

I

Hume's Two Theories of Causation

DAVID HUME'S theory of causation is an analysis of the causal relation; it is not an analysis of the logical subtleties of the ordinary employment of the word "cause." Many writers on causation have taken him to provide such an analysis, but we shall argue that this understanding is a fundamental misconception. Hume certainly does examine the circumstances under which ordinary speakers *believe* their causal claims to be true, but his real interest is the actual circumstances under which they are true. Hume is never primarily interested in the analysis of ordinary linguistic meanings,¹ and his metaphysical views are heavily influenced by epistemological considerations concerning the empirical meanings of important philosophical concepts. This is as true of his analysis of causation as it is of his other metaphysical theories.

Notoriously, Hume holds that the real meaning of a term is the idea to which it refers. To each idea there corresponds one or more impressions, of which the ideas are copies. In his examination of causation, Hume's procedure is to identify those sensory impressions that compose the complex idea of causation.

1. Hume repeatedly rejects as inadequate the ordinary meanings of important philosophical terms. The following is an example: "These words ["force," "power," "energy"], as commonly used, have very loose meanings annexed to them; and their ideas are very uncertain and confused" (EHU, Sec. 60n). The many passages in Hume's writings to this effect are thoughtfully analyzed by James Noxon, *Hume's Philosophical Development* (Oxford: Clarendon Press, 1973), pp. 134f.

Armed with this doctrine about meaning, Hume eventually isolates three empirical relations—*contiguity*, *succession*, and *constant conjunction*—and proclaims them the essential elements of the idea of causation. Additionally, and somewhat surprisingly, he cites an apparently nonempirical element as essential to causation: *necessary connection*. Hume's theory of causation largely consists of a close analysis of these four relations, where special attention is given to constant conjunction and necessary connection, the latter of which Hume believes to be subjective in origin, but which he nonetheless believes of "much greater importance" than either contiguity or succession (T, 77). There is no better summary of his basic doctrine than that which he provides in *An Abstract of a Treatise of Human Nature* (A, 11f, 22f):

Here is a billiard-ball lying on the table, and another ball moving towards it with rapidity. They strike; and the ball, which was formerly at rest, now acquires a motion. . . . There was no interval betwixt the shock and the motion. *Contiguity* in time and place is therefore a requisite circumstance to the operation of all causes. 'Tis evident likewise, that the motion, which was the cause, is prior to the motion, which was the effect. *Priority* in time, is therefore another requisite circumstance in every cause. But this is not all. Let us try any other balls of the same kind in a like situation, and we shall always find, that the impulse of the one produces motion in the other. Here, therefore is a *third* circumstance, viz. that of a *constant conjunction* betwixt the cause and effect. Every object like the cause, produces always some object like the effect. Beyond these three circumstances of contiguity, priority, and constant conjunction, I can discover nothing in this cause. . . .

In the considering of motion communicated from one ball to another, we could find nothing but contiguity, priority in the cause, and constant conjunction. But, besides these circumstances, 'tis commonly suppos'd, that there is a necessary connexion betwixt the cause and effect, and that the cause possesses something, which we call a *power*, or *force*, or *energy*. The question is, what idea is annex'd to these terms? If all our ideas or thoughts be derived from our impressions, this power must either discover itself to our senses, or to our internal feeling. But so little does any *power* discover itself to the senses in the operation of matter . . . [and] our own minds afford us no more notion of energy than matter does. . . . Upon the whole, then, either we have no idea at all of force and energy, and these words are altogether insignificant, or they can mean nothing but that determination

of the thought, acquir'd by habit, to pass from the cause to its usual effect.²

At the end of his analysis, Hume provides two definitions of "cause," one of which emphasizes constancy of conjunction and the other of which emphasizes necessary connection in the form of a "determination of thought":

(Df₁) We may define a CAUSE to be "an object precedent and contiguous to another, and where all the objects resembling the former are plac'd in like relations of precedency and contiguity to those objects, that resemble the latter."

(Df₂) [We may define a CAUSE to be] "an object precedent and contiguous to another, and so united with it, that the idea of the one determines the mind to form the idea of the other, and the impression of the one to form a more lively idea of the other." (T, 170)

A multitude of connected problems are submerged in this account of causation.³ The primary problem is that of determining which of these two apparently different definitions expresses Hume's theory of causation. Some of Hume's expositors maintain that he holds a regularity theory of causation, while others maintain that he holds a modified necessity theory. Still others, appealing to apparent incompatibilities between these two views, conclude that Hume holds no consistent theory of causation whatever, and even that such a theory was not among his objectives. We contend, against all these interpretations, that Hume maintains neither of these two theories explicitly, but that implicitly he is committed to both—a tension in his work unresolvable by textual analysis alone. However, we think this tension can be resolved by nontextual considerations, and we shall eventually defend *both* of Hume's theories in the form of a single unified theory.

The problems discussed in this chapter have escaped the notice of many of Hume's expositors because they have failed to

2. Reprinted by permission of Cambridge University Press from the 1938 edition, edited by J. M. Keynes and P. Sraffa.

3. We take Hume at his word when he claims to offer definitions of "cause." Wade Robison has argued, however, that Hume's "precise definition of cause and effect" (T, 169) is not an attempt at a definition or analysis of causation, but rather is a definition of causal judgment. See his "Hume's Causal Scepticism," in *David Hume: Bicentenary Papers* (Edinburgh: Edinburgh University Press, 1977), esp. p. 157.

grasp both the diversity of aims embedded in Hume's analysis and the limitations placed by certain of his epistemological principles on analysis of causation. In order to support this claim, a brief interpretation of Hume's aims will first be presented. His commentators' mistakes will then be considered. Finally, the alleged incompatibilities between his theories will be explored, and it will be explained why his philosophical principles lead to two definitions and to two theories of causation.

I

In the *Treatise* Hume seems to regard necessary connection as the most essential element in the idea of causation because it provides the foundation for inference from cause to effect or from effect to cause; that is, it underlies our claim that whenever the cause is present the effect *must* follow (T, 73-77, 89, 165). But since he also maintains that no quality of necessity in objects is empirically observable, Hume is faced with the task of giving an empiricist explanation of the derivation of this idea from experience.⁴ He must track down the primal impression. Ultimately, of course, he finds that the idea of necessary connection is directly derived from an internal impression and indirectly derived from a constant conjunction of objects.

If one reads Hume as a sceptic about causation, it is tempting to suppose that he actually denies that causes are necessarily connected with their effects, or perhaps even that causes exist. Richard Taylor, for example, contends that Hume can easily be interpreted as eliminating entirely the idea of necessity from the idea of causation, while A. H. Basson takes Hume to be attempting to explain how people are mistaken in supposing that causation involves necessary connection in addition to uniform sequence.⁴ Hume certainly wishes to deny that there is any necessary connectedness between objects themselves. But does he wish to deny that a genuine *cause* is in any sense necessarily connected with its effect? It is more difficult to understand Hume

4. A. H. Basson, *David Hume* (Baltimore: Penguin Books, 1958), pp. 73-76. Richard Taylor, "Causation," *The Encyclopedia of Philosophy*, Vol. 2, p. 58, and "Causation," *The Monist* (1963), p. 291.

on this point than is generally recognized. On the one hand, he normally maintains that the idea of necessary connection is central to the notion of causation. On the other hand, his definitions of "cause" do not specifically mention the idea of necessary connection. Furthermore, he frequently intimates that the idea of necessary connection, together with its near synonyms and cognates, is the product of a universal propensity unnoticed even by philosophers to graft mind-dependent relations onto nature.

This matter may be clarified by introducing the distinction between philosophy as description and philosophy as revision. Is Hume attempting to describe the idea of causation by listing its essential features, or is he attempting to revise it after pointing to unwarrantable suppositions submerged in the common idea? The latter would be a reconstructive analysis which cared little for what some users of the language have in mind and still less about an analysis of the ordinary meaning. It is perhaps a subtle conflict between these two tasks of describing and revising common ideas that leads to perplexity on the question whether causes are, in his analysis, necessarily connected with effects.

One can easily be led to misapprehend Hume's actual goals by overemphasizing his repeated assertion that the main thrust of his investigation is to explain what it means to say that there are necessary connections. His aim is twofold: (1) to describe the common concepts "cause" and "causal necessity" and (2) to explain what "necessary connection" *means* by tracing it to the impression which is its source. These are different tasks, yet both are conceptual investigations. The first isolates the essential elements in the ordinary idea of cause, analyzes each one, and shows the idea of necessary connection to be a central element. But the second and not the first task is Hume's primary interest, for it alone provides the revision of the ordinary meaning that reflects Hume's discoveries of the truth conditions for causal statements. The second is an investigation into those basic experiences from which the common idea is derived; the "more precise meaning"—the revisionary meaning—is sought (EHU, Sec. 49). When captured, it may provide a solid basis for revising the ordinary concept in addition to overcoming its obscurity. The first task is a commitment to describe in what sense the idea of necessary connection is essential to the ordinary

idea. The second task presupposes the first but carries no similar commitment. Revising the meaning is, for Hume, revising both the ordinary concept of causation and incorrect philosophical concepts; but this revision entails neither revision of the way in which the term "cause" is ordinarily used for purposes of inference nor revision of the ways in which causes are identified. Rather, a revision of what Hume calls the "inveterate prejudices of mankind" is demanded (T, 166). It is not the ordinary use of the term, but rather the common conception or belief about causes that needs revision; and Hume is equally concerned to refute the philosophical account of causation given by rationalists, as we shall later see.

Hume's task of describing how the idea of necessary connection is essential to the idea of causation is carried out by showing that the latter idea would be disastrously diminished were the former removed and that there would then be no basis for causal inference (EHU, Sec. 22). Hume's descriptive work, like his quest for an impression of connection, is indirect; he studies necessary connection largely through the inferences based upon it (T, 88). An example will make this clearer. Suppose a person A were simply to mention or itemize the empirical features of contiguity, succession, and constant conjunction to his colleague B. It is quite possible that B would not understand at all that a statement asserting a causal relation was being uttered. If A were to say that a train's rumble every morning at 7:00 slightly precedes and is contiguous with poor lighting in his bathroom, B would not know whether the statement is a causal one, a statement of coincidence, or merely a report. Obviously something is missing; in Hume's view it is the element of necessary connection or power (T, 88, 155). If A says the rumble *causes* the poor lighting, B understands him to mean that, given the rumble (presuming normal conditions prevail), the poor quality of the light *must* occur.

Hume here points out that the term "necessity" is used to express belief that, given a cause, only one outcome can be expected in the circumstances. If two or more mutually exclusive outcomes were in prospect, we would say any particular outcome is merely possible or probable. Saying that X and Y are *necessarily* connected is our way of proclaiming the "impossibility," given nature's uniformity, of any x being succeeded by a non-y

(cf. EHU, Sec. 47). By regarding nature in this way, we are certainly not presupposing the rationalist view that causes entail effects. Only philosophers would even speculate on the parallel. Rather, belief in necessary connectedness is belief in the order and regularity of a universe where like effects follow like causes just as regularly as conclusions follow from appropriate premises (EHU, Sec. 59). The term "necessity" is used to express this belief.

As Hume fully realizes, his description of the ordinary use of the term fails to answer the important philosophical question—no doubt recondite to the common user—wherein the necessity lies. However, his revisionary work leads to a definite stance on such issues. His strategy, at least in the section of the *Enquiry* (VII) devoted to necessary connection, is first to determine how essential that idea is to causation, then to trace the idea to an impression source, and finally to assert the paradox that the idea *seems* meaningless:

One event follows another; but we never can observe any tie between them. . . . The necessary conclusion *seems* to be that we have no idea of connexion or power at all, and that these words are absolutely without any meaning. (EHU, Sec. 58)

But immediately after propounding the paradox, Hume begins to dispel this overly sceptical view by a "method" showing that "when we say . . . that one object is connected with another, we mean only that they have acquired a connexion in our thought" (EHU, Sec. 59). He of course traces the idea and the connection to an impression of *reflection*. This is the more precise meaning promised at the beginning of Section VII (Sec. 49).

Hume intends to say not that ordinary statements about necessary connections between objects are meaningless and consequently to be eliminated, but rather that, philosophically speaking, the idea is more obscure than usually supposed and sometimes carries the false supposition that necessary connections exist in or between the objects themselves. There simply are no experiences to justify the latter claim. There is, however, an experience of associating objects (the "new impression") that justifies the way we ordinarily use terms to make causal inferences. That *usage* is not mistaken, and the terms so employed are not meaningless. A mistake occurs only when there

is psychological projection of compulsion from the internal to the external and when causal terms are improperly used to refer to the external region. In his revisionary work Hume fulfills his initial promise to deliver a precise meaning of "necessary connection." But in his descriptive work he seems to grant that the way causal terms are commonly employed is meaningless only to the extent that an internal impression is taken to be an impression of sensation (cf. T, 168).

The task of revising causal notions begins to supplant the task of description with the development of the negative thesis that *there are no necessary connections in objects independent of experience*, a claim Hume refers to as the most "violent" of "all the paradoxes" in the *Treatise* (T, 165-67). ("Paradox" here seems to mean a thesis contrary to common belief and so entailing certain revisionary conclusions.)

In studying precisely how Hume's search for the original impression of necessity leads to conclusions that revise or reconstruct the common concept of causation, it is crucial to keep the following question in mind. After Hume has introduced the notion of constant conjunction, does he mean to revise the common concept by dropping the idea of necessity-in-objects as essential and substituting necessity-in-mind, or by dropping the idea of necessity altogether and substituting constant conjunction? Is he maintaining that causal relatedness consists essentially in: (1) a *necessary connection* between constantly conjoined objects *made by the mind*, a modified necessity theory that would merely revise certain common ideas about the nature of connectedness, or (2) a *constant conjunction* between disconnected successive objects, a pure regularity theory that would radically revise the common idea, or (3) both 1 and 2?

The textual evidence for Hume's revisionist position is characteristically difficult to untangle, yet it acquires a certain clarity when approached from two different, but compatible, perspectives:

- (1) as a *genetic account* of the acquisition of causal beliefs;
- (2) as a *reductionist account* of the idea of causation.

As a genetic account, Hume's argument may be divided into the following theses: the mind notices several similar pairs of objects that are constantly conjoined; this discovery leads to

a new internal impression of which the ideas of necessary connection and power are copies; this internal impression is gradually attributed to external objects, leading us to believe mistakenly that necessary connections and powers exist between objects themselves and to make that belief an essential factor in our idea of causation. The correction of this mistake is the first project in Hume's task of revision. His conclusion at this stage includes a denial of the common belief in natural necessities independent of experience but does not include a denial of the common belief that necessity is essential to causation.

As a reductionist account, Hume's analysis attempts to show that the idea of causation is chiefly based on and is virtually reducible to the idea of necessary connection, which is then shown to be based on and to be reducible to connection in thought (customary imaginative transition). The connection in thought, in turn, is shown to be based on ("arises from," in Hume's language) the experience of constantly conjoined similar objects. So far as the relation apart from experience is concerned, the "connection" is entirely reducible to similar sets of separate objects repeatedly conjoined. At this stage necessity seems to be eliminated entirely as a criterion of causation, and Hume's theory appears to advance beyond the mere correction of a mistaken belief about causal connection to a positive reconstruction of the nature of causation that is quite different from ordinary ideas.

This distinction between Hume's reductionist and his genetic aims, we may tentatively hypothesize, accounts for the differences noted above in Hume's two definitions of cause.

II

But significant textual problems arise at this point. As Antony Flew points out, Hume curiously eliminates all mention of necessary connection in his definitions of "cause." After devoting a whole section to tracing the original of the idea, and finding it, we expect his definitions to reflect the "something more" than mere constant conjunction. Instead, says Flew, "he writes rather as if he had shown: not that talk of necessity does after all have some sense here, and what sense it has; but that really it has little or none, and arises from a misconception—

the projection of a mental association out on to a physical conjunction."⁵ Flew's argument could be strengthened by mention of another puzzling fact. Hume says, both before and after the passages in the *Enquiry* and the *Treatise* where the definitions are formulated, that no adequate definition of cause can possibly be given "without comprehending, as a part of the definition, a *necessary connection* with its effect" (T, 77ff, 407; EHU, Sec. 74).

However, Flew's objection can be met. While it is true that neither the term "necessary connection" nor the *idea* (or copy) is mentioned in Hume's definitions, the impression (or original) is not entirely omitted. Hume's second definition in the *Enquiry* is "an object followed by another, and whose appearance always *conveys the thought* to that other" (EHU, Sec. 60, italics added). He mentions, in introducing the definition, that we have experience of this "customary transition." Flew seems to confuse the absence of the term with the absence of the term's meaning. The comparable definition in the *Treatise* similarly mentions mental *determination*. Hume appears in both cases to be defining causation in terms of the relevant empirical features of objects and a feature of mind. It is true that the first definition omits explicit reference to the crucial impression, but it should be noticed how Hume introduces that definition in the *Enquiry* (Sec. 60, italics added):

Similar objects are always conjoined with similar. Of this we have experience. *Suitably to this experience*, therefore, we may define a cause to be an object, followed by another, and where all the objects similar to the first are followed by objects similar to the second.

The italicized prefatory remark qualifies the definition and perhaps further removes the force of objections such as Flew's. It must be admitted, however, that it is not entirely clear how this introduction should be construed. It may indicate that an object can be a cause only if suitably experienced, or it may merely mean that through experience we know there to be instances of similar objects constantly conjoined.

5. Antony Flew, *Hume's Philosophy of Belief* (London: Routledge & Kegan Paul, 1961), p. 123.

III

In any case, the problem raised by Flew is merely an introductory one that foreshadows a more disturbing interpretative question. J. A. Robinson has argued in detail the thesis that Hume's two definitions are neither intensionally nor extensionally equivalent, that only the first definition really defines the causal relation, and that the first alone is a philosophical analysis while the second is a statement of an empirical psychological theory mistakenly described by Hume as a definition. Robinson argues, specifically against Norman Kemp Smith, that Hume's theory of causation is intended to be a pure regularity theory that does not rest on a psychological theory of association. Kemp Smith's contention is that

Hume is no supporter of what is usually meant by the "uniformity" view of causation. As he is careful to insist, causation is more than sequence, and more also than invariable sequence. We distinguish between mere sequence and causal sequence; and what differentiates the two is that the idea of necessitation (determination or agency) enters into the latter as a quite essential element.⁶

Robinson believes this interpretation confuses philosophical analysis of the concept of causation with psychological explanation of belief in necessary connection. Against all such interpretations, Robinson thinks Hume holds a pure regularity theory:

[Df₁] is Hume's *definition* of the cause-effect relation, embodying his analysis of it as nothing more than an instance of a general uniformity of concomitance between two classes of particular occurrences, and as quite independent of any associations of ideas which may or may not exist in human minds.⁷

6. Norman Kemp Smith, *The Philosophy of David Hume* (London: Macmillan, 1941), pp. 91-92 (and quoted in Robinson, p. 41, fn. 7 below). Cf. also the statements by Kemp Smith on pp. 369 and 401. For a similar view, cf. R. W. Church, *Hume's Theory of the Understanding* (London: Allen and Unwin, 1968), pp. 81-84, and D. G. C. MacNabb, *David Hume* (Oxford: Basil Blackwell, 1966), 2nd ed., p. 106. A quite different view that accepts Kemp Smith's basic line of interpretation is offered in Barry Stroud, *Hume* (London: Routledge & Kegan Paul, 1977), pp. 88-92.

7. J. A. Robinson, "Hume's Two Definitions of 'Cause,'" *The Philosophical Quarterly* 12 (1962); reprinted in V. C. Chappell, ed., *Hume* (Garden City, N.Y.: Doubleday and Co., 1966; reissued by University of Notre Dame Press), pp. 129-47, with a "Reconsideration," pp. 162-68. Above quotation: pp. 138f.

Robinson buttresses this claim with two textual citations. First, he relies heavily on a passage notoriously exploited to exhibit Hume's belief that certain relations among external objects are mind-independent (T, 167-69). Secondly, Robinson correctly points out that, using the terminology of the *Treatise*, the second definition treats causation as a *natural* relation, while the first treats it as a *philosophical* relation. A philosophical relation involves only a comparison between two ideas, whereas an association between them is made in a natural relation (T, 170). Robinson compares this section of the *Treatise* with an earlier portion (10-15) where Hume explains the natural-philosophical distinction. Hume there enumerates seven genera of philosophical relations, which include the three natural relations of resemblance, cause-effect, and contiguity. Robinson takes Hume to mean that *all* relations are by definition philosophical, while the three natural ones happen also, in Hume's words, to "produce an association among ideas" (11). According to Robinson, Hume's explanation in the later sections, where causation is defined, turns attention from the ideas associated to the objects themselves and asks whether there is some property of the relation between these objects that accounts for the produced association between the ideas. In other words, is there something in the relation that explains the "setting up or inducing in the subject's mind of dispositions to pass" from one idea to another?⁸ This question leads to Robinson's most distinctive interpretation of Hume's notion of natural relation:

Naturalness is then simply the property of any relation *R* between a thing or event *A* and a thing or event *B* (not between the *idea* of *A* and the *idea* of *B*) whereby the observation of *A* and *B* standing to each other in the relation *R* is enough to induce an association between the idea of *A* and the idea of *B*. . . .

Hume's notion of naturalness is *dispositional* in character: *A*'s relation to *B* is *natural* if observation of *A* and *B* standing to each other in the relation in question would produce an association between the idea of *A* and the idea of *B*. This allows *A* and *B* to be naturally related without ever having been observed.⁹

Robinson claims that the existence of these natural relations is a contingent matter of fact discovered by psychology. By con-

8. *Ibid.*, p. 136.

9. *Ibid.*, pp. 136f, 164.

trast, relations discovered by philosophy would exist even in the absence of any natural ones:

To say that a relation *R* is "philosophical" is to make a factually empty statement; *all* relations are philosophical. . . . It must not be thought that here we have a classification of all relations into two kinds, philosophical on the one hand and natural on the other. Thus the cause-effect relation, being a relation, is *ipso facto* a philosophical relation, and therefore to define it "as" a philosophical relation is, simply, to define it.¹⁰

Predictably, Robinson further contends that Hume wanted to show by his first definition that it is a "philosophical error" to include necessary connection in the *analysis* of the causal relation and that he only sought to explain, in terms of natural relations, why the error was committed by (pseudo-) definition Df₂.¹¹

Robinson's interpretation is certainly inviting. It is well grounded in some regions of the *Treatise*, neatly holds together Hume's psychology and philosophy, and has other advantages as well. Similar analyses have subsequently been offered by Nicholas Capaldi and Terence Penelhum.¹² Unfortunately, the textual evidence against this interpretation is equally strong. This apparently paradoxical situation is to be explained, we shall argue, by the dual presence in Hume's system of: (1) the conjunction of his analysis of the common concept of causation and his genetic account and (2) his revision of the concept as prescribed by his reductionistic account. Hume's prevalent habit of both advancing and restraining his reductionism is the source of the problem.

But before passing to these deeper issues, several reasons for questioning Robinson's interpretation should be noted. First, as previously mentioned, Hume insists both before and after giving the definitions that "necessity makes an essential part of causation" (T, 407). He does not say an essential part merely of the *idea*, as consistency would require were Robinson's inter-

10. *Ibid.*, p. 138.

11. *Ibid.*, p. 140; cf. Basson, *op. cit.*, pp. 73f.

12. Nicholas Capaldi, *David Hume: The Newtonian Philosopher* (Boston: Twayne Publishers, 1975), esp. pp. 120-23. Terence Penelhum, *Hume* (New York: St. Martin's Press, 1975), esp. pp. 46f, 53-57.

pretation correct. Similarly in the *Enquiry*, Hume defiantly challenges anyone to "define a cause without comprehending as a *part of the definition*, a necessary connection with its effect" (Sec. 74, our italics). These statements cannot be interpreted as isolated and casually expressed fragments, since in both books Hume follows them with the claim that removal of necessity removes causation.

Second, Hume's discussions of necessary connection seem dedicated to the discovery of an original impression that would *justify* use of the term "necessity." It would appear that Hume rightly should speak of something more than constant conjunction in his definitions. Perhaps, then, Robinson's thesis could be reversed—the second definition being the only true definition and the first mistakenly so regarded. The passages mentioned in the previous paragraph support this suggestion, as might the qualifying clauses already cited in regard to Flew, since they arguably tend to incorporate the impression of mental expectation into every definition in the *Enquiry*.

Third, Robinson's claim that for Hume causal relations among external objects are mind-independent may be regarded with suspicion, since there is no statement in the *Treatise* that explicitly affirms the existence of causal relatedness independent of experience. In the only place where Hume forthrightly says "Thought may well depend on causes for its operation, but not causes on thought" (T, 167), he uses the statement, and some similarly explicit ones, as an argument an *adversary* might adduce against the paradoxical character of his own theory. Hume's imaginary opponent is also represented as saying:

What! the efficacy of causes lie in the determination of the mind! As if causes did not operate entirely independent of the mind, and would not continue their operation, even tho' there was no mind existent to contemplate them, or reason concerning them. (T, 167)

Hume does not explicitly maintain the directly opposite thesis—that causes do *not* operate independently of the mind—but he does introduce his imaginary adversary's objection as a notion contrary to his own sentiments. At any rate, it seems curious that the sole statement unquestionably supporting Robinson's claim is expressly introduced as the reactionary outburst of an opponent. Hume does say, on the very next page, that "As to

what may be said, that the operations of nature are independent of our thought and reasoning, I allow it" (168); but he does not here say that *causal* relations are independent of thought, despite an acknowledgment that contiguity and succession exist independently. Also, it must be remembered that later in the *Treatise* Hume provides a psychological theory to explain why we suppose there to be an external universe. Hume's "admission" in the passage just cited (168) may only be his acknowledgment of what we must psychologically believe.

There is a still more important problem with Robinson's mind-independent argument. The passages he cites from Hume are actually *irrelevant* to Robinson's major thesis. If causation consists purely in constant conjunction, then it is unimportant, for purposes of *defining* causation (in Robinson's sense of definition), whether or not these constant conjunctions exist independently of experience. Whether the objects are constantly conjoined in experience or are so conjoined external to experience, they are all alike causally related. That they might be associated by an experiencing mind is, as Robinson puts it, a contingent psychological matter, not a definitional consideration.

Fourth, if one looks for even implicit support of Robinson's larger thesis in the *Treatise*, one is unlikely to find more than suggestive but distressingly ambiguous statements. The bulk of Book I, relevant to causation, is devoted to theories of mental activity, especially to the nature of necessary connection, causal inference, and belief. Having surveyed these subjects, Hume inserts the following rather puzzling remark immediately prior to the formal framing of his definitions:

'Tis now time to collect all the different parts of this reasoning, and by joining them together form an exact definition of the relation of cause and effect, which makes the subject of the present enquiry. This order would not have been excusable, of first examining our inference from the [causal] relation before we had explain'd the relation itself, had it been possible to proceed in a different method. But as the nature of the relation depends so much on that of the inference, we have been oblig'd to advance in this seemingly preposterous manner. . . . (T, 169)

Numerous passages such as this one leave it unclear both whether causal relatedness depends at least in part on connection in thought and whether Hume is confusing his genetic inquiry with his reductionist purposes.

And, fifth, should the *Treatise* be set aside in favor of the briefer but author-touted *Enquiry*, not the slightest corroboration for Robinson's interpretation can be found. Hume neither introduces nor relies upon the philosophical relation-natural relation distinction; he simply enumerates three "principles of connection" in the opening sections (EHU, Sec. 19). Yet, as Robinson admits, the definitions themselves remain substantially the same.

IV

In spite of these preliminary objections to Robinson's pure regularity *interpretation*, we are prepared to go some way toward accepting his *conclusions*. The main barrier to accepting Robinson's arguments is the oversimplified way in which he sweeps aside countervailing passages, for Hume's several enterprises are never successfully drawn together in the neatly consistent package Robinson presents.¹³ To obtain a clearer picture of what seems an inadvertent ambivalence in Hume's reflections on causation, his overall enterprise (as depicted above, in Section I) and its direction must first briefly be recalled.

After identifying the essential "idea of necessary connection," Hume directs his efforts toward discovering its original impression. The entire investigation is so far genetically directed. This context of inquiry does not itself dictate a revisionary or paradoxical theory of causation, for he might have followed certain predecessors in the nonparadoxical thesis that we have impressions (of sensation) of power, force, energy, etc. and that it is from these impressions that the idea of necessary connection is derived. Finding this thesis untenable, Hume turns instead to the category of impressions of reflection. The genetic quest for an original impression thus seems complete. But Hume feels impelled to explain further *why* the internal impression arises; he does so by citing experienced constant conjunctions.

13. Robinson does find some confusion in Hume's failure to distinguish "empirical psychology" from "philosophical analysis" and says this failure misleads readers. But Robinson also thinks, mistakenly, that the misleading feature can be corrected and Hume rendered consistent by *textual* analysis. We argue in later chapters that only a reconstruction of Hume's arguments can eliminate the tensions between his various enterprises.

The latter explanation is introduced as an extension of the genetic investigation. It locates the nonmental or purely sensory source of the idea being traced. But Hume's citations of constant conjunction often seem to play a second role over and above their function in the genetic account. Hume has a tendency (especially in the *Treatise*) to ignore momentarily the context of investigation and to speak as though causation could be reduced entirely to repetition of sequence; i.e., he is sometimes inclined to say that causes are *nothing but* similar objects constantly conjoined with their associates. This tendency appears only infrequently. Apart from the first definition, the following are the passages most clearly exemplifying the reductionistic strain in his writings:

Relation of cause and effect is a seventh philosophical relation, as well as a natural one. (T, 15)

We have no other notion of cause and effect, but that of certain objects, which have been *always conjoin'd* together, and which in all past instances have been found inseparable. We cannot penetrate into the reason of the conjunction. (T, 93)

Where objects are not contrary, nothing hinders them from having that constant conjunction, on which the relation of cause and effect totally depends. (T, 173)

Had it been said, that a cause is *that after which any thing constantly exists*; we should have understood the terms. For this is, indeed, all we know of the matter. (EHU, Sec. 74n)

Since these reductionistic sentiments carry Hume away from his immediate investigation, he never develops them and is always faithful in returning to the topic at hand. Moreover, his reductionist-seeming statements are all so unguarded that they veil rather than clarify his intentions; and they only appear exclusively reductionistic when isolated from their contexts. As previously mentioned, some statement of necessary connectedness in the mind always accompanies statements of the sort quoted above.

If one turns from the *Treatise* to the *Enquiry*, one finds striking passages to illustrate these problems. Consider the following quotations from the section on "Liberty and Necessity" (EHU, Secs. 75, 74n; cf. T, 399f):

Necessity may be defined two ways, conformably to the two definitions of *cause*, of which it makes an essential part. It consists either in the constant conjunction of like objects, or in the inference of the understanding from one object to another. Now necessity, in both these senses, (which, indeed, are at the bottom the same). . . .

Constancy forms the very essence of necessity, nor have we any other idea of it.

These passages seem entirely incompatible with many of Hume's statements on the nature of causal necessity. He almost always insists that necessity is "nothing but an internal impression of the mind" (T, 165) and cannot consist in the relation of constant conjunction. Perhaps, in asserting this equivalence, he *means* to say what he says in a parallel portion of the *Treatise*: "'Tis the constant conjunction of objects, along with the determination of the mind, which constitutes a physical necessity" (T, 171). But the former passage, as it stands, is not consistent with the latter.¹⁴

Such confusing passages seem the product of Hume's conviction, presented while *describing* the idea of causation and reinforced by his genetic investigation, that necessary connection is an absolutely essential ingredient of the common idea. Whenever he discusses causes, even following the presentation of his revisionary and genetic theses, he seems implicitly to presuppose a thesis of the order of "necessary connectedness is a logically necessary condition of causal relatedness." His reductionist tendencies come to the foreground only to the extent that he uncritically relaxes or suppresses this thesis, as his revisionary efforts tend naturally to allow.

To put the point briefly, perhaps oversimply, Hume's text harbors two incompatible lines of thought:

- (1) Similar objects constantly conjoined with others, considered apart from experience, are not causes; they are properly causes only if necessarily connected.

14. This incompatibility charge is challenged in Robert McRae, "Hume on Meaning," *Dialogue* 8 (1970), esp. pp. 488-91. McRae claims that while there are two impression-sources of the idea of necessity (constant conjunction and mental determination), there is only one *idea*. There are then two different definitions of the same object. We cannot agree with his proposals, because we cannot see that Hume's argument requires or even implies that there is only one idea of necessity.

- (2) Similar objects constantly conjoined with others, considered apart from experience, are causes; the mind imposes a necessary connection when it discovers this relation.

Unfortunately, Hume never explicitly argues for or against (2), a pure regularity theory, or (1), a modified necessity theory, in a way that would indicate his true doctrine.

The real depth of Hume's hesitation between (1) and (2) can only be appreciated when it is realized that he is actually committed to both accounts by certain of his key philosophical principles—a conclusion for which we shall argue in the next two sections.

V

Let us now consider exclusively Hume's tendency toward a pure regularity theory. In addition to the philosophical relations-natural relations distinction, which Robinson rightly regards as *evidence* for a pure regularity interpretation, Hume seems committed to this theory by the circularity of his definitions, by his comments on "unknown causes," by his criticisms of causal beliefs, and by his Rules. These four aspects of his work deserve individual assessment as pillars for the pure regularity hypothesis.

First, as several interpreters have observed, the second definition is circular and parasitic upon the first.¹⁵ In both the *Treatise* and the *Enquiry*, Df₂ is explicated in terms of constantly conjoined objects plus their effect on the observer (T, 165). "Determination of the mind" and "conveyance of thought" are the effect words employed. The mind acquires this habit by observation of constantly conjoined objects, which elsewhere are said to "influence" it and to "produce" an association among ideas (T, 155, 163, 172). X is the cause of Y partly because their regular conjunction *causes* another event Z (a feeling). Since the only way to understand such causal language is through Df₁, Hume must mean that the habit of mental expectation regularly follows and is temporally contiguous with certain ob-

15. Cf. C. J. Ducasse, "Critique of Hume's Conception of Causality," *Journal of Philosophy* 63 (1966), p. 142, and reprinted in Tom L. Beauchamp, ed., *Philosophical Problems of Causation* (Encino, Calif.: Dickenson Publishing Co., 1974). Cf. also Penelhum, *op. cit.*, p. 55.

servations of the first among constantly conjoined objects. His second "definition," on this reading, is not a definition at all, but an application or instance of the first definition.¹⁶

Second, as Robinson notices, Hume frequently indicates that on those occasions when the cause of some event is "secret," "unobserved," or "unknown," the event nonetheless *has a cause*, or at least we presuppose that it has a cause. Despite his insistence on restricting the use of induction, Hume praises those philosophers who adopt this "maxim" of uniformity rather than submit to the vulgar notion that there is fortuitous "irregularity in nature" (EHU, Secs. 47, 67f; T, 132). In this context "cause" seems to mean "pure regularity," because application of the uniformity maxim to concealed events presupposes causes where there are no observers to have feelings of determination.

Third, suppose momentarily that Hume actually does hold a modified necessity theory based on his genetic account. This theory would amount to nothing more than an explanation of the way in which causal beliefs are formed; it could not be construed in any sense as a framework for *justifying and criticizing* causal beliefs. Yet numerous passages clearly indicate that Hume regards himself both as a critic of causal beliefs and as a codifier of procedures for the justification of causal beliefs. When he criticizes theology, the evidence of the senses, education, dogmatism in all forms, belief in immortality, miracles, etc., he is clearly doing more than merely explaining how such beliefs are formed. He speaks of correcting factual beliefs about causal reasoning, so as to render the evidence of sensory experience "proper criteria of truth and falsehood" (EHU, Sec. 117), and his short section on "Rules by which to judge of causes and effects" (T, I.iii.15) is primarily intended to provide procedures for justifying causal beliefs.

Fourth, it appears that the feeling of expectation required by

16. Flew (*op. cit.*, pp. 122f) argues that the circularity charge is unfounded. He thinks "determination" and "conveys" are technical terms "for the alleged impression of habitual association" and are not *causal* terms. Of course, "determination" and its synonyms do refer to the impression, but Flew fails to see that they are also effect words for Hume, since the observation of *x* is regularly followed by the feeling *z*. (In private correspondence Professor Flew writes that "I have never been happy with either what I published or what I wrote and rejected in earlier drafts. And I am uneasy now." Correspondence of August 24, 1979.)

a necessity interpretation need play no role in verifying the existence of causal relations. This can be seen by considering the Rules section of the *Treatise*. Hume's intention in that section is to "fix some general rules, by which we may know when [causes and effects] really are so" (T, 173). The task is to specify the conditions that warrant causal statements. One needs rules if one is to determine the objective validity of such statements; Hume provides eight, the first four of which will suffice for present purposes. They form a set of individually necessary and jointly sufficient specifications of the truth of causal assertions:

- (1) The cause and effect must be contiguous in space and time.
- (2) The cause must be prior to the effect.
- (3) There must be a constant union betwixt the cause and effect. . . .
- (4) The same cause always produces the same effect, and the same effect never arises but from the same cause. (T, 173)

Hume treats rules (1) and (2) as stating the conditions of *conjunction* of cause and effect. They may be combined into one rule:

- (1a) The cause and effect must be conjoined.

(3) and (4) also may be combined, as follows:

- (2a) All objects of Type C are conjoined with objects of Type E; all objects of Type E are conjoined with objects of Type C.

According to (2a), causal relations are expressible in the form of universal generalizations (general laws). The "always" in Hume's formulation has tenseless reference to the complete set of particular sequences constituting instances of the laws; "all" performs this function in (2a). Singular causal statements, if questioned, could be supported by evidence corroborating the generalization relevantly satisfying (2a). If one knew that both of these specifications were fully satisfied in the case of particular objects *x* and *y*, he would know that "*x* causes *y*" is a true statement and that the inference from its antecedent to its consequent is warranted.

Hume's Rules seem to recognize that the validity of causal inferences does not depend on whether observers, when placed in the relevant circumstances, acquire the feeling of determina-

tion. Any observer who knew (*per impossibile*) that the above specifications were satisfied could make valid inferences without the occurrence of any internal impression of determination. Thus, no necessary connection, in Hume's psychological sense, need be involved in the causal relation, even if the idea of necessary connection is essential to the ordinary idea of the relation. Since satisfaction of the warrant-generating specifications provides all the evidence needed for the verification of causal statements, feelings of expectation add nothing essential and might even be misleading or mistaken (cf. Rule 6, p. 174).

According to this general analysis, Hume is committed to the position that any singular causal statement "*x* causes *y*" implies, indirectly perhaps, two conditions satisfying the above specifications:

- (1a') *x* is conjoined with *y*.
- (2a') All objects relevantly resembling *x* similarly are conjoined with objects relevantly resembling *y*.

This analysis perfectly conforms to definition Df₁—cause considered as a philosophical relation. Of course in ordinary causal statements, where an association is made between two objects, the asserter might know that (1a') obtains, but could only presuppose and not know the truth of (2a'). This person's presupposition would be manifested in a determination of the mind to pass automatically or "naturally" to *y* when *x* is present. This second analysis conforms closely to definition Df₂—cause considered as a natural relation.

Our analysis of Hume's commitments in his discussion of Rules thus generally accords with the conclusions reached in Robinson's analysis of the definitions, though our separate means to those conclusions differ markedly. Hume is committed, according to our pure regularity interpretation, to the claim that the actual warranting conditions of general causal statements ("*X* always produces *Y*") are different from the incomplete, inductively derived, warranting conditions ordinarily used ("*X* in all observed cases is known to have produced *Y*"). Both singular and general statements of the form "*X* causes *Y*" are true only when (1a') and (2a') are true, even though "*x* causes *y*" is ordinarily taken to be true whenever (1a') is true and (2a') is presupposed true in such a way that *X* is invariably associated with *Y*.

VI

The four arguments discussed in Section V favor a pure regularity theory, according to which Hume's second definition reduces to the first. By emphasizing others of Hume's principles it is possible to reverse these conclusions. It can be argued that the first definition reduces to the second and that a modified necessity theory is textually plausible. Especially important in this regard are Hume's theories of meaning, relations, and inductive generalization.

Consider first Hume's theory of meaning, while keeping in mind Robinson's claim that Hume's two definitions are neither intensionally nor extensionally equivalent. According to Hume's theory, the meaning of a word is the idea for which it stands, and all meaningful ideas are traceable to parent impressions. In the case of "causation," what is meant is the set of impressions to which the idea of causal relatedness is traceable. This set seems to involve essentially and irreducibly the feeling of expectation to which the idea of necessary connection is traceable. Nothing either more or less metaphysical can be meant, since the limits of what can be meant are set by experience, and there exists no other impression source. Accordingly, "*x* causes *y*" seems to mean "*X*'s are constantly conjoined with *Y*'s and normal observers feel *x* necessitating *y*."

In pursuit of this suggestion, a distinction must be introduced between observed constancy of sequence and unobserved constancy of sequence. By Hume's own admission, observed constancy of sequence provides an insufficient basis for calling a sequence "causal" unless a feeling of determination accompanies it:

I . . . enlarge my view to comprehend several instances; where I find like objects always existing in like relations of contiguity and succession. At first sight this seems to serve but little to my purpose. The reflection on several instances only repeats the same object; and therefore can never give rise to a new idea. But upon farther inquiry I find, that the repetition is not in every particular the same, but produces a new impression. . . . (T, 155)

Within the context of Hume's empiricism the project of revising an idea that has such good experiential roots, by reducing it to the idea of something fundamentally different (loose,

separate constancy of conjunction), seems doomed from the start. No impression can be identified that would show either that the idea under investigation *means* constancy or that it could (psychologically) be made to mean constancy. Yet the pure regularity interpretation takes us directly down this trail.

Moreover, it cannot plausibly be argued that Robinson's strategy of deemphasizing the notion of observed constancy, which seems to require a natural relation in order to be "considered" causal, while concentrating on unobserved constancy (i.e., constancy itself) as a philosophical relation, will improve the situation. Unobserved things are, of course, unexperienced; yet the notion of unobserved cases of *causation* can only be *understood* by means of immediately experienced impressions. The reductionistic analysis of causation is parasitic in meaning, then, on the genetic revisionary analysis, which gives the all-important experiential basis of causation. Accordingly, even if Robinson is correct in maintaining that the two definitions are neither intensionally nor extensionally equivalent, Hume's own theory of meaning or definition leads to the conclusions that the *second* is a primary definition and that Robinson's distinction between the first as a philosophical analysis and the second as an empirical psychological theory is tenuous at best.

This line of argument may be used to weaken the pillars supporting the pure regularity interpretation. First, the claim that correct inferences *could* be made without feelings of mental determination can be challenged. This is a logical "could"; correct inference without such feelings is logically possible. But Hume's theory of inductive inference runs against this logical grain. He indicates that no observer could, psychologically, make valid inferences without feeling determination. The contradictory of this contingent statement of psychological fact is, of course, logically possible; but Hume seems clearly to believe that if the relevant conditions were satisfied, any normal observer would experience an impression of determination and that independently of this feeling, no observer would be *motivated* to arrive at causal conclusions. Accordingly, the evidence needed to verify causal claims, as required by Hume's specifications, could not be recognized as evidence independently of feelings of expectation.

Second, Robinson assumes that for Hume philosophical relations are independent of mental processes. Hume has remark-

ably little to say about this matter, but his few comments on relations between objects (as distinct from "relations of ideas") indicate that philosophical as well as natural relations are the products of the mind's comparison of objects (T, 13f, 170). Philosophical relations obtain, on this interpretation, only if there exists an observer who does the comparing, for there is nothing in the ideas themselves on which the relation depends and to which it can be reduced. If this account of Hume's theory of relations is correct, it has important consequences for Robinson's interpretation. As Donald Gotterbarn has pointed out,¹⁷ Df₁ describes constant conjunction in terms of resembling objects. Since resemblance is a philosophical relation, a mental comparison seems required even by Df₁. More importantly, if mental acts are required for causal relations, then the two definitions may be extensionally (though not intensionally) equivalent after all. It is not likely that Hume would admit resembling conjunctions actually recognized as constant conjunctions to be extensionally distinct from those conjunctions accompanied by feelings of mental determination. Unfortunately, Hume's passages on relations are sufficiently opaque that they make it difficult to interpret his other theories in their light. Nonetheless, the mind-dependence interpretation has at least as plausible a textual basis as the mind-independence interpretation.

Third, Rule (2a), which is crucial for the pure regularity interpretation, requires that causal relations entail the existence of unrestricted universal generalizations. But Hume here confronts the problem encountered by logical positivists who held a strict verifiability theory of meaning. Since meaning is dependent upon verification by an impression or set of impressions, any meaningful statement entails and is entailed by a set of impression statements. Unfortunately, this demand cannot be met in the case of unrestricted universal generalizations, since they are

17. Donald Gotterbarn, "Hume's Two Lights on Cause," *The Philosophical Quarterly* 21 (April, 1971), pp. 168-71; "Hume's Definitions of Cause: Skepticism with regard to Leshner's Two Senses," *Journal of the History of Philosophy* 14 (January, 1976), pp. 99f; and "How Can Hume Know Philosophical Relations?" *The Journal of Critical Analysis* 4 (1973), pp. 133-41, esp. 135f, 139. Many problems in the interpretation of Hume on these matters are explored in Alan Hausman, "Hume's Theory of Relations," *Nous* 1 (1967), pp. 255-82.

not logically reducible to a finite set of impression statements. The problem is exacerbated in Hume's case by his scruples concerning laws of nature. He argues that we cannot *in principle* confirm those unobserved cases of causal relatedness required by Rule (2a). The evidence for such cases reduces completely to actually observed cases. But no universal generalization satisfying (2a) is fully confirmable by this evidential base, because there is no guarantee that the future will be "conformable to the past" (EHU, Secs. 30-32). To reduce causal statements to statements of uniformity of sequence independent of experience, then, is to reduce them to statements (causal laws) that are meaningless on Hume's account.

This modified necessity interpretation of Hume might be thought to carry a hidden benefit for anyone seeking to render Hume more consistent. Even though the second definition (Df₂) is, according to this second interpretation, Hume's true definition, the tension between the two definitions could be eased somewhat by regarding the first as a mere forerunner of the second. The second, then, would be considered Hume's only *complete* definition. Robinson's charge that the two definitions are mutually exclusive could be blunted in this way by a proponent of the necessity interpretation. In any case, by arguing for both interpretations we have tried to show thus far that Hume is committed, by different principles, to *both* definitions as true and primary. In reaching this conclusion we do not deny, of course, that there may be important relations between the two definitions.

VII

Our contention that there are two theories of causation and two resultant definitions of "cause" in Hume's text can be supported and extended as a defense of Hume by further considering his account of meaning.

We have seen that Hume says, "Necessity may be defined two ways conformably to the two definitions of *cause*" (EHU, Sec. 75), and that these two definitions of necessity state the word's two "senses." Hume's treatments of "necessity" and "cause" are but two examples of his standard approach to problems of meaning and definition. He has a general theory of definition,

and he employs it for the analysis of all terms: words obtain meaning through their customary association with ideas (T, 20-22), and all ideas derive from impressions. Determining the meaning of obscure terms is a matter of discovering the original impressions of which the ideas they name are copies. To define or give the meaning of a word, then, is to state what may be called its impression-source. That Hume finds two different impression-sources for the idea of necessity is understandable. His reductionistic account describes only the external impression-sources (impressions of sensation), as in Df₁; while the genetic account describes both the external and the internal (reflective) impression-sources, as in Df₂.

If this interpretation is correct, it follows that Hume's analysis *requires* that there be two definitions, two meanings, and two senses of "cause," just as Hume always says when he turns his attention explicitly to the number of definitions and meanings. And this is equally true of both "cause" and "necessity," as James Lesher has perspicaciously pointed out:

In the discussion of "necessity," Hume recognizes two *senses* (EHU, p. 97) of the term because there are two separate conditions which give rise to the idea, and since he is quite aware that neither constant conjunction nor mental determination is what is ordinarily meant by the term, he says that "as long as the meaning is understood, I hope the word can do no harm" (EHU, p. 97). . . . Since there are distinct experiences, there are distinct impressions, and hence distinct ideas of cause, or like "necessity," distinct senses of "cause."¹⁸

Lesher's interpretation is correct in all essentials, but needs modest clarification. Lesher might be taken to mean that distinct (and not merely distinguishable) *experiences* of constant conjunction and of mental determination eventuate in distinct impressions and ideas of causation. That view is of course incorrect. The idea of causation does not derive immediately from the experience of constant conjunction. For Hume there cannot (psychologically) be an experience of constantly conjoined causal

18. James H. Lesher, "Hume's Analysis of 'Cause' and the 'Two-Definitions' Dispute," *Journal of the History of Philosophy* 11 (July, 1973), pp. 387-92, esp. 391. Through correspondence with Lesher we have been significantly aided in structuring the clarification that follows this quotation (Correspondence of September 21, 1979).

items without an attendant mental determination, but philosophical analysis can distinguish the two different sets of impression-sources. To track down a word's meaning is for Hume not merely to trace an idea or a term to an impression-source, but also to reduce complex impression-sources to their simplest ingredients. Because he holds that the relationship between words and ideas is purely conventional, two quite different kinds of things may be called "causes," if we so choose to make the designation. The word can have two perfectly good senses even if a cause in one sense is always accompanied by a cause in the other sense. "Necessity," according to this analysis, means both (1) constant conjunction, which can be analyzed into a repetition of resembling impressions contiguously and successively related,¹⁹ and (2) the impression of mental determination produced by the constant conjunction. The two definitions of "cause" are shown to be extensionally nonequivalent by *analysis into* these two different impression-sources, which are coextensive in the *experience* of cause and effect.

This interpretation makes it possible to explain why there is both an intensional and an extensional nonequivalence. Leshner's argument leads correctly to the conclusion that there are two distinct senses of "cause" and hence an intensional nonequivalence. The two are extensionally nonequivalent, however, only if the elements of their different extensions can be distinguished by reductive analysis of the complex idea of cause. The extension of cause in sense Df₂ can on this interpretation be seen to have the additional ingredient of mental determination. This appears also to be the grain of truth in Robinson's otherwise incorrect claim that Hume's first definition is a philosophical analysis and the second merely a psychological theory.

This interpretation of Hume's account of definition has still other implications for theories such as Kemp Smith's and Robinson's, each of whom accepts the view that the two definitions

19. There are confusing aspects to this claim, since there is no impression of the conjunction of similar objects, as several philosophers have pointed out. Cf., e.g., Church, *op. cit.*, p. 85, and Jaegwon Kim, "Causation, Nomic Subsumption, and the Concept of Event," *The Journal of Philosophy* 70 (1973), pp. 217f. Kim points out that constant conjunction is a relation of types of events and "makes no clear or nontrivial sense when directly applied to spatiotemporally bounded individual events."

are neither extensionally nor intensionally equivalent and that Hume has only one correct or primary definition. If we are correct, their respective claims that one definition is primary are unacceptable, precisely because there are two correct and primary meanings. Accordingly, it is not an unresolvable paradox, as Robinson seems to think, that *the* causal relation is definable in two extensionally nonequivalent ways.

On the other hand, we do not wish to claim too much for this interpretation as an account of Hume's text. In explicating the Modified Necessity Theory in the previous section we attributed only *one* of the two definitions to Hume. We did so in order to emphasize those Humean principles that tend to support the Modified Necessity interpretation. Our present conclusions in this section show, of course, that this single-definition emphasis need not be made in interpreting Hume. Our general conclusion is that the two theories of causation deeply embedded in Hume's text determine the two different definitions. The text does not allow us to decide, however, which of the two theories is the deeper or more important.

VIII

In this chapter it has been argued that Hume's text contains two distinct theories of causation and two distinct definitions of "cause." However, it has only been argued that Hume is implicitly committed by his philosophical principles to both theories. It has not been argued that Hume intended to advance two different theories, or even that he explicitly maintains either theory. Indeed quite the opposite seems likely: Hume wanted a unified theory of causation and intended to provide one. In subsequent chapters we shall argue that Hume's writings on causation can rationally be reconstructed so that a unified theory emerges that is faithful to his intentions. As a conclusion to this chapter, these arguments may be anticipated by sketching an entirely different perspective from which the two theories and the two definitions may be viewed.

Robinson and most all recent writers on causation believe that Hume holds a pure regularity theory of causation. For instance, J. L. Mackie, who allies himself with Robinson, has dubbed this theory "heroic Humeanism," interpreting it to

mean that statements of causal connection are nothing but statements of *de facto* constant conjunction.²⁰ This "Humean" theory has been subjected to intense scrutiny in contemporary philosophy. It has been found deficient because it is unable to distinguish causal laws from statements of *de facto* regularity. No doubt an unguarded statement of heroic Humeanism is philosophically objectionable. But is heroic Humeanism Hume's position? After all, there is the second definition of "cause," which escapes serious notice in the Robinson-Mackie interpretation despite Hume's repeated assertion that, "According to my definitions, necessity makes an essential part of causation" (T, 407). We have seen that Hume even boldly challenges other philosophers to provide a definition of "cause" without "comprehending, as a part of the definition, a *necessary connexion*" (EHU, Sec. 74). If these passages are taken seriously, and not explained away in terms of Hume's reductionistic tendencies and the single sense of "necessity" accompanying them, then he can only be interpreted as thinking that heroic Humeanism is false. And if his second definition of "cause" is read simply as his insistence that necessity in a second sense must play a role in any correct theory of causation, then we think it is possible to construct a unified and defensible Humean theory of causation. This is the view we shall defend as the account most faithful to the spirit of Hume's intentions.²¹

20. J. L. Mackie, *The Cement of the Universe: A Study of Causation* (Oxford: Clarendon Press, 1974), pp. 198f.

21. See below pp. 139ff, esp. pp. 140 and 156f.

2

Causal and Inductive Scepticism

IN THIS CHAPTER we turn to the interpretation of Hume's philosophy as a sceptical account of causation and of induction (causal inference). The first section links our treatment of Hume's two definitions in the previous chapter with the question of whether Hume is a sceptic about causation and inductive reasoning. We there argue that Hume is not a sceptic about the causal relation; and, in the remainder of the chapter, we show that he is not a sceptic concerning inductive inference and the claims of reason generally.

These arguments should lend considerable weight to the claims of Chapter 1. The attribution to Hume of what Mackie calls "heroic Humeanism" appears plausible largely because Hume's account of causation is generally considered an indivisible part of a general sceptical program. For example, Mackie and others say that Hume is a sceptic both about induction and about the inclusion of any sense of "necessity" in his definitions of "cause"—and that he is a sceptic about both for the same reasons. We argue that this interpretation cannot be substantiated and that Hume's only major complaint about induction and causal necessity is that rationalists have misunderstood the nature of causation and inductive inference.

I

There are a number of possible ways to formulate the notion that Hume is a sceptic about causation. One way is to derive