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HUME'S THEORY OF MENTAL ACTIVITY

EVER since Norman Kemp-Smith's brilliant paper on "The Naturalism of Hume" fifty-five years ago,¹ students of philosophy have acknowledged the fact that David Hume's *Treatise of Human Nature* is very much more than an encyclopedia of skepticism. Hume, it is now realized, was engaged in Book I of the *Treatise* in a serious attempt to answer some of the central problems of philosophy. However, there is rather less clarity about just what his answers were. No doubt the obscurity of Hume's positive theory is due in part to his smooth and jesting style, free of the ponderous terminology which in other works alerts the reader to the least touch of a theory. But I think the real reason for Hume's failure to get across his very novel suggestions is the fact that they carry him beyond the limits of his own system, so that he is forced to express his best ideas in language totally unsuited to them. To put the point in a sentence, Hume began the *Treatise* with the assumption that empirical knowledge could be explained by reference to the contents of the mind alone, and then made the profound discovery that it was the activity of the mind, rather than the nature of its contents, which accounted for all the puzzling features of empirical knowledge. This insight, which was so brilliantly exploited by Kant, and has become today a focus of attention through the studies of disposition terms and language habits, was used by Hume to clarify the nature of causal inference and to explain the origin of our concepts of material objects.

In this paper I shall try to extricate Hume's theory of mental activity from the associationism and copy theory of ideas in which it is embedded. Hume nowhere sets out whole the theory which I attribute to him, but every part of my interpretation, with the exception of several terminological clarifications, is amply supported by passages in the *Treatise*. I have tried to exhibit the *Treatise* as more than a dated work of purely historical interest.

¹ N. Kemp-Smith, "The Naturalism of Hume," *Mind*, XIV (1905), pp. 149-173; 335-347.

If my interpretation is correct, Hume can still make a useful contribution to current epistemological and metaphysical debates.

I

The best way to get hold of Hume's new theory is to discover the precise point at which the framework of his system distorts his exposition and forces him to cramp his thoughts into ill-suited categories. That point, in my opinion, is reached when Hume attempts to explain the necessity of causal inference by appeal to "impressions of reflection." It is worth our while to explore a bit Hume's discussion of this category of impressions, for through it we will see what he was trying to say and why he had such difficulty saying it.

There are, Hume tells us, two sorts of impressions. The first are impressions of sensation, which "without any introduction make their appearance in the soul" (p. 275).² These are dependent upon "natural and physical causes," the examination of which, Hume says, would lead him "into the sciences of anatomy and natural philosophy" (p. 276). He therefore turns to the second category: impressions of reflection. It sometimes happens that an idea, which in its turn is derived from some precedent impression, will "return upon the soul" (p. 8) to produce new impressions, of pride, humility, ambition, vanity, hope, fear, desire, aversion, or any of the countless "passions and other emotions resembling them" (p. 275; also pp. 276-277). The category of impressions of reflection finds its most natural employment in Books II and III of the *Treatise*, where Hume discusses the passions and moral sentiments. Kemp-Smith has based on this fact his claim that Books II and III were earlier in composition than Book I.³ According to Kemp-Smith, who seems to me quite convincing, the analyses of causation, space and time, and material objects are intended by Hume as extensions of a theory first advanced in connection with problems of ethics. The beliefs

² All parenthetical references are to *A Treatise of Human Nature*, ed. with analytical index by L. A. Selby-Bigge (Oxford, 1888).

³ Cf. N. Kemp-Smith, *The Philosophy of David Hume*, 2nd ed. rev. (London, 1923), pp. 12-20, 44-46.

arising from the "impression" of causal necessity are viewed as analogous to the moral sentiments produced in the soul by the mechanism of sympathy. "*Belief,*" says Hume, "*is more properly an act of the sensitive, than of the cogitative part of our natures*" (p. 183, italics Hume's).

There are two important similarities between moral sentiment and passions on the one hand and empirical beliefs on the other, which seem to me to have led Hume to group them together as "impressions of reflection." First of all, Hume believed that neither passions nor beliefs are "rational" in the strict sense of "justifiably derivable from relations of ideas" (cf. p. 70). Passions, of course, are not the products of reasoning, nor, thought Hume, are the sentiments of approbation and disapprobation. Now the whole point of his attack on the rationalists was to show that empirical beliefs are also not justifiable by an appeal to relations of ideas. They spring from "nonrational" sources in the soul. It is for this reason that Hume wrote, "Belief is more properly an act of the sensitive, than of the cogitative part of our natures." Second, and in my opinion even more important, Hume believed that moral sentiments, passions, and empirical beliefs are all responses of the mind to the presented world rather than given contents of experience. Just as love, hatred, approval, and disapproval are second-level reactions of the mind to experience, so also the beliefs in causal necessity and physical objects result from the mind's "reflection" upon its sensations. What I suggest is that these similarities of beliefs to passions and moral sentiments led Hume to identify them and to use in Book I the tool—impressions of reflection—which had worked so well in Books II and III. For notice that impressions of reflection are (1) nonrational in origin, and (2) contributed by the mind to experience rather than derived directly from perception. These are just the ways in which passions, moral sentiments, and beliefs are similar, on Hume's view.

But if there are similarities, still there are striking differences. Perhaps the most troubling difference is that the so-called "impressions of reflection" cited by Hume to explain the origins of empirical beliefs are remarkably elusive and hard to find. Hume feels no need to prove the existence of love or anger or

desire. But when it comes to the "impression of necessary connexion" he does not simply say, "Look and see." Rather, he eliminates alternatives, argues by *reductio ad absurdum*, and generally does just what we would expect of a philosopher attempting to pin down an unknown quantity. The reason for this odd behavior is not difficult to discover. Hume began the *Treatise*, as I have suggested, by assuming that all empirical concepts could be explained in terms of some combination of the contents of perception. He very quickly came to see that knowledge and belief result from what the mind *does* with its contents rather than simply from the nature of those contents. Hence, most of Book I is devoted to a discussion of the activities of the mind. Having no category in which to put mental activities, however, Hume tried to squeeze them into the slot labelled "impressions of reflection." Now in order to remove some of the confusion thus caused, we must attempt a systematic restatement and interpretation of Hume's discussion of mental activity. After a general statement, we can look to the text for confirming evidence.

II

Hume begins his analysis of the mind's operations with an appeal to associations of ideas. Modeling his discussion on the Newtonian theory of gravitation, he attempts to explain the phenomena of cognition without referring to secret causes and without framing hypotheses concerning ultimate qualities (p. xxi). The central thesis is that there is a "uniting principle" among ideas which can be regarded as a "gentle force," influencing the imagination in its arrangements and rearrangements of perceptions (pp. 10-11). It is at this point unclear whether some special condition of the mind is necessary for the working of the force. Hume's emphasis is all on the nature of the ideas themselves. The imagination, if subjected repeatedly to the gentle force of association, develops certain *habits* or *customs*. It comes to anticipate the conjunction of perceptions which past experience has exhibited. Much as Pavlov's dog would begin to salivate at the sound of a bell, so the mind generates the idea of an "effect" if presented with the "cause." Indeed, says Hume, the habit of

thinking an idea when presented with an impression is all there is to causal inference. The gentle force, so unassuming in its first appearance, is the adhesive for all experience.

This explanation, based on an analogy between gravitation and association, is not satisfactory as it stands. According to Newton, two bodies attract one another without (so far as we know) the intervention of any third thing. This is at least intelligible, for bodies can literally move about, toward or away from each other. But an impression clearly is not a body which approaches or recedes from other impressions. When Hume says that the cause and effect are "associated," he means that the mind tends to think of one when presented with the other. Thus the metaphor of a "gentle force" is misleading. The impressions affect the mind, not one another. The question remains, by what means does the observed contiguity and resemblance become translated into a habit of association? Then, too, the theory of association fails to explain the striking similarity in the habits of different minds, or of one mind at different times. Despite a bewildering variety in perceptual experience, the mind, according to Hume, seems always to come up with the same few types of association: causes, objects, the self. These are only a few of the inadequacies of the simple associationism of the early pages of the *Treatise*. Hume soon moves past this theory to a more complicated analysis of cognition, basing his account on a theory of mental propensities.⁴

A "propensity" can be described as the disposition to develop a disposition, or as a "second-level" disposition. When we attempt to explain the behavior of Pavlov's dog, for example, it is not enough to state that Pavlov rang the bell every time the food was offered. That is, of course, a necessary part of the explanation, but we must add that the dog was *capable* of being conditioned. If it were not, no amount of bell-ringing could produce the conditioned reflex of salivation. Let us use the term "disposition" to describe the fact that an entity is prone to act or react in certain ways under certain conditions. Let us use the term "propensity" to describe the fact that an entity is prone to *develop certain dispo-*

⁴ What follows is a reconstruction of Hume's view. In the third and fourth sections of this paper I have assembled the evidence for its defense.

tions under certain conditions.⁵ Then we can say that the dog's salivation upon the ringing of the bell is a manifestation of a disposition (in this case a conditioned reflex) and the disposition in turn is a manifestation of the dog's propensity (to form dispositions of this sort).

There are several simple facts about stimuli, dispositions, and propensities which it will prove helpful to keep in mind when considering Hume's theory. First, the stimuli are, of course, sensory in nature. They are the instigators or "proximate causes" of the conditioning process, as well as the triggers of the disposition already formed. Second, the sensory stimuli are the individuating conditions of the dispositions being formed. The nature of the stimulus determines the precise character, or content, of the disposition. For example, by choosing a different stimulus, we can make the dog salivate at the blowing of a whistle or a clap of the hands rather than at the ringing of a bell. Third, dispositions are distinguished from propensities by their logical type. As mentioned above, propensities are second-level dispositions, or dispositions to form dispositions. Therefore, dispositions depend upon the conditioning stimuli and follow after them, while propensities precede both stimuli and dispositions. Propensities are thus necessary conditions for the development of dispositions.

With these few points outlined, I can now state the theory of mental activity which I claim to find in Book I of the *Treatise*. The proof of my claim, of course, will come in the detailed examination of Hume's account of our concepts of causal inference and material objects. Put briefly, the theory runs like this: The human mind has a small number of innate propensities, or "dispositions to form dispositions." When the mind is presented with perceptions conjoined in certain ways, its propensities are activated and it develops dispositions. These dispositions determine the mind to reproduce in imagination certain impressions when it experiences certain others.⁶ The mind, in another of

⁵ This is not the usage followed by Hume. He does not observe strict distinctions among "habit," "custom," "propensity," and "disposition."

⁶ The impressions, of course, are reproduced in a less vivid form, as ideas (p. 93).

Hume's phrases, forms a "habit of association." The factors in cognition which Hume labeled impressions of reflection—such as the impression of necessary connection—are really dispositions, and the ideas of necessary connection, substance, and so forth, are not copies of impressions but ideas of mental dispositions. The innate propensities constitute the basic "machinery" of the mind. They are the necessary and universal conditions of all our ideas of causes and objects. In Hume's words:

In order to justify myself, I must distinguish in the imagination betwixt the principles which are permanent, irresistible, and universal; such as the customary transition from causes to effects, and from effects to causes: And the principles, which are changeable, weak, and irregular; such as those I have just now taken notice of. The former are the foundation of all our thoughts and actions, so that upon their removal human nature must immediately perish and go to ruin [p. 225].

Now let us examine the arguments of the *Treatise* in more detail.

III

I shall begin with Hume's discussion of causal inference, which occupies Part III of Book I. After completing his famous and devastating attacks on the rationalists, Hume translates the problem of causation into two questions: (1) what is the nature of the idea of necessary connection? and (2) "Why [do] we conclude that such particular causes must *necessarily* have such particular effects; and what is the nature of that *inference* we draw from the one to the other, and of the belief we repose in it?" (p. 78).⁷ Hume chooses to answer the second question first, leaving the "idea of necessary connexion" for later.

When we examine specific causal reasoning, we find four components: an impression, an inference, an idea, and a belief. All causal reasoning begins with an *impression* of sensation which is

⁷ Hume also asks "For what reason we pronounce it *necessary* that every thing whose existence has a beginning shou'd also have a cause?" (p. 78). However, he nowhere accounts for our belief in this "causal maxim," and this may be why he omits all mention of it from the *Enquiry Concerning Human Understanding*. Cf. Kemp-Smith, *The Philosophy of David Hume*, pp. 405-413.

present before the mind and acts as the anchor of the entire process. The second component is the *inference* by which the mind passes from the present impression to an *idea*. This idea, related to the impression, is the third component of the reasoning process. Fourth, there is the *belief* which we then repose in the idea.

The impression needs no explanation. To account for the inference to the idea, Hume introduces the factor of "constant conjunction." Upon examining causally related objects, and reflecting back over past experience, we discover that whenever we label one object cause of another, we can recall pairs of contiguous and successive objects which resemble the present impression and idea. As the objects appear again and again in similar relations to one another, they become "associated" in the imagination. By a natural mental process, the habit is inculcated of conceiving of the one when the other is perceived. When the impression of the cause, let us say, is present to the mind, then the disposition created by past conjunction determines the mind to reproduce the idea of the effect. The essence of the causal inference lies in this transition. There remains only the belief, which I discuss below.

Hume returns in Section 14 of Part III to the first question, What is the nature of the idea of necessary connection? His analysis of particular causal inferences has produced three conclusions which, he believes, permit him now to answer the question. The conclusions are

that the simple view of any two objects or actions, however related, can never give us any idea of power, or of a connexion betwixt them: *that* this idea arises from the repetition of their union: *that* the repetition neither discovers nor causes any thing in the objects, but has an influence only on the mind, by that customary transition it produces [p. 166].

But every idea, says Hume, is a copy of some impression. As the idea of necessary connection is not derived from any quality or relation of objects, it cannot be a copy of an impression of sensation. The only available impression of reflection is the "feeling" attached to the disposition of the mind to pass from an object to

the idea associated with it (p. 165). Therefore the idea of necessary connection must be the idea of this mental transition. This analysis of causal inference depends on three points, each of which requires some comment. The points are: (1) the nature of the "transition" from impression to related idea; (2) the nature of the "impression of necessary connexion" on which we base our idea of causal influence; and (3) the nature of the mechanism of belief, whereby we assent to the inference and take the associated idea as objectively representative. Let us consider them in turn.

The "transition" of which Hume speaks is not to be understood as a passing of the mind from one present perception to another *present* perception. What happens is that the mind, perceiving the first, "forms an idea of its usual attendant" (p. 93). In other words, the mind reproduces in imagination a copy of the impression which has lately been associated with the present impression. This process of recall is the manifestation of a mental disposition or "habit" which is inculcated by experience. The mind is confronted with a succession of resembling impressions, and thereupon develops a disposition to conceive the one when it perceives the other. As I have already noted, the proneness of the mind to develop such a disposition is itself a disposition; it is what I called a "propensity." Hume now sets to one side the aspects of causal reasoning which are independent of the mind's inferences. The contiguity and succession of objects is indeed separate from our thought, as is the constant association of like objects (p. 168). These relations are "independent of, and antecedent to the operations of the understanding" (p. 168). But the necessity of their connection is a property of our inference upon them and derives from the mind's "habit." In the terminology which I have adopted, the associated impressions act as stimuli to activate an innate propensity; the result is a mental disposition to imagine a related idea when presented with an impression.

The second element of Hume's analysis is the "impression of necessary connexion" from which the idea of causal influence is copied. We are here presented with a common problem of textual interpretation. What Hume says is not the same as what Hume says he says. As I have suggested, the natural development of his argument leads him in one direction, but the prior strictures

of his system require a different and conflicting move. Hume talks as if the impression of necessary connection, like an impression of love or envy, were a directly observable mental content arising from the workings of the imagination. But the description which he actually gives of this impression is peculiar, to say the least. The "internal impression," he claims, is the "propensity, which custom produces, to pass from an object to the idea of its usual attendant" (p. 165). Again, the "customary transition is the same with the power and necessity" (p. 166). Hume is not saying here that the impression arises from the transition or is conjoined with the transition or is dependent upon the transition; he is saying that the impression *is* the transition. Now this is plainly an error in classification. "Customary transitions" and "propensities" are mental operations or powers, not contents of consciousness. If the idea of necessary connection is a copy of the transition from an impression to its usual attendant, then it is a copy of a mental activity. It is in fact the idea of the mind's disposition to reproduce related perceptions in imagination. This is just the muddle which I referred to above, when discussing impressions of reflection. In these passages we can observe Hume shifting toward explanation in terms of mental activities, while still tied to the language of mental contents. Later on we shall see him move even further in this direction when he deals with the problem of external objects.

Finally, let us consider the problem of *belief*. Hume holds that to believe in the existence of an object is not to conjoin an idea of existence to the idea of the object (p. 94). He casts about, therefore, for some quality common to all the ideas and impressions in which we repose belief, and he hits upon "the *manner* of our conceiving them." The belief in an idea is nothing but an increased force and vivacity by which our conception is heightened and enlivened (p. 96). This theory, as Hume himself recognized, is open to serious objections. One of these is the fact that there are many common beliefs which cannot be explained as "enlivened ideas." When we form an inference upon the evidence of historical traces, and reason from a present impression of manuscripts to the past existence of a historical personage, the resultant belief cannot be attributed to the force of the impressions

of the text before us (pp. 145-146). We could not, for example, strengthen the belief by illuminating the page more brightly or recasting the print more sharply.⁸ Hume appears to take account of this objection in several passages, the first of which contains a turn of phrase suggesting a possible revision:

For suppose I form at present an idea, of which I have forgot the correspondent impression, I am able to conclude from this idea, that such an impression did once exist; and as this conclusion is attended with belief, it may be ask'd, from whence are the qualities of force and vivacity deriv'd, which constitute this belief? And to this I answer very readily, *from the present idea*. For as this idea is not here considered as the representation of any absent object, but as a real perception in the mind, of which we are intimately conscious, it must be able to bestow on whatever is related to it the same quality, call it *firmness, or solidity, or force, or vivacity*, with which the mind reflects upon it, and is assur'd of its present existence [pp. 105-106].

The key phrase is the last clause but one of the final sentence. The present idea, serving as the "impression" from which the inference proceeds, must possess that firmness or solidity or force or vivacity *with which the mind reflects upon it*. The force is not a quality of the perception, but rather a quality of the way in which the mind conceives it. Hence any idea or impression, however weak, may serve as the starting point for a causal inference, if only the mind reflects upon it with the solidity of belief. Now in the passage I have quoted, Hume uses this locution only to explain our inference from a present idea to the past impression *of which it is a copy*. But in the Appendix he extends the same description to all belief. There he states that the "feeling" of belief is a "*firmer conception, or a faster hold, that we take of the object*" (p. 627; cf. p. 626). Belief is not a hold that the object takes on us, but that we take on the object. Here again we see a shift in emphasis from the characteristics of perception to some activity of the mind.

⁸ It is the existence of the beliefs, not their truth, which is at stake here. The trouble with Hume's theory is that it fails to explain why we do *not* believe vivid and affecting fiction, and yet *do* believe dull history books.

IV

Hume's theory of mental activity reaches its fullest development in his treatment of our belief in material objects. The argument is carried on in several different passages in Book I of the *Treatise*, and a great deal of restatement and interpretation is needed to present it in coherent form. The first passage is a discussion of substance which comes as part of an examination of relations, modes, substances, and abstract ideas in Part 1. It is little more than a page in length, and the laconic manner in which it proceeds suggests that Hume did not consider his views especially original. Nevertheless, his remarks are exceptionally suggestive, albeit brief.

What is our idea of substance? asks Hume (p. 15).⁹ Does it derive from an impression of sensation or of reflection (p. 16)? Surely neither, he answers, for no one impression is the origin of the idea of a substance. Hence it must be an idea of "a collection of particular qualities" (p. 16). To the qualities, or their ideas in our mind, is attached a name, by which we may recall all or some of them when necessary. As we learn more about those qualities which bear an intimate relation to the given collection, our idea of it expands, and the number of ideas which its name recalls becomes larger. Thus, a first idea of gold may include the qualities yellow, hard, and heavy. When the quality of solubility in *aqua regia* is learned, this is added to the collection, and henceforth the word "gold" is capable of calling it to mind.

Now Hume adds a highly significant sentence, which unfortunately is left without comment: "The principle of union [of the qualities] being regarded as the chief part of the complex idea, gives entrance to whatever quality afterwards occurs, and is equally comprehended by it, as are the others, which first presented themselves" (p. 16). Ideas of substance are distinguished by this fact from ideas of modes. Modes are also collections of qualities, to be sure. But the qualities are either not closely connected by the relations of contiguity and causation—Hume offers the example of a dance—or else are united together, but in such

⁹ He means, what is our idea of a substance; that is to say, what is our idea of gold or wood or a man?

a way that "the uniting principle is not regarded as the foundation of the complex idea" (p. 17). To introduce a *new* quality, therefore, destroys the particular unity to which the name is attached, and occasions a new name. Thus an arrangement of colors may be beautiful, but the beauty is not a substance. For if it were, one could attach other related qualities to the collection without destroying the idea of the beauty. What in fact happens, of course, is that any addition or subtraction produces a *new* idea—of an equal beauty, perhaps, but *different* from the old idea (p. 17). On the other hand, one can subtract from or add to the qualities of a substance without thereby destroying its unity. A man is still the same substance whether he gains weight, cuts his hair, gets a tan, or even loses several limbs. So, too, for other substances. They remain the "same thing" through a variety of changes. Indeed, on Hume's view it would make no sense to speak of learning about a *thing*, unless our concept of it were in some way more than an idea of the qualities we conceive it to possess. For otherwise an added quality would be part of a *new* thing, not a new quality of the old thing.

Three questions are raised by Hume's preliminary analysis of the idea of substance. First, what is the "principle of union" by which the imagination unites the qualities of a substance? Second, how does the imagination form the principle of union? And third, what does Hume mean by his statement that the principle of union is the "chief part" of the idea of a substance?

The principle of union is described by Hume as being the manner in which the various qualities "are united by the imagination, and have a particular name assigned to them, by which we are able to recall, either to ourselves or others, that collection" (p. 16). This description is so remarkably similar to the account of "abstract ideas" given in the very next section of the *Treatise* that I shall draw on that account for an expansion of Hume's brief analysis of substance. Why he did not himself unite the two is a mystery, for he would thereby have strengthened considerably his entire theory of our concepts of objects.

In the light of the section "Of Abstract Ideas" we can construct the following interpretation of Hume's view of the unity of a

substance. The "principle of union" is a habit or custom of the mind to which is attached a word. The habit determines the mind to reproduce in imagination one or more of a set of ideas, when the word for that set has been uttered or thought or otherwise invoked. Once the mind has formed the habit, it can reinvoké it at will, and by "one of the most extraordinary circumstances" of the mind's powers (p. 21), a false assertion about the membership of the set will often provoke the mind to reproduce just that member which will effectively belie the ascription. Thus, if the mind ascribes the quality of dryness to water, it will immediately recall the idea of wetness without running through the qualities of coldness, lucidity, and so forth. It will, furthermore, recognize the idea of wetness as having been called forth by the habit associated with the word "water." Hume does not pretend to know how or why this delicate capacity is possessed by the mind. He says that "To explain the ultimate causes of our mental actions is impossible. 'Tis sufficient, if we can give any satisfactory account of them from experience and analogy" (p. 22).

Returning to Hume's example, we see that the mind has formed the habit of calling up yellowness, weight, malleability, and fusibility when it conceives the word "gold." These several ideas are united solely by the mind's habit, though they are *associated* by the relations of contiguity and causation (p. 16). We are brought then to the second of our three questions: how does the imagination *form* the habit which unites the qualities? The full answer to this question is only developed by Hume in Part iv of Book I, which I shall examine presently. In this earlier section, however, he indicates the line which his argument will take. The difference between the qualities of a substance and those of a mode, he tells us,

consist[s] in this, that the particular qualities, which form a substance, are commonly refer'd to an unknown *something*, in which they are supposed to inhere; or granting this fiction should not take place, are at least supposed to be *closely and inseparably connected by the relations of contiguity and causation* [p. 16; italics mine].

As in the case of causal inference, the mind forms a habit of

reproducing perceptions as the result of certain perceived relations of objects.¹⁰

Finally, in what sense is the habit or principle of union the chief part of the idea of a substance? A possible answer is that Hume means to call the principle of union a *necessary condition* of the idea of the substance. The idea, to be sure, must contain some quality-ideas, for otherwise it would consist of a principle of union with nothing to unify. The mind would have a habit of reproduction which did not dispose it to reproduce anything at all. But among the several qualities which we impute to a substance, no single one is essential to our conception. One man's idea of gold may include the qualities yellowness, heaviness, malleability; another's conception might omit the color yellow and yet include solubility in acid, and so on. The principle of union, on the other hand, *is* a necessary element in the idea of any substance. It is for this reason that it is the "chief part" of the idea. If it is omitted, the mind is left with an unstructured assortment of ideas which are not bound up in any manner warranting the assignment of a special name.

The major discussion of the belief in material objects occurs in the long section, "Of scepticism with regard to the senses," which forms the core of Part iv. Hume defines his subject as "the *causes* which induce us to believe in the existence of body . . .," for, as he says a few lines earlier:

We may well ask *What causes induce us to believe in the existence of body?* but 'tis in vain to ask *Whether there be body or not?* That is a point, which we must take for granted in all our reasonings [p. 187].

Specifically, it is our belief in the *continued* and *independent* existence of bodies which needs explanation. As this belief does not arise from the impressions alone, it must arise "from a concurrence of some of their qualities with the qualities of the imagination" (p. 194). Hume discovers two kinds of regularity in our impressions: constancy and coherence. Constancy is the simpler, for it

¹⁰ The analysis is complicated by the fact that causal belief, itself the result of a habit of the imagination, plays here the role of stimulus. Equally, causal belief involves belief in the existence of objects which are causally related. Hume never succeeded in sorting out the complicated relationships between causal and substantial beliefs.

depends solely upon the repetition of resembling impressions, while coherence depends upon a second order regularity, namely, constancy of the principle of alteration. Nevertheless, Hume discusses coherence first.

It frequently happens that an impression which has in the past been regularly associated with another will make an appearance in perception alone, thereby "contradicting" past experience. For example, the sound of a squeaking door, if not accompanied by a sight of the door, runs against the past experience in which the two have been conjoined. In order to preserve the coherence of my experience, I assume a door (or, better, the visual aspect of a door) to exist, even though I do not perceive it. This would seem to involve a new propensity of the mind (p. 198).

But, Hume announces, the propensity to preserve and extend coherence is very different from the customs and habits which explained causal belief (p. 197). Mere habit can explain a belief only in what is actually inculcated by experience. If we condition a parrot to say "Two plus two is four," knowing that it has the capacity to learn simple phrases, we ought not to be surprised if it speaks the words back. But if, one day, the bird is heard to say "Two plus three is five," then we shall either discover who has been secretly coaching it or be very surprised indeed. Now our believing in the continued existence of objects is like the parrot saying "Two plus three is five," for although experience teaches us to expect coherence in the impressions we perceive, it does not, and obviously could never, teach us to expect perceptions to continue to exist when we do *not* perceive them. The mind here actually imparts to its perceptions a *greater* regularity than they naturally possess.

This is the first suggestion of the manner in which the causal connections of perceptions lead to our conceptions of objects. Taking Hume's example, the mind is accustomed to perceiving the movement of the door together with the squeak, *which is its effect*. When presented only with the squeak, the mind makes a causal inference in the manner described above, concluding that the door exists though it is unperceived. This in turn supports the causal belief, for the isolated squeak can then be interpreted

as a positive, rather than a negative, instance of the causal relation. Were the mind limited merely to its causal beliefs, the force of the connection would be weakened. By creating the "fiction" of a continued and independently existing object, the mind is enabled to preserve and increase the order of its perceptions. In a manner of speaking, the mind's propensity reinforces the causal inference, protecting it from the excessive disconnectedness of experience. The two propensities together subdue a chaos which would overwhelm the "causal" propensity and greatly diminish its effectiveness.

The second characteristic common to "objective" impressions is the constancy with which they reappear in experience. We must explain the effect of this constancy upon the mind, says Hume, for coherence and the propensity it invokes are "too weak to support alone so vast an edifice, as is that of the continu'd existence of all external bodies" (p. 198-199). Hume summarizes his explanation before presenting it in detail:

When we have been accustom'd to observe a constancy in certain impressions, . . . 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. But as this interruption of their existence is contrary to their perfect identity . . . we . . . are involv'd in a kind of contradiction. In order to free ourselves from [it we suppose] that these interrupted perceptions are connected by a real existence, of which we are insensible [p. 199].

As Hume intends to explain why we impute a continued and independent existence to objects, he must first make clear what we mean when we speak of various impressions as being the impressions of *an object*. Although the perceptions are distinguishable (and hence discrete) we treat them as one, supposing the object to be identical with itself at different times. But one impression gives the idea of *unity*; several impressions give the idea of *number* or multiplicity.

Betwixt unity and number there can be no medium. . . . After one object is suppos'd to exist, we must either suppose another also to exist; in which case we have the idea of number: Or we must suppose it not to exist; in which case the first remains at unity [p. 200].

The escape from the dilemma lies in the relation of time to our awareness of mental contents. Time is the idea of the manner in which successive impressions appear to the mind. Now imagine a series of exactly similar impressions, among which the mind distinguishes no mark of difference. If attention is paid to the passage of time (by noticing the alteration of other impressions, for example) then we distinguish among the members of the series and conceive the idea of number.¹¹ If only their invariable and uninterrupted similarity is attended to, then we conceive the idea of unity. The idea of identity is a mixture, or confusion, of the ideas of number and unity. As Hume puts it:

By this means we make a difference, betwixt . . . object and . . . itself, without going to the length of number, and . . . without restraining ourselves to a strict and absolute unity [p. 201].

But experience all too rarely provides the mind with conditions for the conception of identity. Even resembling impressions are interrupted in their appearance. Hume now explains why the mind extends its identity-judgments to these faulty series.

The resemblance of impressions induces in the mind a habit of recollecting them together. The habit or disposition by which the mind recalls an uninterrupted series is, to be sure, different from the habit by which it recalls a discontinuous series. But the two dispositions are *alike* (p. 203), and just as the mind is prone to associate like impressions, so it is prone to confuse similar dispositions. "Whatever ideas place the mind in the same disposition or in similar ones," Hume says, "are very apt to be confounded" (p. 203).

No sooner has the mind confused its several dispositions and denominated the discontinuous impressions "identical" than it is thrown into the baldest contradiction. The successive impressions are obviously *not* continuous and uninterrupted. Hence they ought not to be called identical (p. 205). Confronted with this conflict, the mind chooses the bolder alternative, and rather than

¹¹ Though Hume does not say so, the distinction is presumably a "distinction of reason" (pp. 24-25). Successive resembling impressions are unlike in being dissimilar to a third impression, say one which is *contemporaneous* with the first, but *precedent* to the second.

declare the impressions different, "unite[s] these broken appearances by the fiction of a continu'd existence" (p. 205). Apparently this means that the mind, in recollecting the discontinuous series, "fills in" the lacunae by reproducing other resembling perceptions in positions where none were experienced. Hume says:

Our memory presents us with a vast number of instances of perceptions perfectly resembling each other, that return at different distances of time, and after considerable interruptions. This resemblance gives us a propensity to consider these interrupted perceptions as the same; and also a propensity to connect them by a continu'd existence, in order to justify this identity, and avoid the contradiction, in which the interrupted appearance of these perceptions seems necessarily to involve us [pp. 208-209].

In the terminology which I have employed, the mind approaches experience with the propensities which, in the case of each object-belief, operate to develop two dispositions. The dispositions together produce the idea of a continued and unified object.

V

Now let us pull together the results of the analysis of Book I, and see whether the interpretation outlined in Section II of this paper has been substantiated. It was there suggested that Hume had developed a theory of mental activity in which the key elements are certain innate propensities, and the dispositions which result when those propensities are "activated" by sensation. I think it is now clear that the various "principles" invoked by Hume do have the characteristics of dispositions and propensities. Consider first the role of sensation in the formation of empirical belief. The mind is presented with a variety of impressions which rapidly come and go in regular patterns. Stimulated by these perceptual regularities, certain mental propensities are activated, and the mind becomes disposed to reproduce its perceptions in imagination according to some established rule. Thereafter, this disposition can be "touched off" by the appearance of a suitable impression, which acts as stimulus to the mind. The similarity to the conditioning of Pavlov's dog is evident: first the bell and salivation together (first the cause and

effect together), then the bell alone (the cause alone), and by virtue of the conditioned reflex (the mental disposition) the salivation (idea of the effect) occurs (is produced).

Furthermore, the impressions serve as the individuating factors of a disposition. For example, the disposition to recollect together the properties of gold may be based on a general propensity to develop such "substance-dispositions," but that the mind should associate hardness and malleability with *yellow* rather than with *green* is a result of the particularities of sensory experience. Were the patterns of perception different, the mind would associate together different qualities. It is easy to imagine a well-ordered, comprehensible world in which fire is cold, rocks are soft, gold is brittle, and water tastes like honey. But in such a world, there would be causes and effects and there *would* be continuous independent objects,¹² for our conception of causes and objects depends on the propensities of the mind itself. Without them, Hume tells us, "human nature [would] immediately perish and go to ruin" (p. 225). Thus the impressions of sensation are the stimuli which activate propensities and individuate dispositions. The "permanent, irresistible, and universal" principles, or propensities, lie ready for experience. The dispositions, on the other hand, wait upon experience, for their individual nature is determined by the qualities of the impressions.

Finally, these propensities and dispositions are all *mental* principles. Hume at times conceals this important fact by his associationistic language. In some passages he seems to suggest that perceptions are attracted to one another by a "gentle force" of association (pp. 10-11), without the interference of the mind. When he actually comes to describe the "transitions" and "principles of union," however, he makes it clear that the transition is a transition *of the mind* from one perception to another; that the principle of union is a principle by which the imagination recalls a set of perceptions; and in general that the propensities which precede experience and the dispositions which result are mental pronenesses to reproduce perceptions in imagination.

We are now in a position to make a list of the propensities which

¹² More properly, there would be causal *beliefs*, and object *beliefs*.

Hume describes in Book I of the *Treatise*. Hume never groups them together in this fashion, but if he had, the result might well have been labelled a "Table of Categories," for the propensities actually play a role quite similar to that of the categories in the *Critique of Pure Reason*. The list is as follows.

1. The propensity to develop, under the stimulus of repeated conjunction of resembling pairs of objects, a disposition to reproduce the idea of the one when presented with the impression of the other.¹³

2. The propensity to develop, under the stimulus of a set of impressions which (by the first propensity) are conceived as causally interrelated, a disposition to reproduce the impressions together, and by confusing the related set with a series of resembling impressions, to conceive the reproduced perceptions as identical.

3. The propensity to develop, under the stimulus of a causal inference from a present object to an absent object, a disposition to conceive that absent object as existent, and hence to reinforce both the causal inference and the belief in continued existence of objects.

4. The propensity to develop, under the stimulus of a discontinuous series of resembling impressions, a disposition to reproduce the series as if it were continuous, filling in the lacunae with suitable ideas, and thus permitting the ascription of *identity* and *continuity* to the series.

5. The propensity to develop, under the stimulus of a present perception, a disposition to conceive an associated perception with a greater firmness of belief, the more firmly the present perception is conceived and the closer the association between them.

The first propensity is responsible for our causal inferences. The second, dealing with the "principle of union," the third, which depends on "coherence," and the fourth, whose stimulus is "constancy," are jointly responsible for our conception of

¹³ The clumsiness of these definitions is occasioned by the attempt to include in them all three of the elements of mental activity: propensity, stimulus, and disposition.

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unified, independent, continuous objects. The fifth propensity is the source of the *belief* in causal influence and an external world. Taken together, these five propensities comprise the principles which Hume calls “permanent, irresistible, and universal” (p. 225). The first four propensities determine *which* perceptions the mind reproduces, and the fifth determines the *manner* in which they are reproduced.

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