not merely the first rough one are derived from direct comparisons of sense-impressions, or 'whole united appearances'. (3) He does not see that when we profess to be measuring the same things first by one method and then by another, we are really comparing different pairs of sense-impressions.

at all. Is it not the very nature of a habit to persist beyond the conditions which gave rise to it, and even to persist in the face of circumstances which, if they had been present at the start, would have given rise to a habit of precisely the opposite kind? Let us first consider habits of behaviour. If I give up wearing a wrist-watch and take to keeping my watch in my waistcoat pocket, I still find myself turning back my sleeve to look at my wrist when somebody asks me the time. Is not this very like imagining the unseen door when I hear a squeaking sound? In the same way our emotional habits, for instance our habits of liking and disliking, have a notorious power of preserving themselves when circumstances have very greatly altered. If someone has often spoken harshly to me and I have come to dislike him, my dislike will persist even when he becomes mild and benevolent; whereas if he had been so from the first, my habit of dislike would never have come into being, and I should have formed the contrary habit of liking him. And to come closer to Hume's own problem, surely everyone knows that an habitual belief may persist in the face of contrary evidence, for instance the belief that all Englishmen are interested in Rugby football, or that no Scotchman is extravagant? What else is superstition but this, whether among savages or ourselves? Everyone knows, too, how such habitual beliefs can bolster themselves up by means of supplementary hypotheses which explain away the contrary evidence. Smith is as interested in football as anyone; he merely failed to see in the evening paper that there was to be a match to-day, and that is why he did not turn up. And in the case which concerns Hume here, we do not even have contrary evidence. There is a temporary cessation of favourable evidence; that is all. When we hear the squeaking noise, we do not see that the door is absent; we merely fail to see that it is there.

Thus (it will be said) the procedure of the imagination here does not need any ad hoc Inertia Principle to explain

it. If it 'continues when its object fails it' and 'carries on its course like a galley without any new impulse', this is simply the ordinary everyday inertia which is inherent in all habit. That we imagine a regularity greater than we actually observe is therefore no paradox; it is exactly what we should expect, and Hume is making a fuss about nothing.

Now if the habits of the imagination which Hume is here discussing are just habits in the ordinary sense of that word, if one's generalizations about sense-given regularities are precisely analogous to one's habit of turning back one's alceve when somebody asks one the time, it is difficult to see how this objection can be answered. But, of course, it may be questioned whether Hume's 'habits (or customs) of the imagination' really are habits in the ordinary sense of the word; or at least whether these fundamental habits are rightly called so-namely the ones without which we should never be conscious of an Order of Nature at all. He certainly tries in some places to distinguish them from mere funcies and superstitions. For instance, he says at the beginning of Part IV, Section iv, in a passage to which we have already referred: 'I must distinguish in the imagination betwixt the principles which are permanent, irresistible and universal; such as the customary2 transition from causes to effects and from effects to causes: and the principles, which are changeable, weak and irregular.' He proceeds to illustrate this distinction by the following example: 'One who concludes somebody to be near him, when he hears an articulate voice in the dark, reasons justly and naturally; though that conclusion be derived from nothing but custom. . . . But one, who is tormented he knows not why. with the apprehension of spectres in the dark, may, perhaps, be said to reason, and to reason naturally too; but then it must be in the same sense that a malady is said to

¹ p. 16, above.

Hume uses the words custom and habit as synonyms. We should probably say nowadays that a custom was something social (e.g. the custom of eating turkey at Christmas), whereas a habit belongs to a single individual.

be natural.' This doctrine concerning two different types or levels of imaginative process deserves a fuller examination than it has has commonly received from Hume's commentators. We cannot pursue the subject here. It is sufficient to point out that the habits or customs which concern us in the present discussion are at any rate very different from ordinary habits, and perhaps should not be called habits at all.

However this may be, it will suffice for the moment if we simply translate Hume's statements about the effects of Coherence into more ordinary language, and then see what becomes of his Inertia Principle. When we do so, we find that the process which occurs in the case of the unseen door and other fragmentary series of sense-impressions is a kind of argument from analogy, as we said above. B has always been conjoined with A in the past: therefore here too A is probably present, though I only observe B. Now at first sight it may be thought that the only problem which arises here is just the general problem of Induction. (Doubtless this is intractable enough.) And it is true that this is the only logical problem which arises. But if we turn to consider the constitution of 'human nature', which, after all, is the chief subject of the Treatise, we reach a different result. First, we have to assume that there is in human nature an ultimate and not further explicable tendency to make inductions. But we also have to assume that there is something more, namely a tendency to persist in our inductive generalizations even in the absence of favourable evidence; i.e. a tendency to continue supposing that there is order in the world even when order is not at once obvious, and a consequent tendency to form hypotheses such that (if they are true) this order extends as far as possible. Whereas there might well be a conscious being who could make inductions and argue analogically as we can, but had no tendency whatever to extend his inductive generalizations

¹ E. pp. 215-16; S.B. pp. 225-6.

beyond the cases to which their application was manifest and easy; and who when he came across apparently contrary evidence simply gave them up, without any attempt to convince himself that the contrariety was only apparent. Thus when he came across an instance like Hume's of the unseen door, where the squeaky impression occurs without the visual impression hitherto conjoined with it, he would simply say, 'Very well then, I was mistaken in believing that those two types of event always go together. There may be no rules at all about the occurrence of noise-impressions; I don't know what to think about it.'

Consideration of this hypothetical being (so different from ourselves) does seem to show that in human nature what Kant called an Idea of Reason, or something like it, is at work; i.e. a tendency not merely to generalize but to extend our generalizations as far as possible, even when evidence is lacking, and to continue searching for order even when at first sight we fail to find it. And Hume's Inertia Principle seems to be simply his way of referring to this Idea of Reason in his own peculiar language. If this is what he means, we must confess that he is thinking of something both real and important.

But, of course, it still remains possible that there was no need for him to introduce the Inertia Principle at this stage of his argument; and we notice that although it plays so important a part in the discussion of Coherence, in his discussion of Constancy he says nothing about it at all. It certainly seems rather curious that Constancy and Coherence should affect the imagination so differently. Accordingly we will now reconsider these two characteristics for ourselves, leaving Hume's exposition on one side for the present. Perhaps we can find a simpler theory which will cover them both.

(Hume himself holds that Constancy is a certain sort of resemblance between individual impressions—resemblance

across a gap, as we might call it—whereas Coherence is a certain sort of resemblance between series of impressions. I want to suggest that really both alike are resemblances between series. If this is correct, we may hope to show that Constancy and Coherence, though he himself treats them as irreducibly different, are in fact sub-species of a common principle. In both Coherence and Constancy, we start, I think, with a continuous series of impressions which is frequently repeated. This often-repeated series constitutes a sort of standard or model to which subsequent discontinuous series are compared. The imagination then proceeds to complete these broken series, to fill up the gaps in them by assimilating them to the continuous series.

Thus in both cases alike we have first a continuous series, frequently repeated, and then a number of interrupted series resembling it. The only difference between Constancy and Coherence is this. In the case of Constancy, the original continuous series is a monotonous one; it is of the form $A_1A_2A_3A_4A_5$, where all the items resemble each other very closely. Whereas in the case of Coherence, the original continuous series is of a variegated sort; it is of the form ABCDE, where the items differ from each other in their qualities or in their spatial relations or in both. (As we'saw before, Hume forgets that even where the view 'remains the same' for a long period there is really a series of sense-impressions continuously succeeding each other, though they all happen to be qualitatively alike.)

Now wherever we have such a situation as this—a frequently repeated continuous series, of whatever sort, and then a number of interrupted series resembling it—a very important characteristic is present for which we need a special name. I am going to call this characteristic Gapindifference; this is short for 'indifference to the occurrence of gaps'. Gap-indifference is the generic characteristic of which both Constancy and Coherence are species. It is a characteristic of certain series of impressions; and it is its

presence or absence which leads the imagination, in Hume's own language, 'to attribute objects to some impressions and to deny them to others'. And whether this characteristic takes the form of Constancy or Coherence, the imaginative procedure is essentially the same; it is a passage from an observed partial resemblance to a postulated complete one. In both cases alike, in Constancy no less than Coherence, the resemblance is between series of impressions, namely between a broken series and a complete one. Resemblance between individual impressions within the same series is irrelevant. Again, in both cases alike (not merely in the case of Coherence, as Hume thinks) the imaginative process could be represented as an argument from analogy. It is something closely akin to that passage 'from an idea to its usual attendant' which occurs, according to Hume, in causal arguments.

We must now try to give a somewhat fuller account of this all-important characteristic which we have named Gapindifference. It is clear at once that a series of impressions cannot be called gap-indifferent if it is isolated. It can only be called so if it belongs to a certain sort of group of series. What sort of group? It will be easiest to answer this question if we consider how we become aware of the existence of such a group. In the process of becoming aware of it we may distinguish the following stages: (1) We start, as remarked above, by experiencing a continuous series which is frequently repeated. This is what we called just now the standard series. It might be either of the monotonous type AAAAA or of the variegated type ABCDE. (2) Later we meet with another series differing from the standard one only in the absence of a single item, say A₂ or C, and the presence of a gap in its place; otherwise all the items occur as before, and in the same old order. Thus the form of this second series will be $A_1 cdots A_3 A_4 A_5$ in the monotonous case, and AB . . . DE in the variegated case. (3) Then we might have still another series in which the

interruption occurred in a different place; here a different item would be absent, say A_4 or D, this again being replaced by a gap. The form of this series would be $A_1A_2A_3 \ldots A_5$ in the one case, ABC... E in the other. (4) In still other cases the gap may be longer, and several of the usual items may be missing; but the others still occur as before; as for instance $A_1 \ldots A_3 \ldots A_5$ or AB... E. Or of course the gap may be longer still.

When we consider these cases together, we have before us a number of interrupted series which all have something in common. We find in all of them what we may call a fragmentary resemblance to a certain standard continuous series. The interruption occurs now at this place, now at that, and it may be longer or shorter; but in all the cases the resemblance is there. In virtue of this resemblance, a group is formed, consisting of (1) the standard series, (2) the various interrupted series which have a fragmentary resemblance to it. And any series which is a member of such a group may be called gap-indifferent. Or, again, we may put the matter thus: a gap-indifferent series is a series of impressions such that the occurrence of a gap in any part of it does not prevent the other parts from occurring in their usual order and with their usual qualities. (Here the reference to a group is contained in the word usual. In an isolated series nothing is either usual or unusual.) The series is observed to end in the same old way both when it is interrupted in the middle and when it is not. And it is indifferent not merely to the occurrence of gaps but to their temporal distribution. The interruption may occur at any point you please between the beginning and the end. You may shut your eyes when the train is half-way across the bridge, or a quarter of the way across, or threequarters; the other parts of its motion are still observed as usual, however your eye-shuttings are distributed in time, and in due course it is observed to arrive at the station.

Before going on to consider how the imagination reacts to situations of this sort, I want to insist that the frequent occurrence of gap-indifference is just an empirical fact about our sense-experience. I call it an empirical fact, first because it is something which we discover, and do not in any sense 'make' or 'construct' or 'postulate'-whatever 'makings' or 'constructings' or 'postulatings' it may lead us into, and whatever these latter words may mean. And secondly, so far as we can see, it is a perfectly contingent fact, which might quite well have been otherwise: a fact, that is, whose absence would have entailed no contradiction whatever. Our sense-experience might have been a mere phantasmagoria, containing no gap-indifferent series at all. Of course, if it had been, we should have had no consciousness of a material world. But that we do have such a consciousness is again just a contingent fact. If Kant is right in maintaining that without it we should have had no selfconsciousness either, nevertheless it is just a contingent fact that we do happen to be self-conscious. This only sounds queer because usually when we speak of contingent facts we are thinking of facts within the material world. It is a contingent fact, we say, that this book should now be lying on this table; for the causal laws and the collocations, which according to our ordinary opinion together necessitate it, are themselves only contingent. Of course, in saying this, we do usually assume the existence of a material world of some sort, and accordingly assume also that we have some sort of consciousness of it, whatever the correct analysis of this consciousness may be. Yet, after all, there is no contradiction in the proposition that no material world exists whatever. Again there is no contradiction in the conjunctive proposition that the material world exists but human beings have no consciousness of the material world, and therefore (if Kant is right) no self-consciousness either. If so, the fact that the material world exists is a contingent fact, and so is the fact that we are conscious of the material

world; and so likewise is the fact that many of our senseimpressions happen to occur in gap-indifferent series.

Now, of course, it is true that this fact could not have been discovered by sensation alone. To discover it, we need memory and comparison as well. And no doubt Hume's account of these two forms of apprehension is inadequate, for he has a notorious tendency to reduce all apprehending to sense-acquaintance and acquaintance with images. Moreover, memory and comparison are processes difficult or impossible to reconcile with the account which he gives of the self in the section on Personal Identity. A merely serial self, such as is described to us in that section, by no means possesses that unity of consciousness which these processes seem to require; or if they do not require it, we need to be shown why they do not, and Hume has not himself shown us this.

But these objections, though important in their own place, are not objections to Hume's theory of Perception and of the External World, which might be substantially correct, even if other parts of his philosophy err on the side of over-economy. Further, even if his theory of perception should itself prove untenable, the empirical fact of gap-difference remains. It is, I think, one of the most important facts about our sense-experience that gapindifferent series frequently occur in it, though no philosopher before Hume had noticed this fact, and very few since. It is a fact which any theory of perception, whether Humian or anti-Humian, must recognize. For I think Hume is at least right in maintaining that if there had been no gap-indifferent series of impressions, or if we had not been aware of their gap-indifference, then we should never have come to hold the determinate beliefs about material objects which we do hold; indeed, it would never have occurred to us that there is a world of continuing and mindindependent entities at all.

We may now claim to have unified the two principles of Constancy and Coherence under the common head of Gap-indifference. If we please, we may say that Coherence is the more fundamental of the two, and that Constancy is as it were the limiting case of Coherence, where the qualitative difference between the successive impressions reaches a vanishing point and the whole series is perfectly monotonous. As we have seen, this is not Hume's own opinion. Not only does he hold that the two principles are mutually irreducible; he also thinks that, of the two, Constancy is by far the more important—so much so that he ignores Coherence altogether in the later part of the section.

Why should he think this? We might be able to discover the answer if he had told us why he is afraid that Coherence is insufficient by itself. But unfortunately he does not. Perhaps the reason for his fear is that he wants a permanent background for change. When I return from my walk and find my fire gone out, it may be said that I only manage to connect my present grey impression with my former red and sparkling one because the contexts of the two impressions are so similar. The fire-place looks very much as it did two hours ago when the fire was burning brightly in the midst of it, and so do the walls and furniture of the room. Thus (it might be argued) I must first be aware of the constancy of the context-impressions before I can be aware of the coherence of the fire-impressions whose context they are. The recognition of Coherence would thus presuppose the prior recognition of Constancy. whereas Constancy can be recognized directly—by a direct comparison of later impressions with earlier ones. And so Constancy would be more fundamental than Coherence.

But if this was Hume's reason for thinking Constancy

¹ Treatise, Part iv, Section 6.

^{&#}x27; 'Whatever force we may ascribe to this principle, I am afraid it is too weak to support alone so vast an edifice, as is that of the continued existence of all external bodies' (E. p. 192; S.B. pp. 198-9).

more important, he seems to have been mistaken. Even the contextual impressions are not exactly alike. As we have pointed out earlier, two impressions with a gap between them very seldom are; and they are still less likely to be so when each of them is very complex, as in the present example. The light, for instance, has altered since I was last in my rooms. It was full daylight then, and it is twilight now. The cat which was sitting on the hearthrug is now nowhere to be seen. My books and papers have been tidied up, so that the visible gestalt-quality of the room is by no means what it was. Thus there is the same difficulty about the context-impressions as about the fire-impressions themselves, if difficulty it be. In their case, too, there is a difference of quality between then and now, though no doubt the difference is smaller. And in fact we treat both cases alike. In both alike we have to compare to-day's broken series with a past continuous one. In both alike the crucial relation is resemblance of series.

The most we can admit is that Gap-indifference is more easily recognized where the series is relatively monotonous. Where one impression is followed after an interval by another very like it, so that the second readily reminds me of the first, it is easy for me to notice that a 'gappy' series has occurred: to pick out that particular file, so to speak, from the complex procession of impressions which passes before my mind. And of course, until I do pick it out, I cannot compare it with continuous series presented in the past, and so fill up the gap in it by imaginative supplementation. This is the real importance of that resemblance between individual impressions upon which Hume lays stress. It makes possible the selective 'synthesis' (or syngnosis) by means of which we discover that a gappy series of a particular sort has occurred. But the resemblance need not be specific resemblance; it need only be that generic resemblance which is entailed by violent contrast, as when battered fragments of egg-shell remind me of the complete and intact egg.

We may now mention one or two subsidiary points which illustrate the importance of the notion of Gap-indifference. First, the introduction of this notion enables us to remove a very curious objection which may be brought against Hume's own account of Constancy. It concerns what might be called *objective* gappiness, where the interruptions of our observation are as it were superposed on an interruptedness which is inherent in the physical process observed./In the case of Constancy, as he describes it himself, we are confronted with an interrupted series of the form A . . . A. The later A reminds us so strongly of the earlier one that our first impulse is to ignore the gap between them altogether; then, finding that we cannot on reflection do this, we postulate other unsensed A's to fill it. But now suppose that at 1.30 p.m. I see Jones eating cold beef, and at 7.30 p.m. I see him eating cold beef, not having observed him at all in the interval. Ought I not to conclude that he has been eating cold beef continuously all through the intervening six hours? Or again, at 8 a.m. as I go out of town I hear the sound of a siren, and at 6 p.m. as I return I hear a very similar sound. Why do I not conclude that the siren has been blowing all through the day? If close similarity between two individual impressions is all that is required, surely I must draw these conclusions? But it is certain that I do not.

Why do I not draw them? Obviously because on many previous occasions I have seen Jones—or other very similar beings—between lunch-time and dinner-time, and have noticed that he was doing quite other things, not eating cold beef all the while. In fact, I do not just consider this present interrupted series A . . . A in isolation and fill up the gap in it forthwith. What I do is to compare this present series with other series which are like it in respect of their beginnings and endings, series such as ABCDA,

¹ pp. 33-4, above.

AXYZA, and so on. And because I assimilate it to these previous series, the unsensed sensibilia which I interpolate to fill up the gap in it are not of the A-sort (as on Hume's own account they ought to be) but of various other sorts. I imagine not that Jones was eating cold beef all the afternoon, but that he was doing all sorts of other things, such as he did on previous occasions when I stayed in and watched him continuously. And likewise with the siren: on previous occasions I have been in town all day, and have found that the intervening hours were occupied not by one continuous siren-blast, but by a variegated pandemonium of noises. So the intervening sound-sensibilia which I now postulate to fill up the gap in to-day's auditory experience are not siren-noises, but noises of various other sorts.

It is strange that Hume himself did not see this difficulty and so made no attempt to solve it. The reason probably is that he was considering only a restricted class of cases, as his examples show. He was thinking of cases where the gap is very short ('when I lose sight of them by shutting my eyes or turning my head', E. p. 189; S.B. p. 194); and further, where the objects observed, to use common-sense language, are not changing appreciably, but are such things as 'mountains, houses and trees . . . my bed and table, my books and papers' (ibid.). Here we do postulate that the interval between the first A and the second was filled by other A's. But the reason why we do so is that even here we are assimilating the present broken series to past continuous ones. Only it so happens that the continuous ones were of the monotonous sort. When I keep my eye fixed on my books and papers and do not blink, the continuous series which I sense consists of items which resemble each other very closely. Curiously enough, it seems not to have occurred to Hume that the end of a certain series might be indistinguishably similar to its beginning although its middle part is very different from either. Indeed, this sometimes happens even with very short series, as when

a signalling-flag is moved from right to left and back again and then remains at rest; here a mere blink could obliterate the entire movement, leaving only two indistinguishably similar impressions.

Secondly, the importance of Gap-indifference can also be illustrated, paradoxically enough, by reference to a sphere from which Hume himself would exclude it, the sphere of impressions of reflection (i.e. data of introspection). Thanks to the labours of Freud and others, certain gap-indifferent series have been discovered in this field too. We often, for instance, introspect a continuous series of the following sort: feeling of humiliation, resentment, deliberation, hostile act. But sometimes we find that the feeling of humiliation is succeeded after an interval by the hostile act, although we did not introspect any resentment or any deliberation coming between them. We just find ourselves performing the hostile act (e.g. uttering a peculiarly unkind remark) quite suddenly, while we are engaged in attending to something else, and we are not introspectively aware of any process leading up to it: much as we see the cat entering the room and then later suddenly find it sitting on the sofa, without seeing it move from the one place to the other. Likewise in wish-fulfilment dreams and day-dreams, and the analogous types of hysterical behaviour. The states of affairs which we then imagine, or act out in dumb-show supposing we are hysterics, are very much like what we imagine when we are introspectively conscious of a wish and then introspectibly set ourselves to consider its fulfilment. For these reasons, we are nowadays prepared to admit that mental processes can continue in being during periods in which their owner is not introspectively aware of them. In Hume's language, we attribute a distinct and continued existence to some at any rate of 'our passions and affections', as well as to the impressions of sight and touch. Now Hume himself explicitly says that we do not attribute a distinct and continued existence to our passions and

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affections,¹ and since in fact we do, this seems to be a serious objection to his theory. But when we reflect upon the circumstances which lead us to attribute a distinct and continued existence to them (circumstances unknown or unnoticed by Hume himself),² we find that the apparent objection is really a striking confirmation of his thesis. For what has led us to postulate their distinct and continued existence is precisely the fact that some series of passions and affections are gap-indifferent.

Thirdly, we may notice that the notion of Gap-indifference applies to spatial complexes as well as to temporal series. Thus in our schema (ABCDE, A...CDE, AB...DE, &c.) ABCDE might be a complex of simultaneous and spatially adjoined visual impressions, such as I am aware of when I have an uninterrupted view of a mountain. This view might then be interrupted by the intrusion of some obstacle—a wisp of cloud, say, or a large raven flying in front of me—which cuts off now one part of it and now another. But whichever part is cut off, I find that the remaining parts preserve their original qualities and spatial relations. In that case the whole complex is indifferent to spatial gaps, and I shall take it to be spatially continuous despite these interruptions. I shall assume, for instance, that part B still remains in existence, although for the

moment I do not see it but see the wisp of cloud instead. In the same way, I assume that the wall is spatially continuous behind the pictures and cupboards which cut off my view of various parts of it, and when L see what looks like a cat's tail protruding from behind the sofa, I assume without difficulty that the rest of the cat must be there.

We may now return to the main thread of our inquiry. Hume's problem is: what characteristics must senseimpressions have if they are to be regarded as constituents of continuing and mind-independent objects? And this is equivalent to asking: what characteristics must senseimpressions have if the imagination is to supplement them by unsensed sensibilia? His answer is: they must have Constancy or Coherence. We have tried to amend and at the same time elucidate this answer by saying instead that they must be Gap-indifferent. But we have still to explain how their Gap-indifference affects the imagination, and how the supplementation comes about. Hume's own explanation is vitiated by his mistaken notion of Constancy, and his consequent misconception of the relation between Constancy and Coherence, which he treats as irreducibly different.

It is tempting to say that the process is one of association by contiguity. In A... CD, A and C (it may be said) remind me by contiguity of B, which usually comes between them. And then I imagine that B does actually come between them, though in this case I have not sensed it. This account of the matter is not exactly false; but it errs both by obscurity and by omission. In the first place, there is a kind of Type-token ambiguity about it. When we say that B usually comes between A and C, we are using these three symbols in the type sense. If we use the symbols 'A' and 'C' in the token sense, to mean this present A-ish impression and this present C-ish impression, it is not true—it is not even sense—to say that B usually comes

¹ 'Our pains and pleasures, our passions and affections, which we never suppose to have any existence beyond our perception' (E. p. 188; S.B. p. 194). The point has already been briefly referred to on pp. 28-9, above.

It is not strictly true to say that they were entirely unnoticed by Hume himself. For at the beginning of Part iv, Section 3 (Of the Ancient Philosophy) he gives a half-serious approval to the recommendations of 'several moralists' who tell us to examine our dreams 'with the same rigour that we would our most serious and deliberate actions. Our character is the same throughout, say they, and appears best where artifice, fear, and policy have no place.' He then suggests that an examination of the fictions of the Ancient, i.e. Scholastic, Philosophy might be equally instructive. Obviously if he seriously accepted the opinion of these moralists he ought to have revised what he says about our passions and affections in the section on Scepticism with regard to the senses. (To what moralists was he referring? Can he have been thinking of the psycho-analytical passage at the beginning of Book IX of Plato's Republic?)

between them. The whole point of the situation is that there is not a present B-ish impression between them; and even if there were, it would not be sense to say that it usually came between them. The word 'usually' can only be applied if one uses the symbol 'B' in the type sense. Secondly, supposing this ambiguity cleared up, the explanation by Contiguity omits a very important point.1 This is that the process works so to speak by wholes. It is the series A... CD which reminds me of the series ABCD. Every series, or other complex, has a characteristic pattern or form-quality (the monotony of the monotonous series A₁A₂A₃A₄ is itself a form-quality) and this is a crucial factor both in the association and in the consequent supplementation. The form-quality of the broken series A . . . CD approximates to, but does not quite reach, the form-quality of the complete one ABCD, being as it were an incomplete or imperfect version of it. And that is why the broken series reminds me of the complete one; it is because the one series as a whole resembles the other as a whole. The imaginative supplementation which follows is to be explained on the same principle. The imagination proceeds to assimilate the broken series to the complete one, so that the same form-quality may be present in both. And in doing this, it has to complete the incomplete one, by postulating the existence of supplementary items which were not in this case sensed. Thus if we are to use the language of Association at all, we ought to say that the association is by resemblance rather than by contiguity; only the resemblance is between series, not between individual impressions. It might be better, however, simply to call the process assimilation of series, or assimilation of complexes.

It may be objected that we are here thrusting upon Hume a theory, namely the Gestalt-theory, which is utterly alien

to him. Does not every first-year undergraduate know that Hume's psychology was atomistic? To this there are two answers. First, even if Hume's psychology was wrong, his theory of knowledge, or, if you prefer, his analysis of matterof-fact propositions (such as 'this is a table'), might still be substantially right. He might be right in resolving our consciousness of material objects into sense-acquaintance plus imaginative supplementation, even if his account of the occasions upon which that supplementation occurs and of the precise manner of its occurrence was mistaken. But secondly, it is not at all clear what the word 'atomistic' means. I suspect that whatever it may once have meant, it is now for the most part a term of abuse, and for the rest a muddle. Sometimes an 'atomist' seems to be a man who denies that we ever apprehend necessary connexions between particulars. Let us call this sense L. But sometimes he is a man who denies that we ever apprehend sensible continuity. Let us call this sense 2. These two senses are quite different, and accordingly we must say that the word 'atomism' has two quite different contradictories. If the '-ism' terminology pleases, we may call them respectively Connectivism and Continuism. These two positions are logically independent: the truth of one does not entail either the truth or the falsity of the other. But the Anti-atomists seem to suppose that they are not independent. In particular, they seem to suppose that if Continuism is true Connectivism is ipso facto true as well. And once this argument is clearly stated. we see that it has no force at all. It is simply not the case that when I apprehend any continuous sense-given whole possessing a form-quality, I am apprehending that the occurrence of one part of that whole necessitates or entails the occurrence of the other parts. This 'short way with Hume' is altogether too easy. Incidentally we may notice that neither sense of the word 'Atomism' seems to have much to do with Psychology. The addition of the adjective 'psychological' merely makes confusion worse confounded.

¹ Both the ambiguity and the omission were in effect pointed out by Bradley in his criticism of the traditional doctrine of Association in *Principles of Logic* (Book II, Part II, ch. 1), though the language which he uses is quite different.

Now it must of course be admitted that Atomism in sense 2 (that of which Continuism is the contradictory) is certainly false. But then there is no reason to think that Hume accepted it. If he did, why did he explicitly assert the existence of complex impressions?¹ It is true that he also asserted that there are minima visibilia. But the two assertions are perfectly consistent. It may both be true that we sense a complex as a whole—form-quality and all and also true that the complex contains a finite number of sensibly-distinguishable parts, which are such that no part smaller than they are could be sensed by us. As for Atomism in sense 1 (that of which Connectivism is the contradictory), no doubt Hume was an atomist in this sense. But may it not be that Atomism in this sense is a very good thing? Perhaps it is not the last word on the matter; Hume himself did not think that it was. But it may be a very important first word. At any rate, it cannot be refuted by mixing it up with something quite different which happens to be obviously false: something too which Hume never held, and which even if he had held it would have been irrelevant to his most important contentions.

Thus we are perfectly entitled to maintain that the process of imaginative supplementation consists in the assimilation of one sense-given complex to another in accordance with the principle of Gap-indifference. This statement is both plausible in itself, and consistent with Hume's other theories. But it needs to be amplified. We have to distinguish two rather different sorts of assimilation (and consequently of supplementation). We may call them respectively 'assimilation by convergence' and 'assimilation by superposition'.

In assimilation by convergence the complete or standard series is actually given to us in sensation. Indeed, it is given repeatedly, so that we become familiar with it. And subsequent interrupted series, interrupted in various ways

and to various extents, at once recall the <u>standard</u> series to our minds; they are then assimilated to it by the imagination, each undergoing that kind and degree of supplementation which its particular kind and degree of 'gappiness' requires. Here the whole set of series taken together constitutes the sort of group which Professor Broad calls a *unity of centre*; the standard or complete series is the 'centre', and the inferior or interrupted series all have to it the common relation of fragmentary resemblance. And the assimilation process is so to speak a one-way process, running from the inferior series to the standard one.

But it seems that there is also another process of a more subtle kind. There may be a class of cases where no continuous series is actually given in sense at all, but only a number of diversely interrupted ones. Here then there is no already familiar standard series to which subsequent ones can be assimilated. The thought of such a standard series only emerges as a result of the process of assimilation itself; it is itself a product of the imagination's activity, and not a datum from which the activity starts. This is the process of assimilation by superposition; and thanks to it, we are far less at the mercy of blinks and 'drowsy nods' and other interruptions than we should otherwise be.

Thus suppose I have never sensed an entire continuous series of the form EFGH. None the less it may be that I have sensed a number of interrupted series of the forms E. GH, EF. H, E. H, FGH, and so on. Then I shall tend to assimilate these variously interrupted series, not with a continuous standard series (for here I have not got one), but with one another. For they do have to one another the relation of partial resemblance, even though there is no one continuous series which they all resemble. Thus when taken together these series, unlike the others, form the sort of group which Professor Broad calls a unity of system. Correspondingly, the passage of the mind is here not a one-way but, so to speak, an every-way process,

¹ Treatise, Book I, Section 1 (E. pp. 12 and 13; S.B. pp. 2 and 3).

where each interrupted series reminds us, by resemblance, of all the rest. Then, thanks to this mutual recalling, the imagination will tend to assimilate them all to one another; and in doing so it will supplement each in the light of the rest. For the part which is missing in one, say in E. . GH, is present in one or more of the others, for instance in EF... H or... FGH; and conversely what is missing in the others is present in the one. Thus, for example, I may never have observed the whole movement of a man from one end of the quadrangle to the other; in every case, perhaps, I blinked or turned my head sooner or later before he had got all the way across. Still, in ever so many cases I have observed large parts of such a movement, and smaller parts in many more. And the intervals of nonvision occurred sometimes near the beginning of the process, sometimes near the end, sometimes in the middle; some were long, some short, some very short—no longer than the flicker of an eyelid. Thus any of these observations, interrupted though they all are, will remind me of any other; and I shall be easily led to the thought of the whole uninterrupted movement, though I have never actually observed it.

In this sort of assimilation the differences between the series are as important as the resemblances. It would not do if the gap always occurred at just the same point (say between F and H) and lasted for just the same time. For in that case the imagination would never be led to fill it. No mutual assimilation of the series could occur, for they would be exactly alike already. Nor would there be any source from which the filling could come—unless we had on some other occasion observed some complete and continuous series which could serve as a model; and in this case, ex hypothesi, we have not. Thus it is essential that the gaps should be variously distributed over the different series, sometimes occurring at one point, sometimes at another. In that case we shall be led to assimilate the series

to each other, and in doing so we shall be able to supplement each in the light of the rest.

We may put the point in a more striking way by saying that the distribution of the gaps must be irregular or random. By this I do not mean that they must be uncaused. (They would, in fact, usually be caused—so we believe1by physiological changes in the observer's body.) I mean that in relation to these particular series their distribution must be random. And this condition is actually fulfilled. There is no observed regularity or constant conjunction of the form 'whenever the visual impression E (or F or G) occurs, a gap occurs after it'. Or, to revert to our example of the man crossing the quadrangle, there is no observed constant conjunction of the form 'whenever I see a man reach the Keep off the grass notice, I cease to see him for the ensuing two seconds'. Now this randomness is important in relation to the procedure of the imagination. A regular sequence has an influence upon the imagination; it tends to be remembered, and the presentation of any one part tends to recall the other parts by which it has usually been accompanied. But if a sequence is non-regular, that very fact deprives it of influence upon the imagination; it tends to be forgotten almost as soon as it has occurred. I might indeed remember that on a certain occasion there was a gap after E. But that memory would at once be inhibited by the memories of other occasions when there was no gap at that point. On those other occasions there may indeed have been a gap somewhere else. But the memory of that will be inhibited in the same way. Thus just because of their random distribution the gaps tend to slip from our minds, and even at the moment of their occurrence they are hardly noticed. In this way, the mutual assimilation of the different series is facilitated. For they do all resemble

That belief, like other causal beliefs, only arises when the material world (of which our own body is a part) has already been constructed. At the present stage of our inquiry it is neither here nor there. Cf. pp. 7–8, above.

each other. The differences between them come only from the different distributions of the gaps. And because these differences have so little influence upon the mind, the resemblance works almost unopposed.

To confirm this account of the matter we may refer, following Hume's example, to the statements of the Vulgar. The ordinary unphilosophical person (and even some philosophers) would certainly say, if asked, that he had very often observed a man walking all the way across the quadrangle. But in fact it is almost certain that he never has observed this. In each case he almost certainly blinked at least once, perhaps several times, so that he never did observe the *whole* movement from beginning to end.

We have now described the two main types of imaginative assimilation and supplementation. The difference between them may be illustrated by the following rather crude analogy. Suppose we are presented with a number of mutilated versions of a Roman inscription. It may happen that we have somewhere a complete and unmutilated copy. If so, we 'restore' the missing parts of the mutilated versions by reference to the complete one to which they all have a fragmentary resemblance. (This corresponds to Assimilation by Convergence.) But we may not be so fortunate as to possess an unmutilated version. In that case we have to compare the fragmentary versions with one another: we fill in the missing part of one version by reference to one of the other versions in which that particular part happens to be preserved, and conversely. And so we 'construct' the complete text, which we do not possess. But of course we could not do this if each of the mutilated versions was mutilated in the same place, say the bottom left-hand corner. The mutilations must be irregularly distributed, so that the part which is missing in one version is present in another. (This second procedure corresponds to Assimilation by Superposition.)

I have tried to bring out the difference between these

two types of assimilation, but it must not be exaggerated. For at bottom it is a difference not of kind but of scale. In both cases alike, we have an assimilation of the discontinuous to the continuous. In both cases alike, some continuity is actually given in sense, and the data characterized by it serve as a standard or model. Only in the Superposition case there is less of it, since no one of the series is continuous throughout. Still, each of them is continuous in part: it is continuous up to the point where the gap comes and then again continuous after it. And we fill up the gap in series no. 1 by reference to the continuous part of series no. 2, and conversely. Thus in respect of its continuous part, each of the series serves as a standard or model to some of the others; and so the situation is fundamentally the same as in Assimilation by Convergence.

For the purpose of the present essay, the important thing about these imaginative assimilations is of course their supplementative side, the postulation of unsensed sensibilia to fill up the gaps. We must now consider this supplementation more closely. And first we must insist on its unreflective and half-conscious character. It is not that I notice a gap and wantonly stuff in an unsensed sensibile to fill it. When AB... D is presented instead of ABCD, I do not feel surprised or puzzled. I do not ask myself the question 'What can have happened to C, which usually comes between B and D?' and then suddenly propound to myself the brilliant hypothesis that C did exist in this case too, but happened to be unsensed. The postulation of unsensed sensibilia is no piece of metaphysical theorizing, and despite what Lord Russell says about Stone Age metaphysics, I cannot believe that it was so in the Stone Age either. It is something which we slip into without being aware of what we are doing, without any questioning, and without any reason asked or given. We do it in accordance

¹ B. Russell, Our Knowledge of the External World.

with a principle, in the sense that we only do it when the data actually presented are of a certain sort, namely when they are Gap-indifferent. But we are not ourselves aware of that principle, and could not state it if we were asked to.

Indeed, the process of assimilation is so rapid and automatic that even the gaps themselves quite often fail to be noticed; and then the difference between the actually sensed and the merely postulated, between the data and the supplements, is not noticed either. Perhaps this sounds strange. When a man observes a fairly prolonged process, or watches an unchanging object for some time, can he possibly fail to notice that he sometimes blinks and turns his head? And can he possibly fail to notice that, during those intervals, impressions of the relevant sort were not actually presented to him, but only postulated? Perhaps he cannot be wholly unaware of these things, but I think he can easily fail to attend to them or to remember them, and often does. In such cases the imagination does its work so well that it seems not to have worked at all. Nature's remedy for the fragmentariness of our data is so effective that we do not notice the disease.

Nor is this unreflective ignoration confined to the Vulgar. It is found even in learned philosophers, who have indeed pushed it much farther. They have spoken as if the Given never had any gaps in it at all, as if we never blinked or slept or turned our backs on one object to look at another, as if clouds never passed in front of the sun and cats never disappeared behind sofas. (I say they have spoken as if these things never happened, not that they have explicitly denied their occurrence. If they had tried to do that, they must have reflected and seen their mistake.) Having made this singular assumption, they then ask what right we have to 'transcend' the Given, and to postulate a material world 'behind' this supposedly continuous veil of sense-data. But if the Given were gapless, it would be sufficient in itself,

and no 'transcendence' of it would ever be thought of. It would constitute by itself a complete and continuous world, and why should we duplicate it by adding another? However, in actual fact the Given is not like this. Actually our data are full of holes and gaps, and that is what leads us to transcend them. Taken just as they come, they are a mere driblet of fragments with short continuous stretches here and there. And because they have failed to see what occasions the transcendence, these philosophers have also misconceived the character of it, at least as it occurs in the Vulgar. The transcendence takes the form not of postulating a world of somethings different in kind from senseimpressions (things-in-themselves, or Lockian objects with only spatio-temporal characteristics and causal properties); what we postulate is sensibilia, colour-expanses, sounds, and tactual processes, entities the same in kind as the impressions which we actually sense. Nor can it be said that we postulate a second 'world' of sensibilia additional to the 'world' of actually given sense-impressions. On the contrary, the Given is so fragmentary that until the postulation is done there is nothing before our minds which could be called a world at all. It is not a case of passing behind the veil, but of patching up the veil itself. And the only sort of 'behindness' which enters into the matter is the ordinary literal behindness. Behind the door I postulate the existence of the staircase which I do not now see, and I postulate the existence of the sun behind the clouds.

Yet we must not exaggerate the extent of this ignoration of gaps, even if it has had an unfortunate effect on some philosophical theories. Our consciousness of the external world is not wholly a sleep and a forgetting, an imaginatively induced inattention to the fragmentariness and interruptedness which pervades all our sense-experience. We do sometimes notice the gaps, and consequently the difference between the Given and the postulated supplements. When you ask me what there is behind the door I can

describe the contents of the next room to you, though the shut door has for the present interrupted my view of them. And when I do so, I am quite well aware that my experience of the room has been interrupted, and that I am describing entities not at the moment sensed. Later, I open the door and find that they are not exactly as I thought them to be. I am then comparing actually given sense-impressions with previously postulated sensibilia, and noticing the difference quite clearly.

Thus we are sometimes quite well aware that we have supplemented our data, though often we are not. What does conceal itself from us is the actual process of supplementing. We find that we have done it, but we do not notice ourselves actually doing it. Still less do we do it deliberately and with an intellectual effort, after a process of questioning and wondering (as when we look for a hypothesis and try to fit it to the facts). On the contrary, the utmost effort is needed to undo it, and to contemplate the data in all their nakedness and fragmentariness. And this artificial suspension of supplementation never lasts long. As Hume points out, carelessness and inattention soon reassert themselves, and we are at it again.

It is now time to consider an objection which may be brought against this whole account of imaginative supplementation. Perhaps some philosophers would suggest that what I have called supplementation merely consists in acting as if the gaps in our sense-experience were filled with unsensed sensibilia, and that we do not think of such sensibilia at all; when we are said to be observing some material object or process, nothing is before our minds except just the actually presented sense-impressions. Thus such phrases as 'imaginative postulation', and indeed the word 'imagination' itself, would be seriously misleading; for if we take them in anything like their ordinary sense, they would be utterly inappropriate to the processes which they profess to describe.

This theory, though disconcerting at first, does begin to look plausible on further consideration. It does have the great advantage of simplicity and economy. What Hume calls the imagination is a very mysterious faculty, working, as Kant said later, in the depths of the soul: whereas action—or so it seems—is something perfectly obvious and familiar, with no mysteries about it at all. And then we recall that Hume himself constantly talks of habits of the imagination. May they not really be just habits in the ordinary sense of the word, practical habits of a particularly fundamental and pervasive kind?

But there is a serious and I think fatal difficulty in this line of thought. In order to see what it is, we must state the Acting-as-if theory in its most radical form. Indeed, until we do so, it is of no epistemological interest. No one need deny that sometimes nothing except actually sensed sense-data is before our mind when we are said to be seeing or touching a material object; and that sometimes the only additional factor which is relevant is the acting as if certain sensibilia existed, without even entertaining the proposition that they do exist. Thus when I put down a tea-tray on the table, I am acting as if the surface of the table went on continuously underneath the tray, though a large part of it is no longer seen. And sometimes I do not consciously postulate that there is an unsensed sensibile filling up the gap in the interrupted table-impression; I merely sense the interrupted impression and act as if the unsensed sensibile were there. But the question is, whether the theory maintains that this is always so. Supposing it does not, it cannot claim to have given an analysis of what we commonly call our consciousness of material objects (which is what we are looking for). It has merely shown that this consciousness is quite often replaced by something else; which is a very interesting psychological fact, but nothing more. Or, at the most, it has shown that phrases like 'seeing a table' have a secondary usage, an 'acting-as-if' usage,

additional to the ordinary one; but of this ordinary usage it has given no elucidation at all.

Thus if the theory is to be of philosophical importance it must be taken in its most radical form. It must be applied to all the cases in which we are said to be seeing or touching a material object, not merely to some. In all such cases something is occurring over and above the sensing of actual sense-impressions. The theory must be taken to be offering an analysis of this additional factor, which was described above as the imaginative postulation of unsensed sensibilia. It may then be stated in either of two ways. Either it may say that the imaginative postulation of unsensed sensibilia just is the acting as if they were there; that is, that the second phrase is a clearer and less misleading substitute for the first. Or it may say that imaginative postulation of sensibilia does not occur at all; and that nothing does occur, over and above the sensing of actual senseimpressions, except the acting as if the sensibilia were there.

We may now put our difficulty by asking what the word 'acting' means. Must it not refer to movements of our bodies? But what is meant by 'movements of our bodies'? According to the Humian theory which we have been following, this phrase stands for certain interrupted series of sense-impressions (visual, tactual, and organic) whose gaps are filled in by the postulation of unsensed sensibilia. But according to the Acting-as-if theory, it can only stand for certain series of sense-impressions such that we act as if the gaps in them were filled. But then what is this acting as if? It too must consist in bodily movements, according to the theory, and then the problem arises again. And so we have a vicious infinite regress.

This criticism may appear unfair. It may be said that the theory is not concerned with the material world itself, but only with the observing of it; and that as to the nature of the material world (the analysis of material-object phrases)

it need take no view at all, and may be content with a common-sense attitude. If so, we cannot ask it to tell us what a bodily movement is; though we can ask it to tell us what observing a bodily movement is.

But in fact the answer which it gives to the second question is such that it is logically committed to giving a certain answer to the first; and then the vicious regress cannot be avoided. For how does the holder of the theory know that there are such things as bodily movements or actings-as-if? 'Bodily movement' is a material-object phrase; it stands for a certain sort of process in the material world. If all observation, including his own, consists in nothing but sensing and acting-as-if, how has he ever come to understand material-object phrases at all? Granted that his theory of observation is correct and exhaustive, he could only have come to understand them if 'material object' or 'material process' just means a series of sense-impressions such that on sensing them one acts thus and thus. If material-object phrases mean something more than this, he is precluded by his own theory of observation from knowing what it is. And then we do have to ask what 'acting' means; for after all it is only another materialobject word. And in attempting to answer this question, he will have to say that it stands for other sense-impressions such that on sensing them one acts in a certain way; whereupon the same question arises over again.

Thus the theory is incapable of saying what is meant by its crucial phrase 'acting as if'. And we can now see that it only appeared plausible because of a certain restriction of standpoint, which in one form or another is very common. We take up what one may call an external standpoint, as when we are observing the behaviour of some other percipient. It is then natural to say 'he is acting as if the gaps in his sense-experience were filled, and that is all that his so-called consciousness of matter consists in; all that he is actually aware of is the sense-impressions themselves'.

This statement looks plausible, and with regard to some persons in some cases it is probably true. But we forget that when we made the statement our own consciousness of the material world must contain much more than this. When we use the word 'he' and likewise such words as 'acting' and 'behaving', we are supplementing our own sense-impressions with imagined sensibilia. We ourselves are not merely sensing and behaving as if, and very much is before our minds besides the actually sensed senseimpressions. For instance, we could describe what sort of a three-dimensional shape 'he' (that body over there) has got, what a back view of him is like, and even perhaps what changes are going on in the muscles inside him. The same difficulty arises again when we proceed to describe his acting in more detail. For then we have to mention some material objects upon which he is acting: he is reaching out for the match-box, he is opening the door. Thus the analysis which we apply more or less plausibly to our neighbour will not apply to ourselves and to our own consciousness of matter, which alone makes that analysis possible. But some philosophers, especially scientifically minded ones, are so self-forgetful that they never notice this. This theory, then, is altogether too extrovert and hard-headed; and we can safely go back to Hume's.

We must now turn to another aspect of imaginative supplementation, namely that which is concerned with subjective successions, as Kant called them. Hume himself never discussed these, and it is often supposed by his critics that on his own principles he could give no account of them at all. He would be bound to hold, so it is said, that all occurrences of sense-impressions are objective successions; or perhaps that none are, which comes to much the same thing. I think this is a complete mistake. No doubt subjective successions are of great importance, and we may well criticize Hume for not seeing this. But no

great extension of his principles is required in order to accommodate them.

It is only necessary to introduce what I will call Succession-indifference as well as Gap-indifference. Let us put the point crudely to begin with. We sometimes sense series of impressions which are such that we get the same items in a number of alternative temporal orders. Let us consider what we call a number of views of the same building, which is the example taken by Kant. We can see first the north-west corner, then the south-west corner, and so on back to the north-west one. Or the series may start from the north-west corner again, and proceed the other way round, via the north-east one. Or it may include a view of the top of the roof, then of the front wall and the front door, then of some rooms inside, and then of the back wall. Or it may start at some different point, for instance a view of the kitchen window. (The usual symbolism for a set of series of this sort is ABCD, ADCB, BCDA, &c.; but to do justice to any concrete case we need many more symbols and a much greater variety of combinations.)

Now how will such a set of series affect the imagination? The answer is clear. The imagination in surveying the entire set is not tied down to any one order of succession. No one of them is appreciably more frequent than any other. And the memory of any one of these temporal orders will tend to be inhibited by memories of the rest. None of them is usual, for each of them is present in some cases and absent in some; so far as the temporal arrangement goes, there are no constant conjunctions. It is not the case, for instance, that B always comes after A, or even more often than not. There is no observed correlation between the qualities of the items and the order in which they are presented. And this non-correlation may be summed up by saying that the whole set is succession-indifferent. Thus so far as temporal order is concerned, no customary transi-

¹ Critique of Pure Reason, Second Analogy, A 190-3.

tion of the imagination will be set up. The imagination will be neutral as between all these temporal orders, and will not be led to prefer one of them above the rest. On the other hand, the items are spatially related. The given succession of one item on another is always spatially continuous, though the temporal order varies. A, for instance, is always spatially continuous with B, whether presented before it or after it, and likewise spatially continuous with D. Thus in respect to spatial order, the imagination is tied down. And so it will synthesize the entire set into one single spatial whole.

I have said that in a group of succession-indifferent impressions 'the same' items occur in different temporal orders. But this is not strictly accurate, unless we mean that the same universals are manifested in diversely-ordered series of instances. For one cannot sense the same impression on two different occasions, though one may sense two impressions of the same type. If I start with a view of the kitchen-window and then go round to look at the front door, and then come back to where I started, I do not come back to the same old impression with which I began. For by that time it is past and gone. What really happens, at the best, is that I sense a new one exactly like the old. It is true that I do in a manner 'identify' it with the old one, in that I postulate a continuous series of unsensed sensibilia filling up the interval between the two (the interval during which I was away inspecting the front door). But the identity here is the identity of a series, consisting of numerically diverse though qualitatively similar particulars. Moreover, it is postulated, not given.

This brings us to the curious interrelation which there is between Succession-indifference and Gap-indifference. The gaps in our sense-experience are often due to such causes as the shutting of our eyes, the withdrawal of our hands, to the interposition of some physical obstacle such as a cloud, or again to sleep or unconsciousness. But very

many, especially the longer and more glaring ones, are the result of subjective successions; where, as we say, we stop looking at one thing and go off to look at another, and then return later to the first-it may even be years later. We must not suppose, as some have, that subjective successions only occur when we are engaged in inspecting one single material object, such as the house of Kant's example. They occur equally when we pass from a view of one object to a view of another, for instance from a view of London Bridge to a view of Edinburgh Castle.1 I do not think that Kant himself made this sufficiently clear. If he had, it might have been easier for us to understand what he says about 'possible experience' and how the empirically real is to be defined in terms of it. He would say that a far-distant object A, which we have never observed and perhaps never shall, is none the less 'empirically real' provided that it falls within possible experience. He means, I think, that there must be a describable subjective succession, however long and complicated, which would bring us at last to a set of A-ish sense-presentations. In the case of Australia there is, in the case of the New Jerusalem there is not. And in general if any two objects are empirically real, there must be a describable subjective succession leading from sensepresentations of the one to sense-presentations of the other, and conversely. Incidentally, if this is the correct interpretation of Kant's doctrine, Hume would certainly agree with him, as on many other important points.

Thus where we have a succession-indifferent set of impressions, we always have a number of gap-indifferent series too. For instance, within the total succession-indifferent group ABCD, ACDB, CDAB, &c., we find the gap-indifferent series A...A...A. This becomes

¹ But indeed it is not easy to say what one single object is, and we may hold if we like that the front wall of the house is one object and the back another; or that the whole of Great Britain is one single object.

THE EXTERNAL WORLD

obvious if we ignore anything except the A's. But to indicate the numerical difference between them, we ought to write A... A'... A". Again, ignoring everything except the B's, we have the gap-indifferent series B...B'...B"; and so on. For example, if I pass repeatedly from one part of the college to other parts and back again, I experience a succession-indifferent group of views of the various parts, and at the same time a gap-indifferent series of views of any one part. In this way, a succession-indifferent group may be regarded as a set of interlocking gap-indifferent series. The gap in any one is occupied by actually presented members of the others; they indeed are what 'interrupt' it. Thus BCD fit into the gap between A and A'. They occupy the period of time which elapses between A and A', and they are spatially continuous with them and with each other. As we have pointed out before, a gap or interruption is not necessarily an absolute blank. We still say that there is a gap if the middle of the series, as it is actually presented to us, is irrelevant to the two ends. And we discover that irrelevance by comparing this series with others to which it has a partial resemblance, and finding that the middle may vary in many ways without making any difference to the ends.

In the cases so far considered, the gap-indifferent series by whose interlocking the succession-indifferent group is built up are all of the 'constant' type: they are of the form A cdots A' cdots A'', B cdots B' cdots B'', and so on. But this need not be so. As I pass from part to part of the college and back again, by various routes and in various orders, the different parts may be changing all the while; so that each time I return to a certain bit, say the porter's lodge, the view which I get is qualitatively as well as numerically different from the one I had when I was last there. Indeed, this is very likely to be so, especially if I was inspecting a large and complex collection of objects, for instance all the towns of England. By the time I made my second visit to

Brighton much water would have flowed under the bridges, and the town hall might have been burnt down or painted red.

Here then we have a more complicated situation. But the interlocking of which we spoke would still occur. We could still sort out our whole 'bag' of views into a number of gap-indifferent series. Only this time some or all the series will be of the variegated type, whereas in the previous and simpler case they were all of the monotonous type.1 Still, this will not prevent the gap in any one of them from being occupied by actually presented members of others. Moreover, there will still be spatial continuity, as there was in the previous case. As I pass from Brighton to Hove and from Hove to Shoreham, or from the porter's lodge to the chapel, the impressions which I sense are spatially continuous. And so the imagination will synthesize the entire group into a spatial whole, as before. But this time it will be a spatial whole of contemporaneously changing parts. It may perhaps be suggested that in this case the imaginative synthesis is spatio-temporal, whereas in the previous case it was spatial only. This, however, would be a mistake. For unchanging endurance, which we had in the first case, is no less temporal than change itself. Both syntheses then are spatio-temporal. Only in the one the temporal structure is very simple, in the other it is more complex.

What we have in the present more complex case is a sort of combination of subjective and objective successions. There are a number of objective successions, and within each of them there is a fixed order to which the imagination is tied down. But the order in which you pass from one of these successions to another is irrelevant to their respective contents. It makes no difference to the processes in the porter's lodge whether you go there first before going on to observe the processes in the college kitchen, or go to the

¹ For this distinction, our substitute for Hume's distinction between Constancy and Coherence, see p. 60, above.

kitchen first and leave the lodge till later. It only makes a difference to you—to the precise character of the task imposed on the supplementative imagination. If you go to the porter's lodge first, you will actually sense, say, $\alpha\beta$; and $\gamma\delta\epsilon\zeta$, their sequels, will be imaginatively-postulated supplements. (You will be able to supply them on the analogy of previous cases when you remained continuously in the porter's lodge for a long time.) But if you put off your visit till later, you will actually sense $\epsilon\zeta\eta$ when you get there; and the earlier phases $\alpha\beta\gamma\delta$ will be the imaginatively-postulated supplements.

It is only the occurrence of a succession-indifferent group of impressions or the interlocking of a number of gapindifferent series—which enables the imagination to conceive of a complete material object, a three-dimensional spatial whole enduring through time. A single gapindifferent series, even when the gaps in it have been filled, does not suffice for this. For it is still spatially incomplete. It is just a front without a back or insides, even when I have come to conceive of it as existing continuously despite the interruptedness of my observations. In order to conceive a complete object, or Thing, I must sense a number of such series, interlocking into a single successionindifferent group. And not only must the imagination supplement them, filling up the gaps in each; it must also synthesize them into a single spatial whole, or rather into a spatio-temporal whole consisting of a number of concurrent and spatially united parts.

Thus what we finally conceive of is a family of sensibilia continuing through time. We take the actually sensed impressions to be short slices of these continuing sensibilia (though really what we have done is to start with the slices and fill in the rest). Or we may say that each of these continuing somethings, of which the family is made up, is an uninterrupted series of temporally brief sensibilia; and we

take the actually sensed impressions to be members of these series.

I have use the word 'sensibile' here and throughout, because it is essential to realize that the unsensed supplements which make up the bulk of the family are imagined to be entities of the same kind as the actually presented sense-impressions, and spatio-temporally continuous with them. The point is so important for the understanding of Hume's whole theory that it cannot be repeated too often. The supplements which we postulate are just continuations of our sense-impressions, homogeneous with the data whose continuations they are taken to be. So the supplements, as well as the actually given impressions, may be called 'sensedata' or (in Hume's language) 'perceptions' if we please; that is, they are colour-expanses, tactual pressures, and in general sensibly-qualified particulars. And we can then say that material objects as conceived by the Vulgar consist wholly of perceptions. But as it sounds strange to speak of unperceived perceptions or unsensed sense-data, we have preferred to use Lord Russell's technical term sensibilia. Hume rightly insists that the Vulgar do not conceive 'their objects' to be things-in-themselves, of whose qualities nothing whatever could be said, nor yet to be entities possessing only primary qualities, as Locke and other Representationists say they ought to. As he says, 'So strong is the prejudice for the distinct continued existence of the former qualities [colours, sounds, heat and cold], that when the contrary opinion is advanced by modern philosophers, people imagine they can almost refute it from their feeling and experience, and that their very senses contradict this philosophy.'1

Now of course a family of sensibilia is an extremely complex sort of whole. It includes certain nuclear members forming the standard figure, together with an indefinitely large though ordered multitude of perspectival and other

¹ E. p. 187; S.B. p. 192.

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distortions. Do we imagine all of these, in all their variety? When I see a table, do I imagine all the views of it from all the different positions and distances? It may seem obvious that the Vulgar at any rate do nothing of the kind, and indeed that the imagination is incapable of such a feat.

But we must remember what the word 'imagination' means in this connexion. It stands for a process of postulating. Now this postulating is a form of thinking, and the basic element in it is the entertaining of existential propositions. It is not just imaging (picturing); though Hume himself, forgetting his own doctrine of abstract ideas-or, if we prefer, his own positive substitute for the traditional doctrine2-no doubt often confused the two. Here two points are important. Every existential proposition contains a universal; we may even say, if we please, that it is about a universal. It is of the form $\exists x. \ \phi x$, where x is a variable and ϕ a universal or description. Thus 'a red thing exists' is equivalent to 'there is something such that it is red (or exemplifies redness)'. Now in the first place this universal may have a higher or a lower degree of determinateness. Thus our postulation may be either more or less definite. I can postulate that there is an elliptical entity of just this precise degree of eccentricity; or that there is an elliptical entity of some degree of eccentricity, not specifying what; or that there is a roundish entity, not specifying whether it is circular, elliptical, or egg-shaped; or even that there is an entity of some shape or other (Indefinite Postulation). Secondly, in a single act we can postulate the existence of many entities just as well as the existence of one. I can entertain the proposition that there are a hundred men in the street, or a million red patches in the world, just as well as the proposition that there is one

(Collective Postulation). Moreover, combining indefiniteness with collectiveness, I can postulate the existence of a whole group of entities without either enumerating the members (specifying what the total number of them is) or specifying the precise characteristics of each member. Thus I can say 'there are a lot of men in the street' without specifying how many, or how tall each of them is, or whether his hair is dark or light.

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To apply this to the present problem: when we postulate unsensed sensibilia to supplement our sensed ones, our postulation is always both collective and indefinite in a greater or less degree. In the case of a penny, for instance, what we postulate is a large group of sensibilia, whose shapes are either portions or distortions of a disk. We postulate them all at once, in one single act. Here is the collectiveness. But we do not postulate a group containing just so many members, neither more nor less, and we do not enumerate the members one by one. Again, we do not postulate the existence of distortions of just this and this and this precise sort. We think of them all indeterminately as more or less elliptical. We can now see why it is particularly important to distinguish imaginative postulation from imaging or picturing. When I image a group, all the members of it must be imaged; otherwise that group is not imaged at all, but some other smaller group instead. I may not actually enumerate the members, but still just this precise number of sub-images must be actually present before my mind. Moreover, the characteristics of each must be perfectly determinate; each must have just this precise shade of colour, and just this precise shape and size. If this is not obvious, it is because what we call the picturing of a group is not pure picturing, but is mixed up almost inevitably with some postulation; if we are bad visualizers, with a great deal. We eke out our imagecomplex by postulating further parts for it which we do not actually image at all, just as we eke out our sense-

¹ I have discussed this subject at length elsewhere. Cf. Perception (Methuen, 1932), ch. 8.

² Treatise, Part I, Section 7, Of Abstract Ideas. This is another part of Hume's constructive theory which seems to have received less attention than it deserves.

impressions. And a further cause of confusion is that in entertaining existential propositions we do often use actual images as *symbols* for the universals of which we are thinking; hence we are led to suppose that postulation is nothing but the producing and contemplating of images.

The indeterminateness of our postulation is distributed so to speak in a non-uniform manner. We commonly find that it is greatest with regard to the distorted members of the family, whereas the standard or nuclear members are much more determinately conceived. To use commonsense language: our conception of the 'real' shape is usually pretty definite, while our conception of the various 'apparent' shapes is very much less so; we may indeed think of them merely as an etcetera, without bothering to specify their precise nature to ourselves at all. (Cf. our example of the penny, above.) There is a reason which Hume might have offered for this preference, or favouritism, if he had discussed the matter; it is in accordance with the general principles of imaginative activity as he has described them. When I experience a subjective succession, and move about looking at a certain object from various points of view, the differences between the various perspectival and other distortions tend to cancel out in the imagination; just as the gaps did in the process of Assimilation by Superposition which we described earlier. I As I walk round a square table, now this side appears longer than the rest, and now that. The angle at each of the corners is sometimes obtuse and sometimes acute. The distribution of light and dark patches varies in a similar way. But no one side always appears to be the longest. The increases and decreases oscillate about agcertain mean value, and so do the obtusenesses and acutenesses. And this mean value (in the present instance) is the same for each of the four sides and for each of the four angles. Hence these variations are little attended to, and tend to be forgotten, because the

¹ Cf. pp. 74-8, above.

memory of any one is inhibited by the memory of others. The same applies to the varying distribution of light and dark patches. And so we tend to think of the whole surface as a square with a uniform brown colouring; though perhaps we have only seen it as a square once or twice, or even not at all. Hence when we come to the stage of postulating the unsensed continuance of what we have observed, one part of our existential proposition, namely that part which concerns the existence of a square brown sensibile, is pretty determinate; the rest is very indeterminate. What we postulate is that there is a square brown sensibile, 'etcetera'; we do not specify to ourselves exactly what items this remainder consists of, because we have forgotten the precise characters of the sense-impressions whose continuations they are supposed to be.

Moreover, there is so to speak a method in our forgetfulness and in the indefiniteness of conception which results. This obliviscent tendency of the imagination does nothing to hinder our comprehension of the world. It does not prevent us from co-ordinating our sense-impressions and predicting new ones; on the contrary, by economizing attention it helps us. For the sense-impressions which we do not remember in detail are also the least important. In comparison with the standard members of the family, which we do remember and conceive determinately, they are secondary and derivative. This is a consequence of the special sort of structure which the family-group has. It is a unity of centre; and the various distorted members only fall within it because there is a single shape (the standard figure) from which they deviate in various ways. Thus if we should want to conceive of the distorted members in detail, as when someone asks us what the table looks like from the far corner of the room, we can always do so. For the shape of any one of them follows from the shape of the standard figure in accordance with certain inductively established correlations, such as the rules of perspective,

and analogous empirical rules concerning mirror-vision, vision through mists and the like; rules stating the various ways and circumstances in which the distortions differ from the standard figure.

These considerations throw light on some curious statements made by Hume, which seem at first sight to conflict with the theory we have been expounding in his name. The Vulgar, he says, 'confound perceptions and objects'.1 Again, 'those very sensations which enter by the eye or ear are with them the true objects'; 2 and a few lines lower he adds 'to accommodate myself to their notions, I shall at first suppose that there is only a single existence, which I shall call indifferently object or perception, according as it shall seem best to suit my purpose, understanding by both of them what any common man means by a hat, or shoe, or stone, or any other impression, conveyed to him by his senses'.3 The first two passages are ambiguous, owing to the use of the plural ('perceptions and objects', 'sensations and objects'), and are compatible with the view that the Vulgar regard an object as a group of perceptions, as we have said above that they do. But the third passage seems decisive; here Hume does seem to say quite clearly that the Vulgar regard a single sense-impression as being a hat or shoe or stone. Thus just one single brown colourexpanse would be according to the Vulgar a complete material object, say a shoe, though of course they take this colour-expanse to have a continuing existence whether sensed or not. Whereas we have said that they conceive of a shoe as being a family of continuing colour-expanses and other sensibilia, which is a vast and complicated group; in that case what is confounded with an object is by no means just a perception, but rather a whole set of subjectivelysuccessive perceptions imaginatively supplemented with many more.

We must admit that the cursory and forgetful character of our everyday consciousness goes some way to justify Hume's language; but it does not go all the way. Even the plainest man hardly supposes that a shoe is just a front with no back or bottom or insides, as he would have to if Hume's words are literally correct. (Does even the plain animal suppose this?) Yet there is no getting away from it that a single 'perception' of sight is just a front and no more, though often it is a bulgy front. And a single 'perception' of touch, though it sometimes has a back, has no insides. The supposition of its temporal continuance through intervals of non-presentation does nothing to remedy its spatial incompleteness. Thus the plain man's shoe or hat is certainly a complex of sensibilia, not just one single sensibile.

Still, in order to be spatially complete and so count as an 'object' the complex need not be so very extensive. It need not include the multitudinous variety of perspectival and other distortions, mirror-images, and the rest, which are all embraced within the catholic unity of what we have called a family. To be a spatially complete threedimensional whole, it need only consist of those privileged sensibilia making up what we have called the standard figure. Thus Hume ought to have said that according to the Vulgar a material object is a spatially complete group of perceptions (not just a perception): as Berkeley had said before that a cherry is a cluster of sensations.

But even so there still seems to be a wide gulf between his account of the Vulgar consciousness and our interpretation of him. The sensibilia which make up the spatially complete standard figure are only a part of the total family, though they are the central and most important part. However, the gulf can now be bridged. For as we have shown, the Vulgar forget the detailed character of their distorted (non-standard) impressions, and postulate their continued existence inattentively and indeterminately, under the

¹ E. pp. 187-8; S.B. p. 193.
² E.
³ Ibid. The italics in the last clause are mine. ² E. p. 195; S.B. p. 202.

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 L 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'. 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.