

mean that statements of causal connection are nothing but statements of *de facto* constant conjunction.<sup>20</sup> 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 is philosophical? 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.<sup>21</sup>

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.

## 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

some type of scepticism from one or both of the definitions of "cause" examined in Chapter 1. Such a tactic has been perspicuously outlined by Wade Robison:

One tradition opts for  $D_1$  and treats Hume as a proponent of the Uniformity Thesis. . . . On this view the focus of Hume's scepticism is the problem of induction: if we cannot distinguish causal from casual regularities, how can we justify inferring unobserved events from observed ones?

The other tradition opts for  $D_2$  and commits Hume to a subjectivist thesis. . . . On this view Hume's scepticism centres not on how we can determine when we have got an objective causal relation, but on how we can even say that there could be one.<sup>1</sup>

That Hume is not a sceptic in the first sense is demonstrated in later sections of this chapter, where it is argued that he makes a general distinction between experientially or inductively well-grounded beliefs and purely artificial or associational ones (cf. esp. Sec. IV, point 4). That he is not a sceptic in the second or "subjectivist" sense can be seen by a brief recapitulation of the argument in the first chapter. It was there argued that Hume is sceptical about both the common man's and the rationalists' beliefs in the objective existence of necessary connections in nature. In this regard Hume is sceptical about certain views that posit the existence of necessary connections among objects. This scepticism focuses only on the *nonmental* existence of necessary connectedness. In other respects Hume is neither sceptical nor even revisionary in the account of causation he develops.

On the other hand, given the argument of Chapter 1, the following interpretation is a correct attribution to Hume of "sceptical" views: on neither of Hume's theories of causation is the existence of an objectively necessary connection between objects a logically necessary condition of their being related as cause

1. Wade L. Robison, "Hume's Causal Scepticism," in *David Hume: Bicentenary Papers*, ed. G. P. Morice (Austin: University of Texas Press, 1977), pp. 156-57. A variant of the second type of scepticism is mentioned and rejected by Barry Stroud, *Hume* (London: Routledge & Kegan Paul, 1977), p. 92. Robison's broader program for interpreting Hume as an inductive sceptic is found in two other articles: "David Hume: Naturalist and Metasceptic," in D. W. Livingston and J. T. King, eds., *Hume: A Re-Evaluation* (New York: Fordham University Press, 1976), pp. 23-49; and "Hume's Scepticism," *Dialogue* 12 (1973), pp. 87-99.

and effect; yet, by his own admission, the idea of an objectively necessary connection is an essential part of causal relatedness in the ordinary sense of "cause." Since Hume's arguments delete this condition, he has significantly altered the meaning of the term "cause." But what follows from this "sceptical" view? One possible conclusion is that Hume meant to embrace something approximating Russell's declaration that the notion of causation as ordinarily understood is a "relic of a bygone age" that therefore deserves "complete extrusion from the philosophical vocabulary."<sup>2</sup> If this position is Hume's, as Ducasse claims,<sup>3</sup> then clearly he is a sceptic about causation in a significant sense.

It is one thing to say that Hume is sceptical concerning the commitments of the *common concept* of cause, or the *rationalists' use* of cause, and quite another to suggest that he seeks to expunge the notion altogether. The argument sketched in the previous paragraph shows at most that Hume is a sceptic about certain features of the ordinary and rationalistic conceptions of cause, which features he rejects; the argument does not show that he is sceptical about the existence of the causal relation. A similar assessment holds if his "scepticism" is formulated in more general ways, such as those D. C. Stove and Terence Penelhum have proposed. They hold that Humean scepticism is the position that "no proposition which is not itself observed to be true is rendered more likely to be true by the citation of evidence from experience."<sup>4</sup> Whether Hume is a sceptic about causation in this sense depends on how the "proposition" about causation is formulated. If the proposition is "There are causal relations in the ordinary sense or in the rationalistic sense of objectively necessary connections," then Hume does reveal a sceptical attitude about such relations. But if the proposition is "There are true causal statements," then we have seen that Hume is nonsceptical, for there are causes in his philosophy. Even though this proposition is "not itself observed to be true," it is rendered more likely by the evidence of constant conjunctions.

2. Bertrand Russell, "On the Notion of Cause," *Mysticism and Logic* (Garden City, N. Y.: Doubleday, 1917), p. 174.

3. C. J. Ducasse, *Causation and the Types of Necessity* (Seattle: University of Washington Press, 1924; New York: Dover Publications, 1969), p. 50.

4. This formulation is from Terence Penelhum, *Hume* (New York: St. Martin's Press, 1975), p. 50. Stove's views are treated in detail in Section V below.

All things considered, it seems both less confusing and more accurate to say that Hume provides a revisionary rather than a sceptical analysis of causation. His revisionary analysis, after all, is not merely a linguistic proposal concerning proper use of the word "cause." He attempts to discover the true nature of the causal relation. His conclusion cannot fairly be described as a sceptical one if he is thus understood as providing truth conditions for causal statements. In contrast to the interpretations suggested by Thomas Reid, perhaps Hume's severest antisceptical critic,<sup>5</sup> whereas Reid saw Hume as endorsing an "absolutely sceptical" system of philosophy, he thought Hume simply had a different notion of causation than did other philosophers. Reid thus did not take Hume to be sceptical about the existence of causal relations. As Reid recognized, Hume's scepticism extends to the definitions of cause that both ordinary language and philosophical tradition had handed down.<sup>6</sup> But Hume was not sceptical about the existence of causal relations, as he defined them. Doubts to the contrary rest largely on the belief that Hume is a sceptic about induction, a topic to which we now turn.

## II

Irrespective of whether Hume is sceptical about causal connection, is he sceptical about causal or inductive reasoning? The answer to this question, we shall argue, is essentially the same as the one just provided about causation: Hume is sceptical about *rationalist claims* concerning the power and scope of

5. Thomas Reid, *Philosophical Works*, Hamilton edition, with an Introduction by Harry Bracken (Edinburgh 1895 printing, Georg Olms Verlagsbuchhandlung, 1967), pp. 83 (Letters to Gregory), 456f (*Intellectual Powers*), 604, 627 (*Active Powers*).

6. Even more charitable interpretations of Hume than Reid's do exist. For example, Harry Silverstein has suggested to us that insofar as the ordinary use of "cause" allows that necessity may be internal, Hume's attempt to make the meaning more precise may be regarded as a clarification and/or explanation, and not necessarily as revisionary. Also, a balanced and useful interpretation of Hume's general scepticism is found in James Noxon, *Hume's Philosophical Development: A Study of his Methods* (Oxford: Clarendon Press, 1973), pp. 8-16.

causal reasoning, but not sceptical about causal reasoning itself. We proceed now to a series of arguments in defense of the following interpretation: Hume may in many respects be a sceptic, but he is not a sceptic about induction. In those passages commonly said to exhibit scepticism about induction, Hume's intentions have been misinterpreted. He is concerned to show that inductive reasoning can provide neither self-evident certainty nor the logical necessity that uniquely characterizes demonstrative reasoning (*a priori* reasoning), and also that demonstrative reasoning cannot prove matters of fact by its own resources alone. Thus, the problem of induction, as that problem is conceived today, is simply not to be found in Hume's philosophy. (Following modern usage, we use the expressions "inductive reasoning" and "inductive inference," rather than "causal reasoning" or "causal inference.")

Most of Hume's final views on causal inference are presented in Sections IV-V.i of the first *Enquiry*. His earlier views are sprinkled throughout the *Treatise* and then collated in a remarkably succinct summary in the *Abstract*. These passages are the source of his fame as the discoverer of the modern problem of induction. But on our reading of Hume, his expositors and critics have unwittingly collaborated to present a confused and mistaken picture of his views both on the problem of induction and on the related problem of providing rational support for inductively derived conclusions. In general, these expositors claim that Hume is a complete sceptic about induction. Specifically, they contend: (1) that he thinks no inductive procedures provide rational justifications, (2) that he thinks there are no rational justifications of inductive procedures, (3) that he does not distinguish between rational and irrational belief, (4) that he advances an epistemology which implies that our factual "knowledge" is reducible to an irrational faith, and (5) that his critique of induction undermines his own empirical method. These claims are made by philosophers as diverse as Will, Kneale, Popper, Stove, Penelhum, and Bennett. We shall refer to their interpretations, as revealed in the following passages, as "the received view" of Hume's positions on inductive justifications and on the rationality of inductive procedures:

The standard argument for complete inductive scepticism, for the belief that inductive procedures have no rational and no empirical

justification whatever, is the one stated in a small variety of ways in the writings of Hume. . . . We have, accordingly, no reason for believing any of these inferences; they are all a matter of . . . "animal faith."<sup>7</sup>

F. L. Will

Hume was unable or unwilling to make any distinction between rational and irrational belief, and so for him there could be no hope of an escape from irrational confidence to something better. . . . What shocks us is Hume's assertion that induction can be no more than the association of ideas without rational justification.<sup>8</sup> William Kneale

[Hume was] a believer in an irrationalist epistemology. . . . Our "knowledge" is unmasked as being not only of the nature of belief, but of rationally indefensible belief—of an irrational faith.<sup>9</sup> Karl Popper

[Hume held that] "All predictive-inductive inferences are unreasonable." This captures the nonpsychological, the evaluative, and the unfavourable meaning of Hume's conclusion [that] even after we have had experience of the appropriate constant conjunction, it is not reason (but custom, etc.) which determines us to infer the idea (e.g. of heat) from the impression (e.g. of flame).<sup>10</sup> D. C. Stove

Hume certainly holds that because inductive inference is formally invalid, it lacks rational justification. This conclusion, however, divides into at least three contentions: (1) that inductive conclusions are incurably vulnerable (inductive fallibilism); (2) that there is real possibility that the course of nature may change in the future from what it has been in the past; (3) that no evidence, however great in quantity, can contribute any likelihood to the conclusion of any inductive inference (inductive scepticism). Each is thought by him to be established by the formal invalidity of induction. Clearly (2) is more radical than (1). . . . Clearly (3) is more radical than (2). . . . Their combination is a total scepticism about induction.<sup>11</sup> Terence Penelhum

In considering any belief's intellectual standing, all Hume will do is demand its birth-certificate. . . . Hume's over-insistence on our in-

7. F. L. Will, "Will the Future Be Like the Past?" *Mind* 56 (1947); reprinted in *Logic and Language*, Second Series, ed. by A. Flew (Garden City, N.Y.: Doubleday, 1965), pp. 249f, 253.

8. William Kneale, *Probability and Induction* (Oxford: Clarendon Press, 1949), p. 55.

9. Karl Popper, *Objective Knowledge* (Oxford: Oxford University Press, 1972), pp. 4f.

10. D. C. Stove, *Probability and Hume's Inductive Scepticism* (Oxford: Clarendon Press, 1973), pp. 34, 31.

11. Penelhum, *op. cit.*, p. 52.

tellectual passivity also ignores the causal judgments which look interrogatively rather than confidently towards the future. . . . His theory does not cover non-credulous, tentative, interrogative predictions. He clearly thinks that beliefs are the whole story.<sup>12</sup> Jonathan Bennett

Various reasons in support of such interpretations are cited by these authors, but generally their accounts rest on one, or both, of the following reconstructions of Hume's arguments:

*Argument I*

- (1) All factual beliefs are based solely on instinct and not on justifying reasons.
  - (2) If all factual beliefs are based solely on instinct and not on justifying reasons, then all factual beliefs are irrational.
- ∴ (C<sub>1</sub>) All factual beliefs are irrational.
- (3) All inductively derived beliefs form a subset of the set of factual beliefs.
  - (4) If all factual beliefs are irrational and all inductively derived beliefs form a subset of the set of factual beliefs, then no inductive conclusion can be rationally justified.
- ∴ (C<sub>2</sub>) No inductive conclusion can be rationally justified.

*Argument II*

- (1) The entire institution of inductive reasoning cannot be rationally justified.
  - (2) If the entire institution of inductive reasoning cannot be rationally justified, then no inductive conclusion can be rationally justified.
- ∴ (C) No inductive conclusion can be rationally justified.

These arguments, which reach the same conclusion, are certainly valid, but are they Hume's? We contend that both premise (1) of Argument I and premise (1) of Argument II are incorrect depictions of Hume's views and that both lead to a final conclusion that is an equally incorrect depiction of Hume's views.

In order to show the mistaken character of these two reconstructions of Hume's arguments, it is necessary to introduce a preliminary distinction between *external* and *internal* justifications. The received view holds that Hume's "critique" of induc-

12. Jonathan Bennett, *Locke, Berkeley, Hume* (Oxford: Oxford University Press, 1971), pp. 300-2.

tion is radical in that it demands a justification of inductive reasoning in general—the whole institution of inductive procedures and standards. This radical demand for an external justification of inductive reasoning must be distinguished from a demand for internal justification of particular inductive conclusions, as evaluated within the institution of inductive reasoning. We shall refer to problems of internal justification as *internal problems*. They are answerable only in reference to established standards of inductive evidence. We shall refer to the problem of external justification as the *external problem*. It involves a radical challenge to all internal standards of inductive reasoning, and it demands a noncircular justification, one that does not rely on inductive reasoning. This problem will be understood as the request for a noncircular demonstration of the rational justifiability of the entire institution of inductive reasoning. Any internal problem assumes the legitimacy of some inductive policies and only questions the rational justifiability of a particular inductive conclusion.

However one construes Hume's stance on the external problem, it would be precipitous to label his philosophy as a whole—or even his epistemology—irrationalist. One major reason for this conclusion is that Hume expressly advocates standards for the resolution of *internal problems*. He quite clearly believes some inductive conclusions rational and others irrational, as assessed by a set of appropriate inductive standards that even such critics as Ducasse acknowledge him to have pioneered.<sup>13</sup> (We document Hume's commitment to inductive standards and his entitlement to this commitment in Section IV.) Nonetheless, the received view of Hume's position on the *external problem* leads to the suspicion that a crucial inconsistency haunts his philosophy: his celebrated "critique" of induction seems to undercut the inductive methodology he both employs and defends. It must be conceded that if Hume does in fact hold either premise (1) of Argument I or premise (1) of Argument II, he is mired in inconsistency. But, as we shall now argue, he holds neither premise, and so is not guilty of such inconsistency. We begin our argument to this conclusion by demonstrating the

13. C. J. Ducasse, "Critique of Hume's Conception of Causality," *The Journal of Philosophy* 63 (1966), pp. 145f.

implausibility of Argument II as an interpretation of Hume's views.

### III

An examination of Argument II must answer two closely related questions: (A) Does Hume explicitly raise the external problem—i.e., does he demand a rational justification of the entire institution of inductive procedures? (B) Does he advance a sceptical answer to the external problem, and thereby undermine the internal use of the very inductive standards he otherwise supports? The received view answers affirmatively to (A), and it is thereby disposed, we suggest, to answer (B) in the affirmative as well.

But an affirmative answer to either (A) or (B) depends on a misinterpretation. It was never Hume's intent to question the entire institution of inductive procedures and standards. His argument is a frontal attack on rationalist assumptions that at least some inductive arguments are demonstrative; it is not a demand for a wholesale justification of induction and *a fortiori* not a sceptical assault on induction. It is an argument that rejects rational intuition or understanding, while proceeding from premises about imagination, custom, and perception. Moreover, if considered as an attack on *reason*, Hume's critique is directed specifically against the rationalistic conception of reason. It is not an unrestricted scepticism concerning what today we often call "reason" and "rational justification." Hume sometimes uses the word "reason" and its analogs in a narrower way than is common today, and he often substitutes terms such as "experience" and "custom" where we would likely use "reason." Perhaps because of such tendencies, commentators have transformed his claim that no inductive inference can be supported and hence justified rationally, in the narrow *a priori* sense, into the far different claim that no inductive inference can be justified rationally, in the broader contemporary sense of "rationality." This interpretation transplants an alien equivocation into Hume's philosophy. His scepticism concerns *only* rationalistic uses of "reason," not the sagacious use of what he calls "reasoning from matters of fact." Thus, in his discussions of inductive inference (EHU, Secs. 20–38; cf. T, 77–93), his arguments are intended to show that pure reason cannot demonstratively prove

matters of fact and that induction cannot provide demonstratively certain knowledge. The case for this reading of Hume may be supported in two ways: (1) by a consideration of Hume's anti-rationalist concerns, as informed by the longstanding rationalist-empiricist clash; (2) by a close textual analysis of Hume's arguments concerning induction.

### 1. *Hume's Anti-Rationalism*

In Hume's era pure reason was often considered capable of deriving sweeping factual conclusions. Norman Kemp Smith has incisively described (and documented) this use of "reason" by rationalist philosophers:

One consequence, inevitably resulting from the mathematical method, is the identification of . . . causation with explanation. If all things follow from their grounds in the same way that the different properties of a triangle follow from its definition, the one possible form of connection between real existences must be that of logical dependence. And that all-important consequence (implied though not openly recognised in Descartes' system) Spinoza states in the most explicit manner. Like Leibniz, he takes the principle of causality as being a necessary truth of reason, and as identical with the principle of ground and consequent. The effect is that which can be deduced with logical necessity from the notion of the cause. When no such necessary conceptual relation exists between phenomena, they cannot be causally related.<sup>14</sup>

Because such views were then flourishing, a broad use of the term "reason" was anathema to eighteenth-century empiricists, and Hume was understandably hesitant about employing the term in any way that might have rationalistic associations (cf. EHU, Sec. 36n; T, 64, 639). The single most important rationalistic view under scrutiny in his work is the Cartesian (and even

14. Norman Kemp Smith, "The Cartesian Principles in Spinoza and Leibniz," in his *Studies in the Cartesian Philosophy* (New York: Macmillan, 1902), pp. 143f. Several other influential philosophers and scientists of the time who shared these views are canvassed in Donald W. Livingston, "Hume on Ultimate Causation," *American Philosophical Quarterly* 8 (1971), esp. pp. 63ff; Julius Weinberg, *Ockham, Descartes, and Hume* (Madison: University of Wisconsin Press, 1977), pp. 94, 115ff; Barbara Winters, "Hume on Reason," *Hume Studies* 5 (1979), pp. 26ff; and Eric Steinberg, "Introduction" to *Hume's An Enquiry Concerning Human Understanding* (Indianapolis: Hackett Publishing Co., 1977), p. xiii.

Lockean) belief that there can be synthetic *a priori* knowledge about the world derived from self-evident first principles. Hume repeatedly argues that induction is nondemonstrative; his model of a demonstrative argument is one that proceeds from self-evident *a priori* premises to a conclusion certified by deductive logic. Just as one of Newton's ambitions was to eliminate this procedure in the natural sciences (and Hume's science in the *Treatise* is notoriously Newtonian), so the larger purpose of Hume's treatment of induction is to attack this rationalistic conception of reason. Hume shows first that demonstrative reasoning does not yield factual results and, second, that induction is not marked by the logical necessity attending demonstrative reasoning. This two-part demonstration concludes Hume's argument against rationalism, and his argument against rationalism is the whole point of his "critique" of induction. Far from being a sceptical challenge to induction, then, Hume's "critique" is little more than a prolonged argument for the general position that Newton's inductive method must replace the rationalistic model of science.<sup>15</sup>

It is thus easy to see why Hume restricts "reason" to a *priori* reason in those contexts where he directly discusses the nature of induction (and also why he incorporates restrictions to disallow synthetic *a priori* reasoning). Apart from these special contexts, he refers to inductive inference as "a true species of reasoning" (T, 97n) and uses the term "reason" in a looser sense approximating our ordinary usage in these contexts today. Hume stipulatively confines the scope of reason to the discernment of ideas and their relations (i.e., to deductive reasoning and intuitive derivation of nonsynthetic *a priori* propositions), but he does so only where there is a danger of misuse. Stipulation can be commendable when one has a good reason for it, and Hume has several good reasons. As a consequence he is committed to speaking as though there are no justifications for empirical claims. This commitment, however, concerns merely a terminological point, and it reflects a clarity rather than a confusion in his intentions.

An appreciation of these anti-rationalist intentions is essential

15. An attractive explanation of the Newtonian influence on Hume is found in Nicholas Capaldi, *David Hume* (Boston: Twayne, 1975), pp. 39-42 and 49ff.

for a proper understanding of Hume's statements about reason. The following excerpt contains Hume's typical "sceptical" arguments pertaining both to induction and to the limits of human reason (EHU, IV.2; cf. T, 91-93):

Even after we have experience of the operations of cause and effect, our conclusions from that experience are *not* founded on reasoning, or any process of the understanding . . . it seems evident that, if this conclusion [that similar causes produce similar effects] were formed by reason, it would be as perfect at first, and upon one instance, as after ever so long a course of experience. But the case is far otherwise. . . . [An inductive] inference is not intuitive; neither is it demonstrative. Of what nature is it, then? To say it is experimental, is begging the question.

Hume here uses "reason" in his stipulatively restricted sense. He is not attacking what *elsewhere* he calls "experimental reasoning." Moreover, Hume never reaches harsher conclusions about the poverty of reason. While he occasionally does inject similarly condemnatory language, one generally finds it only in the early and self-confessedly brash work of the *Treatise*. Here are his least guarded statements:

. . . even after the observation of the frequent or constant conjunction of objects, we have no reason to draw an inference concerning any object beyond those of which we have had experience. (T, 139)

When I give the preference to one set of arguments above another, I do nothing but decide from my feeling concerning the superiority of their influence. (T, 103)

[It is not] by any process of reasoning [that one] is engaged to draw this [inductive] inference . . . understanding has no part in the operation. (EHU, Sec. 35)

Never are Hume's indictments of reason sterner. Usually he is reserved, cautious, and totally disinclined to speak about irrationalism, or even about unreliability. As he repeatedly emphasizes, his intention is only to show that "there can be no demonstrative arguments to prove, that those instances, of which we have had no experience, resemble those, of which we have had experience" (T, 89; all italics his).

Apparently Hume's interpreters and critics have found it all too tempting to seize on passages such as the above and declare

them exhibitions of a philosophy of irrationalism. This interpretation entirely misses his point.<sup>16</sup> His theses are *anti-rationalist*, never *irrationalist*, and he usually surrounds even his apparently most extravagant comments with a softer protective belt. For example, Hume says at one point that the inventions of inductive reasoning "must be entirely arbitrary" (EHU, Sec. 25). In context his point is simply that if, as rationalists claim, we conjectured entirely *a priori* about the effect an object or event would cause, then causal reasoning would be entirely arbitrary. This proposition is not only quite understandable; it is true.

## 2. Hume's Arguments concerning Induction

Hume entitles his most extensive and concentrated discussions of induction—both located in the *Enquiry* (IV-V)—"Sceptical Doubts concerning the Operations of the Understanding" and "Sceptical Solution of these Doubts."<sup>17</sup> In these sections the received view has always interpreted Hume as proclaiming his scepticism concerning the external problem. This interpretation is perfectly represented by the following quotation from Wesley Salmon:

It is well known that Hume's answer to this problem was essentially sceptical. . . . Hume's position can be summarized succinctly: We cannot justify any kind of ampliative inference. If it could be justified deductively it would not be ampliative. It cannot be justified non-demonstratively because that would be viciously circular. It seems, then, that there is no way in which we can extend our knowledge to

16. See a reply to our earlier published arguments by Adi Parush, "Is Hume a Sceptic about Induction?" *Hume Studies* 3 (1977), esp. pp. 4-5. We believe that Parush misses the point as fully as his predecessors.

17. An important linguistic point about eighteenth-century usage of "scepticism" has been made by Mary Shaw Kuypers, in *Studies in the Eighteenth Century Background of Hume's Empiricism* (New York: Russell and Russell, 1966), Pt. II, iv, esp. pp. 85f. She offers evidence that there is "a curious identification of scientific method with scepticism" as early as Locke and that "Hume subscribed to it." She also suggests that Hume's full acceptance of empiricism and rejection of rationalism is closely tied to the usage of "scepticism" in his philosophy. Obviously the traditional reading of Hume would have been quite different had he entitled his section on induction "Scientific Doubts concerning the Operations of the Understanding." But it would have been a more apt title.

the unobserved. We have, to be sure, many beliefs about the unobserved, and in some of them we place great confidence. Nevertheless, they are without rational justification of any kind!<sup>18</sup>

We consider this interpretation entirely implausible. Neither of Hume's discussions in the first *Enquiry* either raises the external problem or argues for a sceptical answer to it. Each section is divided into two parts (IV.1, IV.2, V.1, V.2), the first three of these four subsections constituting the core of his "critique" of induction. Their structure and major contentions may be outlined as follows:

- (IV.1) *Demonstrative reasoning (a priori reasoning), which is purely a product of the understanding, cannot from its own resources alone prove matters of fact.*
- (IV.2) *Inductive reasoning (factual reasoning) is not a product of the understanding and cannot provide the logical necessity that uniquely characterizes demonstrative reasoning.*
- (V.1) *Inductive reasoning is not a product of the understanding (the source or "principle" of a priori reasoning) but rather is a product of custom (the source or "principle" of factual reasoning).*

It is important to note that this reconstruction locates the unity of Hume's subsections in his arguments concerning the scope and limits of the faculty of understanding. Our interpretation thus accords well with his section title, "Sceptical Doubts concerning the Operations of the Understanding." But now we must demonstrate that these reconstructions are accurate. Since our interpretation of IV.2 will undoubtedly prove the most controversial, we shall first treat the less troublesome subsections, beginning with V.1.

The following excerpts from Subsection V.1. capture Hume's usual arguments for a "sceptical solution" of his earlier "doubts":

[34] . . . in all reasonings from experience, there is a step taken by the mind which is not supported by any argument or process of the understanding. . . .

[36] The conclusions which [Reason] draws from considering one

18. Wesley Salmon, *The Foundations of Scientific Inference* (Pittsburgh: University of Pittsburgh Press, 1966), pp. 7, 11.

circle are the same which it would form upon surveying all the circles in the universe. But no man, having seen only one body move after being impelled by another, could infer that every other body will move after a like impulse. All inferences from experience, therefore, are effects of custom, not of reasoning. . . .

[38] What, then, is the conclusion of the whole matter? A simple one; though, it must be confessed, pretty remote from the common theories of philosophy. All belief of matter of fact or real existence is derived merely from some object, present to the memory or senses, and a customary conjunction between that and some other object.

That inductive reasoning is based on custom rather than on the understanding is clearly the point of these largely psychological contentions. Nowhere does Hume raise the external problem, and the "sceptical solution" of his earlier doubts cannot be construed as a sceptical solution of the external problem (cf. also T, I. iv. 1), for it is merely "scepticism concerning the operations of the understanding."

The external problem is also absent from Subsection IV.1, which constitutes the first part of Hume's "sceptical doubts" concerning the understanding. Here are his most typical contentions in this subsection:

[21] *That the sun will not rise to-morrow* is no less intelligible a proposition, and implies no more contradiction, than the affirmation, *that it will rise*. We should in vain, therefore, attempt to demonstrate its falsehood. Were it demonstratively false, it would imply a contradiction. . . .

[23] . . . knowledge of [a causal] relation is not, in any instance, attained by reasonings *a priori*; but arises entirely from experience, . . . nor can our reason, unassisted by experience, ever draw any inference concerning real existence and matter of fact. . . .

[25] . . . every effect is a distinct event from its cause. It could not, therefore, be discovered in the cause, and the first invention or conception of it, *a priori*, must be entirely arbitrary.

Hume's thought in this subsection moves to the conclusion that demonstrative reasoning, which is purely a product of the understanding, cannot be employed to prove matters of fact, since factual knowledge arises "entirely from experience" and never *a priori*. Again, nowhere is the external problem raised and nowhere is there exhibited any scepticism concerning the foundations of factual reasoning in general. Rather, the foundations



are located in custom and imagination. Hume's "sceptical doubts" center solely on the scope and powers of the understanding (the faculty of *a priori* reasoning), not on the justifiability of inductive reasoning.

We must now consider the passages in Subsection IV.2, where Hume has always been thought to raise most directly the external problem and also to manifest his sceptical leanings. Against the received view, we shall argue that the following reconstruction of this subsection both includes Hume's major lines of argument and excludes no major point of his concern: *Neither demonstrative nor inductive reasoning can be employed successfully to provide a proof of the supposition that the future will be conformable to the past. Since this supposition cannot be proved, it cannot legitimately serve as an intermediary that certifies the understanding to arrive at inductive inferences characterized by logical necessity. There also seems to be no other logical connecting medium that so certifies the understanding. Accordingly, inductive reasoning is not a product of the understanding and cannot provide the logical necessity that uniquely characterizes demonstrative reasoning.* We contend that the following set of passages is sufficient, without introducing either textual distortion or rearrangement of order, to confirm this reconstruction.

#### *The Problem Outlined:*

[28] I shall content myself, in this section, with an easy task, and shall pretend only to give a negative answer to the question here proposed. I say then, that, even after we have experience of the operations of cause and effect, our conclusions from that experience are not founded on reasoning, or any process of the understanding.

[29] [Why past] experience should be extended to future times . . . is the main question on which I would insist. The bread, which I formerly eat, nourished me; . . . but does it follow, that other bread must also nourish me at another time . . . ? The consequence seems nowise necessary. . . . [There is] an inference, which wants to be explained. . . . There is required a medium, which may enable the mind to draw such an inference, if indeed it be drawn by reasoning and argument. What that medium is, I must confess, passes my comprehension. . . .

[30] [The demand is for a] connecting proposition or intermediate step, which supports the understanding in this conclusion.

#### *Connecting Proposition Not Provable Demonstratively:*

[30] That there are no demonstrative arguments in the case seems evident; since it implies no contradiction that the course of nature may change. . . .

#### *Connecting Proposition Not Provable Inductively:*

[30] All our experimental conclusions proceed upon the supposition that the future will be conformable to the past. To endeavor, therefore, the proof of this last supposition by probable arguments, or arguments regarding existence, must be evidently going in a circle, and taking that for granted, which is the very point in question.

#### *No Other Logical Connecting Medium Apparent:*

[31] [If any causal or inductive] conclusion were formed by reason, it would be as perfect at first, and upon one instance, as after ever so long a course of experience. But the case is far otherwise.

[32] The question still recurs, on what process of argument this inference is founded? Where is the medium? . . . the inference is not intuitive, neither is it demonstrative. . . . To say it is experimental, is begging the question . . . no enquiry has yet been able to remove my difficulty. . . .

#### *Conclusion:*

[33] . . . it is not reasoning which engages us to suppose the past resembling the future, and to expect similar effects from causes which are, to appearance, similar. This is the proposition which I intended to enforce in the present section.

It must not be thought that this interpretation applies only to the first *Enquiry*. In the *Treatise* (Book I, Part III, Sec. vi) there corresponds a virtually identical argument. On the critical pages (86-92) Hume argues that it is not the understanding that allows us to infer from the cause to the effect, and thus that causal inference is not an *a priori* movement of reason (pursuant to experience of causes and effects): "If reason determined us, it wou'd proceed upon that principle, *that instances, of which we have had no experience, must resemble those of which we have had experience, and that the course of nature continues always uniformly the same*" (T, 89). Because this premise cannot be proved demonstratively or causally without circularity, reason cannot ground or discover the premise, and so the understanding cannot act on it. Only the imagination can.

The question may be raised whether our reconstruction does

justice to certain celebrated passages that the received view associates with the external problem, especially those passages where Hume speaks of the circular, question-begging character of induction if used to justify itself—e.g., the above excerpts from Sections 30 and 32 (cf. also T, 89). Adherents of the received view focus on these passages because they believe that Hume's treatment of the "supposition" that the future will resemble the past manifests a sceptical concern with the external problem. They rightly point out that Hume concludes that neither demonstrative nor factual argument can substantiate this supposition. Nonetheless, it must not be thought that Hume is requesting a rational justification of the entire institution of inductive reasoning. Rather, he is simply requesting a justification of the supposition that the future will conform to the past. He issues this request not in order to question the institution of induction, even though the institution can, of course, plausibly be construed as resting on such a principle of uniformity. Rather, he issues the request in order to question the rationalistic assumption that factual reasoning is characterized, at least in some cases, by logical necessity. And this request expresses the substance of his sceptical doubts concerning the understanding. More precisely, Hume requests, with sceptical intent, *only* a justification of the assumption that the future will be conformable to the past. He does so because rationalistically inclined thinkers must assume this or some similar principle, as a "medium," in order to ground their view that causal inferences can be drawn with the force of logical necessity. Hume is merely arguing that this assumption is unwarranted, not that the institution of induction is unwarranted. Nor is he attacking other uses of the principle as a medium. When the principle is assumed in the ordinary course of inductive reasoning—as Hume's own methodology in the *Treatise* requires—he does not challenge the principle. Of course, he *might* have challenged the principle in this context, in which case he would have broached the external problem. He then would have had to provide some general justification; but this, we have argued, is not his concern.

Our overall conclusion may still be resisted. Some will claim that our interpretation is too paradoxical; it seems to do violence to the robustness and the incisiveness of Hume's "critique" of induction. We would counter by turning such an objection upon

its own adherents: contrary arguments advanced by the received view are appreciably more paradoxical and less compatible with Hume's major philosophical objectives. Hume is the most influential and consistent figure in modern empiricism, and his *Treatise* extols the empirical method from its Introduction to its Appendices. It would be a truly extraordinary oversight were he to bind himself to a procedure whose conclusions cannot be given "rational justification of any kind" (Salmon) and to proclaim sceptically that it has "no rational and no empirical justification whatever" (Will).<sup>19</sup>

Kneale and Popper even argue that Hume—who wrote specifically to overcome the errors and methodological confusions in previous philosophy—thought that no philosopher, himself included, was able to overcome irrationalism. Popper and Will, in addition, suggest that Hume considered his own philosophy to have attained a level of conceptual rigor no higher than that of animal faith—a stunning conclusion about the author of the *Dialogues* and the *Natural History of Religion*, two books where "reasoning" by animal faith is repeatedly reprimanded. And surely the accounts by Bennett and Kneale will seem odd to anyone familiar with Hume's discussion of superior degrees of inductive evidence in the *Enquiry* and of proper inductive analogy in the *Dialogues*—both of which conclude with the observation that "a wise man proportions his belief to the [inductive] evidence" (EHU, Sec. 87; cf. D, II). It would seem to us, then, that the greater onus of proof is on these interpretations. Each denies what Hume is most concerned to affirm: the inductive method as used in science is the sole method for placing philosophy on the road to well-grounded truth. We hasten to add that our view is not, as one critic has suggested,<sup>20</sup> that these Hume scholars are themselves inconsistent in the very way they have taken *Hume* to be inconsistent. Our view is simply that they mistakenly attribute inconsistency to Hume.

19. The claim that Hume tried to erect his science on a sceptical foundation that could not bear the weight is found in J. A. Passmore, *Hume's Intentions* (Cambridge: Cambridge University Press, 1952), p. 151. Noxon has argued, correctly in our view, that this attack would be correct if Hume held such views, but he does not. Noxon, *op. cit.*, p. 14.

20. See Parush, *op. cit.*, p. 9. For a reaction to these traditional interpretations as incredulous as our own, see Julius Weinberg, *op. cit.*, pp. 95, 100, 102.

We conclude that the reconstruction of Hume's views presented in Argument II is incorrect, for it is based on the mistaken notion that Hume raises the external problem and argues for a sceptical answer to it.

#### IV

We can now turn to an investigation of Argument I, where Hume's commitment to standards for the resolution of *internal problems* of justification assumes prominence. If the initial premise of this argument is taken as a correct depiction of Hume's views, it would be difficult not to attribute to Hume the conclusion of Argument I: No inductive conclusion can be justified rationally. But the first premise seriously misconstrues Hume's position. The premise may be divided into two distinct claims: (A) All factual beliefs are based solely on instinct; (B) No factual beliefs are based on justifying reasons. Adherents of the received view generally attribute (B) to Hume because they hold that he argues for (A). But never does Hume argue that factual beliefs are based *solely* on instinct. He does indeed maintain that all factual beliefs are based on instinct, but he also regards some factual beliefs as additionally based on what are today commonly called "justifying reasons."

We suggested in Section II and shall now argue (against the received view) that Hume expressly commits himself, without inconsistency, to what we would today call "rational inductive procedures." Our argument consists in showing: (1) that there are at least five prominent features of his philosophy that appeal directly to a distinction between mere factual belief and justified factual belief and that provide criteria for distinguishing the two; (2) that Hume's commitment to these criteria is perfectly compatible with his psychological thesis that all factual beliefs are based on instinct.

##### 1. Hume's Criteria of Justified Belief

First—as we argued in Chapter 1—Hume's section "Rules by which to judge of causes and effects" (T, I.iii.15) is expressly designed to provide inductive methods for justifying or eliminating causal beliefs. His intention is to "fix some general rules by

which we may know when [causes and effects] really are so" (T, 173). These Rules indicate that the correctness of causal inference is a matter of objective support and does not depend on custom or animal faith or observers who acquire feelings of determination. When judgment conflicts with errant imagination, says Hume, we must observe "some general rules, by which we ought to regulate our judgment concerning causes and effects" (T, 149; our italics). Since satisfaction of the warranting conditions provides all the evidence needed to verify causal statements, "instinctual" feelings of expectation add nothing essential and might even be misleading or mistaken (cf. Rule 6, 174 and also 149).

Second, Hume's account "Of the probability of chances" (T, I.iii.11) inquires whether inductive arguments attain different degrees of evidence, some being superior to others. He begins by suggesting that we

distinguish *human reason* into three kinds, viz, *that from knowledge, from proofs, and from probabilities*. By knowledge, I mean the assurance arising from the [*a priori*] comparison of ideas. By proofs, those arguments, which are deriv'd from the relation of cause and effect, and which are entirely free from doubt and uncertainty. By probability, that evidence, which is still attended with uncertainty. (T, 124, first italics ours; cf. EHU, VI, fn. 1)

He goes on to argue that there exists a "gradation from probabilities to proofs" which is in "many cases insensible" (i.e., undetectable) even though it is easy to see the "difference betwixt kinds of evidence" when widely varying experiences and types of generalization are compared (T, 131; cf. EHU, Sec. 87). These distinctions, coupled with the section on Rules, provide Hume's basic criteria for the resolution of internal problems of justification. Note also that in the above passage Hume ventures a belief that there are two kinds of certainty—knowledge derived from the understanding through deductive reasoning and empirical proofs derived from the inductive inferences of the imagination. From Hume's perspective, rationalists deny imagination its significant role in knowledge (cf. Descartes and Spinoza, e.g.). They wrongly insist that there is only one kind of certainty, and so mistakenly evaluate induction by standards appropriate only to deduction.

Third, in the important section "Of the probability of causes" (T, I.iii.12), Hume indicates that whenever the source of some event is secret, unobserved, or unknown, we should proceed on the hypothesis that the event fits a pattern of causal uniformity, even if we are disposed to believe otherwise (T, 132f; EHU, Secs. 47, 67f). "Deliberation" is said properly to displace "habitual determinations":

[In deliberation] we commonly take knowingly into consideration the contrariety of past events; we compare the different sides of the contrariety, and carefully weigh the experiments, which we have on each side: Whence we may conclude, that our reasonings of this kind arise not *directly* from the habit, but in an *oblique* manner. (T, 133)

Hume recommends the application of his Rules in such circumstances and, contrary to Bennett's interpretation, explicitly develops an account of hypotheses and "non-credulous, tentative, interrogative predictions":

The circumstance, on which the effect depends, is frequently involved in other circumstances, which are foreign and extrinsic. The separation of it often requires great attention, accuracy, and subtilty. (EHU, Sec. 84n)

Fourth, Hume distinguishes between experientially or inductively well-grounded beliefs and those that are purely artificial or associational. Inference-drawing, he says, is often "rash" and unjustified by deeper experience (T, 113). He accounts for this phenomenon by attributing it to the difference between wide, varied acquaintance and limited acquaintance. The reflective life of wide experience enables one to *test* customs and displace them with more adequately grounded beliefs (T, 113, 133). Hume expresses this point by saying that mere belief produced by the unsupplemented workings of the imagination is capricious and must be assisted by the application of general rules of judgment (T, 149). Kemp Smith has nicely captured Hume's meaning:

Hume's real position is not that custom (or habit) as such is king: it has no manner of right to lay claim to any such dignity. It is experience—and custom only in so far as it conforms to and is the outcome of experience—which is, and ought to be, the ultimate court of appeal.<sup>21</sup>

21. Norman Kemp Smith, *The Philosophy of David Hume* (London: Macmillan, 1941), p. 382.

It must not be thought that Hume's normative views in regard to the justification and correction of belief come only as late as the Rules section of the *Treatise* or in the superficial form of an *ad hoc* appendix. Such standards prevail throughout his philosophy. The *Treatise* is subtitled *An Attempt To Introduce the Experimental Method of Reasoning into Moral Subjects* and is intended as a whole to be an inductive science of human nature. The *Enquiry* mirrors the *Treatise* in this regard and applies inductive standards in sections that take up new subjects—most notably in the discussion of miracles. And the *Dialogues* appeal to such standards throughout.

Fifth, Hume has an often overlooked but nonetheless instructive theory of education. He generally uses the word "education" in so negative a way that it not only carries a force of disapproval but comes virtually to mean "indoctrination." In the *Treatise* Hume says that the teaching of other people often "commands our assent beyond what experience will justify" (113) and then comments that

... education is an artificial and not a natural cause, and as its maxims are frequently *contrary to reason* [factual reason], and even to themselves in different times and places, it is never upon that account recogniz'd by philosophers; tho' in reality it be built almost on the same foundation of custom and repetition as our reasonings from causes and effects. (T, 117; our italics)

By "recogniz'd" Hume means "assented to"; acceptance of the maxims of education is nothing less than acquiescence to uncritical assumptions. In his *Natural History of Religion* the fancies and customs of primitive belief are called the "prejudices of education" and are opposed to what we would today ordinarily call, and what Hume himself refers to as, *rational inquiry*.<sup>22</sup> As we might expect, Hume opposes experience to education and extols experience as the corrective of the dangers of education.

## 2. *The Compatibility of Psychological Explanation and Rational Justification*

On the basis of the above considerations, both the crucial first premise and the conclusion of Argument I seem plainly to be

22. From *Hume on Religion*, ed. by Richard Wollheim (New York: Meridian Books of the World Publishing Co., 1964), pp. 31, 96.

misrepresentations. Why, then, would anyone maintain that Argument I accurately reconstructs an argument in Hume's philosophy? The justification offered by adherents of the received view generally takes the following form: since for Hume all factual beliefs are based *solely* on instinct, and thus not on rational faculties, he has systematically excluded all possibility that such beliefs could be based on justifying reasons. This interpretation was eloquently and unflatteringly expressed by Kant. Kant's assessment and that of the twentieth-century philosophers quoted in this chapter lead to the conclusion that despite any endorsement Hume may give to inductive standards, he is not *entitled* to adopt them. In short, Hume's psychology commits him to premise (1) of Argument I, and this, in turn, commits him to the conclusion of Argument I.

This reconstruction might be acceptable if premise (1) were an accurate depiction of Hume's views. But it is not. Hume never argues that all factual beliefs are based *solely* on instinct. To his way of thinking, it is in no way inconsistent that a given factual belief may be based at once on both instinct and justifying reasons. *All* factual beliefs are based on instinct; *some* factual beliefs additionally satisfy criteria that render them justified. The former thesis is psychological, the latter epistemological. According to Hume's psychology all operations of human imagination are instinctual. Some conclusions reached by imagination (but not all) additionally satisfy inductive criteria derived from extensive observation and experience (T, 108, 149, 225). Hume clearly believes that satisfaction of these additional specifications is a necessary condition of any justified factual belief (cf. T, 84, 89, 173ff; EHU, Secs. 36n, 84n). As previously established, the imagination must often be supplemented or corrected by general rules employed by the faculty of judgment (T, 147-49). This fact prompts Hume to proclaim that one can reason either "justly and naturally" or only "naturally" (T, 225f).

Finally, it should be noticed that we are not arguing that Hume abandons his account of causal and psychological determinism, whereby experience is sovereign. As might be expected of one who holds a compatibilist account of freedom and determinism, Hume finds causal explanations *compatible with* and not destructive of what we now commonly call "rational

justifications." It is precisely this point that the received view neglects, yet without understanding it one really cannot begin to understand Hume's larger philosophical enterprise, including his treatment of induction. Nor will it suffice to argue, as Bruce Aune does, that Hume does have standards of rationality that allow him to judge failures to use induction as irrational, but that these standards themselves are "merely matters of custom."<sup>23</sup> Here we must be careful in our use of the term "custom." If the standards were merely customary, without reference to the logical criteria used to criticize customary formations of belief, Hume could not hold the position we have sketched throughout this section. Hume does of course have a naturalistic psychological theory of the mind that explains the operation of the rules, and to develop such a psychological theory while expounding a logical theory may seem peculiar to modern philosophers. On the other hand, both Arthur Pap and Frank Ramsey seem to take precisely this approach in their work, including acceptance of Hume's theory of habit.<sup>24</sup>

We conclude that the reconstruction of Hume's views presented in Argument I is incorrect, for it relies on the mistaken notion that Hume considers all factual beliefs to be based solely on instinct and not on justifying reasons.

## V

An approach to Hume's scepticism that may seem similar to ours is the celebrated naturalistic interpretation of Norman Kemp Smith, to whose authority we appealed only a few pages back.<sup>25</sup> Kemp Smith's views have recently been buttressed in an imaginative book by Barry Stroud. The hallmarks of their naturalistic

23. Bruce Aune, *Rationalism, Empiricism, and Pragmatism* (New York: Random House, 1970), p. 59.

24. Frank Ramsey, *The Foundations of Mathematics*, ed. R. B. Braithwaite (London: Kegan Paul; New York: Harper, 1931), pp. 196f; Arthur Pap, "Disposition Concepts and Extensional Logic," in *Minnesota Studies in the Philosophy of Science*, ed. H. Feigl, et al. (Minneapolis: University of Minnesota Press, 1958), p. 220; and also Arthur W. Burks, *Chance, Cause, Reason* (Chicago: University of Chicago Press, 1977), pp. 616-18.

25. Kemp Smith, *The Philosophy of David Hume* and "The Naturalism of Hume," *Mind* n.s. 54 (1905), pp. 149-73, 335-47.

interpretation are the acceptance, but minimization, of Hume's scepticism, conjoined with a conception of his larger enterprise as that of providing scientific causal explanations of mental and moral phenomena, a science that Hume used to challenge rationalistic metaphysics. They attempt to rebut the overly sceptical interpretations of Thomas Reid, Thomas Hill Green, and others.<sup>26</sup> Stroud claims to have produced "a more systematic and more consistent naturalistic interpretation" than Kemp Smith's, but nonetheless acknowledges his deep indebtedness to that commentator. They find common ground in the view that Hume's thought has its roots in the scientific work of Newton and the philosophical work of Francis Hutcheson.<sup>27</sup> As their conclusions are superficially in agreement with our own and are important in their own right, their arguments must now be considered.

Stroud and Kemp Smith regard Hume's philosophy as "a systematic generalization of Francis Hutcheson's views on aesthetics and morals."<sup>28</sup> In Hutcheson's system of philosophy, moral and aesthetic judgments are based on our natural capacity to feel certain sentiments, quite independently of reasoning and reflection. Consistently invoking this background, Kemp Smith argues that "Hume's philosophy is not fundamentally sceptical; it is positive and naturalistic, and . . . humanistic in tendency."<sup>29</sup> Yet he also sees Hume as defending the epistemological view that "Reason is and ought to be subordinate to our natural beliefs," where belief is understood as a passion, feeling, or sentiment.<sup>30</sup> These beliefs are not acts of knowledge or reflective insights; rather they are subrational passions fixed by the constitution of our nature. Indeed, Kemp Smith argues that through Hutcheson, Hume came to the view that judgments of knowledge themselves rest on feeling, and not on the insights either of *reason* or of empirical *evidence*.<sup>31</sup> Because reason is thus to serve strictly "in the service of feeling and

26. Kemp Smith, "Naturalism," pp. 150ff; *The Philosophy of David Hume*, pp. 79f.

27. Kemp Smith sees these two influences as occasionally coming into conflict. *The Philosophy of David Hume*, pp. 73ff.

28. Barry Stroud, *Hume* (London: Routledge & Kegan Paul, 1977), p. 10.

29. Kemp Smith, *The Philosophy of David Hume*, p. 155.

30. *Ibid.*, pp. 11f, 44.

31. *Ibid.*, pp. 13, 44, 86f.

instinct," Kemp Smith regards Humean causal inference as merely "so-called causal inference"; it turns out "not to be inference at all." It is causally conditioned in belief, "not logically or evidentially conditioned."<sup>32</sup>

There is, [Hume] argues, no such thing as causal *inference*. When the mind passes from an idea or impression of one object to that of another, it is the imagination which is operating, not the understanding. It is custom and not reason, habit and not evidence, which is at work.<sup>33</sup>

Inevitably, says Kemp Smith, Hume is led to a "moderate scepticism" as the necessary supplement to his naturalistic teaching.<sup>34</sup>

Stroud has brought this general interpretation still closer to the concerns of our volume:

In Hume's hands the denigration of the role of reason and the corresponding elevation of feeling and sentiment is generalized into a total theory of man. Even in the apparently most intellectual or cognitive spheres of human life, even in our empirical judgments about the world and in the process of pure ratiocination itself, feeling is shown to be the dominant force. . . .

Hume usually looks first for the "foundation in reason" of the beliefs and attitudes he examines, and only after demonstrating that they have none does he then proceed to his positive causal explanation of their origin. . . . [Yet] virtually nowhere does he argue that a particular belief or attitude is unjustifiable, unreasonable, or without rational foundation *because* it is simply caused in such-and-such a way by discoverable features of our minds and the world.<sup>35</sup>

Naturally we find the concluding sentences in this quotation congenial. Stroud admirably appreciates the fact that Hume's sustained attack on reason is *largely* an attempt to discredit his-

32. Kemp Smith, "Naturalism," pp. 151f (cf. 164 and 166), 372.

33. Kemp Smith, *The Philosophy of David Hume*, pp. 375, cf. 350. Contrast the strange interpretation in "Naturalism," pp. 171, 173.

34. Kemp Smith, *The Philosophy of David Hume*, pp. 130-32, 378. In "Naturalism" Kemp Smith seems to argue the still more nontraditional view that because certain factual beliefs are natural they are "thus removed beyond the reach of sceptical doubts" (p. 152) and that "Hume is thus no sceptic as to the powers of reason, but quite positive that its sole function is practical" (p. 155). Yet, as he states Hume's position, it is one sceptical of induction (p. 162), and more sceptical than necessary (p. 168).

35. Stroud, *op. cit.*, pp. 10f, 15.

torically influential views about human nature and rationality from Aristotle to the Continental Rationalists. He sees the substance of this challenge as Hume's "revolutionary" view. But the first few lines of Stroud's statement repeat the errors of the received interpretation. Moreover, he goes on to argue that Hume rejects reason entirely as the source of inductive inferences, thus leading to his "most famous sceptical result." "And," says Stroud, "there is no doubt that it was meant to be sceptical."<sup>36</sup> Nonetheless, he argues, Hume does not stop with scepticism, for he integrates his theory of imagination into his experimental, naturalistic study of human nature, so as to show that induction is based on the imagination. On these grounds Stroud erects a broad naturalistic interpretation that sees Hume's negative purpose as a sceptical argument "directed against the claims of a certain traditional conception of reason or rationality" and his positive argument as consisting in the larger Newtonian purpose of the *Treatise*.<sup>37</sup>

There are several flaws in the interpretation offered by Kemp Smith and Stroud. We shall here concentrate on Kemp Smith's statement, because it is the bolder and more extensive of the two. Our general line of argument, however, applies as well to Stroud as to Kemp Smith.

Consider Kemp Smith's general interpretation of Hume's account of causal inference:

Hume's teaching [is] that judgments of causal connexion express not insight but *only* belief, resting *not* on the apprehension of any relation (other than mere sequence), *but on a feeling or sentiment* in the mind.<sup>38</sup>

The italicized words echo the mistakes of the received view; and, though it harbors the critical issue, the parenthetical qualification is brushed aside throughout Kemp Smith's work. Our claim is that a proper interpretation of Hume's views on the relation of sequence or constant conjunction, together with an understanding of the section on rules in the *Treatise*, provides sufficient grounds for concluding that Hume did not consider

36. *Ibid.*, p. 52.

37. *Ibid.*, p. 60. Cf. 9-15, 53, 68.

38. Kemp Smith, *The Philosophy of David Hume*, p. 44 (italics added). Cf. Stroud's somewhat more cautious statements, *op. cit.*, pp. 69, 76f, 92.

causal inference to be based *merely* on custom and belief. This interpretation may be seen as a consistent development of Kemp Smith's useful distinction between custom and experience. Had Kemp Smith pursued the notion of experience further, he might have come to terms with Hume's view of the rational assessment of evidence. But it is precisely here that Kemp Smith's interpretation founders, for like others who regard Hume as a sceptic about induction, Kemp Smith claims that Hume lacks a theory of *evidence*. And this, we have argued, he most certainly does not lack. Kemp Smith is also led by his interpretation to the mistaken view that there is no factual *knowledge* for Hume, since it is "properly speaking" mere opinion.<sup>39</sup> Kemp Smith seizes upon the classic passages for the sceptical interpretation of Hume—such as the passage in the *Abstract* that proclaims "'Tis not, therefore, reason which is the judge of life, but custom" (A, 16)—and concludes that factual belief is a matter of "brute necessity for which there is no evidence whatever except its own psychological compulsiveness; and that, of course, is not *evidence* at all."<sup>40</sup> Our disagreement could scarcely be more complete.

When Kemp Smith confronts the issue that, he agrees with us, is "the critical point in Hume's argument"—viz. how truly causal sequences are to be distinguished from apparently causal sequences—he again turns to Hutcheson for a clue to Hume's solution. (Stroud denies that Hume makes this distinction at all<sup>41</sup>—a problem we treat in Chapter 4.) Hume argues the Hutchesonian line, according to Kemp Smith, that one must look in the observer for the answer. There one finds the impression of necessity, and it is this impression that turns the merely uniform into the causal.<sup>42</sup> Kemp Smith here repeats the mistake we identified in Chapter 1 regarding his views about Hume's two definitions. Furthermore, his interpretation is at odds with the Humean texts discussed in the previous sections of this chapter. He fails to explain the presence of the section on rules—which Stroud also repeatedly ignores—and neglects Hume's discussions

39. Kemp Smith, *The Philosophy of David Hume*, p. 46. Contrast "Naturalism," p. 165.

40. Kemp Smith, *The Philosophy of David Hume*, p. 46 (italics in original).

41. Stroud, *op. cit.*, pp. 66, 93-95.

42. Kemp Smith, *The Philosophy of David Hume*, p. 48.

of how custom and imagination are to be corrected when causality is attributed to uniform sequences through a mistaken belief accompanied by a feeling of necessity. Again, it appears as though Kemp Smith correctly grasps the distinction between custom and broad experience, but does not link experience to factual reasoning in the way Hume does. Stroud appends the observation that, for Hume, "the repeated observation of similar phenomena precludes our thinking of them as occurring together merely coincidentally."<sup>43</sup> This strained interpretation is without the slenderest foundation in Hume's text. On the contrary, Hume exhibits a keen sensitivity to the importance of inductive restraint and the application of rules in the face of custom and accidental conjunction. This much even Kemp Smith seems to have appreciated. (We return to a fuller treatment of this issue in Chapter 4.)

The shortcomings of the Kemp Smith interpretation are further reflected in his account of "experience in the normative sense" in Hume's philosophy. He acknowledges that Hume often wishes to correct custom in order to identify habits and beliefs that are reliable and beneficial. Hume, he says, even "concedes that not all regularities are reliable, that not all customs are good customs," and so calls upon "reflective powers" of causal inference to distinguish truly causal from accidental uniformities.<sup>44</sup> Kemp Smith recognizes that this tendency in Hume's text is at odds with his own interpretation, but this variance he attributes to Hume's "excessive emphasis upon custom" in the early sections of the *Treatise*.<sup>45</sup> He offers the extraordinary interpretation that in those early sections Hume thinks "beliefs are neither true nor false, because they simply occur or do not occur." Later in the text, he proposes, experience becomes both reflective and normative of what we ought to believe.<sup>46</sup> Following our interpretation of the text, by contrast, there

43. Stroud, *op. cit.*, p. 93. Stroud's interpretation was anticipated and rejected by Julius Weinberg, *op. cit.*, pp. 99f. An equally unfortunate predecessor of Stroud's interpretation is H. A. Prichard's alleged paraphrase of Hume: "There is no such thing as believing something for a bad reason." *Knowledge and Perception* (Oxford: Oxford University Press, 1950), p. 184.

44. Kemp Smith, *The Philosophy of David Hume*, pp. 382-88.

45. *Ibid.*, p. 387.

46. *Ibid.*, p. 388.

is no significant difference between the early and later parts of the *Treatise*. The problem lies not with Hume; it lies with Kemp Smith. He fails to understand that only the rationalistic sense of reason is under attack and that custom must be corrected by reflection and scientific inquiry in Hume's constructive work throughout the first book. Kemp Smith and Stroud rightly interpret Hume in light of his Newtonian and naturalistic goals, but they do not see that the way Hume understands these very goals—as entailing careful inductive practices—undermines their interpretation of his text. To maintain that for Hume, causal inference is "not logically or evidentially conditioned," is to disregard both the general conclusions of his philosophy and the methodology employed in arriving at those conclusions. Most especially Kemp Smith misunderstands how Hume uses "reason" when he is not attacking the notion in its rationalistic sense. This contention deserves further analysis.

Hume repeatedly appeals to the need for what he calls "accurate and just reasoning" (EHU, Sec. 7) in metaphysics, in order to distinguish science from popular superstition. He laments that "eloquence" rather than "reason" has won the prize in past debates in philosophy (T, xviii). The goal of deliberate factual reasoning is the one he sets for himself in the first *Enquiry*, just as a Newtonian investigation of human nature is the proclaimed goal of the *Treatise*. He links reason directly to the "experience and observation," involving "careful and exact experiments," that constitute the method of inquiry in the *Treatise* (xviii-xxiii). Reason is the faculty that permits inference from the observed to the unobserved (T, 155). His use of the terms "reason" and "reasoning" in these contexts goes unmentioned by Kemp Smith and Stroud, and indeed it has largely been ignored by generations of Hume scholars. Yet Hume praises this inductive sense of "reasoning," apparently never supposing that his standard sense of the term could be confused with the rationalistic sense so constantly under attack.

Throughout his work Hume attributes a sweeping and constructive role to inductive reason: "We infer a cause immediately from its effect; and this inference is not only a true species of reasoning, but the strongest of all others" (T, 96n). Reason is said to be the faculty whereby we may correct inaccuracies in sensory experiences, in beliefs, and in the passions (T, 413f, 416,



583; EHU, Sec. 117; EPM, Secs. 137, 143, 185, 234f). As Páll Árdal has painstakingly shown in his work on Hume's theory of reason and the passions, reason (understood within Humean naturalism) would in our modern vernacular properly be interpreted as the virtue of being reasonable—a view ultimately tied to Hume's ideal observer account of morality, according to which moral agents must assume a universal and objective point of view.<sup>47</sup> Moreover, Hume's rules of inductive inference are said to constitute "the LOGIC I think proper to employ in any reasoning" (T, 175). Although instinct, feeling, and belief lead to unreliable expectations, these can be rendered more accurate by causal reasoning (T, 73, 89f). In the section "Of the reason of animals," Hume argues that beasts, like men, are capable of using their "reasoning faculties" for ends that exhibit "extraordinary instances of sagacity," which in turn can be understood by reference to breadth of observation and experience at making causal inferences (T, 176–8). When he later returns to this subject in the first *Enquiry*, where "reasoning" concerning causes and effects is under consideration, he ponders the criteria that distinguish a genius from a brute, since "men so much surpass animals in reasoning." He argues that this distinction arises because humans formulate rules of induction, broaden experiences by the use of language, carefully distinguish causes from mere conditions, and reflectively generalize through experimental reasoning (EHU, Sec. 84n; cf. T, 131).

The position Hume everywhere advocates is that our ideas and beliefs are the products of our natural constitution. The position he nowhere takes (at least consistently or in detail) is Kemp Smith's interpretation that reason is simply an instinctual faculty. True, Hume is led by his goal of naturalistic explanation to say that reason is the slave of the passions (T, 415) and an "instinct in our soul" (T, 179)—passages seized upon by Stroud and Kemp Smith.<sup>48</sup> But in these same pages he says, e.g., that "reason is nothing but the discovery of" causal connection (T, 414). When he discusses the corrective function of causal reasoning, as

47. Páll S. Árdal, "Some Implications of the Virtue of Reasonableness in Hume's *Treatise*," in Livingston and King, eds., *op. cit.*, pp. 91–108.  
48. See Stroud, *op. cit.*, pp. 11, 77; Kemp Smith, "Naturalism," pp. 157, 335, 346; and also J. L. Mackie, *Hume's Moral Theory* (London: Routledge & Kegan Paul, 1980), pp. 52f, 60.

contrasted with a psychological explanation of its basis, he sharply distinguishes reason from passions and instinct, which reason both corrects and guides. Causal reasoning and probable reasoning are explicitly cited for this role (T, 73, 103, 459).

Hume certainly holds that we have natural tendencies to factual beliefs, but he does not say that any belief is true *because* we are caused to embrace it by our passions or feelings. To be sure, Hume continues to be interpreted, along Kemp Smith's line, as concluding that "true belief is just belief in which the feeling of conviction occurs appropriately." But, as even this commentator—W. H. Walsh—admits, "Hume never does this explicitly."<sup>49</sup> Again following Kemp Smith, Walsh maintains that the "Hutchesonian account of moral and aesthetic judgments" applied to Hume's matter of fact reasoning leads naturally to this conclusion. But Hume's theories of both truth and certainty are not based on or exhausted by this psychological theory of belief, and are therefore not reducible to subjectivism in the way Walsh suggests.

In this regard Hume is to be distinguished from his own contemporary critics, such as Thomas Reid, who is often taken as a leading defender of reason against Humean scepticism. Reid and his commonsense contemporaries held that what must unavoidably be believed must be true (and in some cases must be true with certainty). Reid held as well that we are entitled to accept without proof certain foundations of knowledge that are necessary to our constitution.<sup>50</sup> Reid supports his conclusions with an account of our natural constitution; there is no appeal to reason. Hume did not accept such views about truth and knowledge, and his experience-based account is neither sceptical nor naturalistic in the ways so typical of his Scottish contemporaries. For both Hume and Reid, of course, any judgments reached through principles of human nature are believed because constitutive features of our nature compel belief. But for Hume beliefs unavoidably generated by the constitution of our nature are not thereby certain or true. Truth is independent of human thought,

49. W. H. Walsh, "Hume's Concept of Truth," in *Reason and Reality*, Royal Institute of Philosophy Lectures, Vol. 5 (London, 1972), p. 112.

50. See Reid's *Essays on the Intellectual Powers of Man*, ed. Baruch Brody (Cambridge, Mass.: M.I.T. Press, 1969), esp. Essay VI, Chapters IV and VI, pp. 596, 654–55.

and it is the business of reason to search after it. In Hume's philosophy the scope of reason encompasses "the inferring of matter of fact" (T, 463, and linked to probable reasoning at 413). His general position on *truth* is consistent with this account of *reason*, for he maintains that truth is an agreement "either to the *real* relations of ideas, or to *real* existence and matter of fact" (T, 458; also EHU, Secs. 30, 132; EPM, Sec. 237). "Truth is of two kinds, consisting either in the discovery of the proportions of ideas, consider'd as such, or in the conformity of our ideas of objects to their real existence" (T, 448). The normative rules for judging causes and effects are our tools for discovering real existence, and thus are the means for replacing belief with knowledge (T, 173).

Hume uses a confusing variety of terms to describe this function of "reason." "Inference" and "understanding" are among the more frequent substitutes. Whatever the word selected, the function referred to remains constant in Hume's philosophy: reason (or inference or understanding) is the faculty that judges of truth; the constitution of our nature may determine our beliefs, but truth is not determined thereby, and beliefs may always be rationally corrected; our beliefs are true if and only if they correspond to the way the world is; no belief is true because we believe it. *That* alone is the Humean philosophy of belief and truth. It is consistent with naturalism and determinism, but it is a correspondence theory not exhausted by them.

Kemp Smith, then, rightly emphasizes the normative role of causal reasoning for Hume; he simply fails to see its critical place in the very foundations of Hume's enterprise. As Barbara Winters has recently argued, any univocal reading of "reason" and "reasoning" in Hume's work will fail to account for major sections of his work and will distort his overall philosophical enterprise. Yet a nonunivocal view is perfectly compatible with a radical interpretation of his naturalism.<sup>51</sup> Our nonunivocal in-

51. Barbara Winters, "Hume on Reason," *Hume Studies* 5 (1979), pp. 20-35. Winters's view suffers, however, from acceptance of the Stroud-Kemp Smith thesis that in reasoning we never have good or justified reasons for our beliefs (cf. pp. 30, 32). It may be that there are at least three senses of "reason" in Hume, but it is impossible to understand the rules section and other parts of Hume's work apart from what Kemp Smith rightly calls the normative sense.

terpretation has the virtue of rendering consistent what would otherwise be literally thousands of textual inconsistencies, ones which must otherwise be attributed to Hume's sloppiness and ambivalence. At the same time, our interpretation makes sense of both Hume's critical and his constructive tasks.

## VI

In the preceding sections we have attempted to controvert the received view of Hume's treatment of induction, as typified in the writings of Will, Kneale, Popper, Penelhum, and Bennett, and as modified by Kemp Smith and Stroud. In recent years perhaps the most sustained interpretation of Hume's "inductive scepticism" has been that advanced in D. C. Stove's lucid book, *Probability and Hume's Inductive Scepticism*.<sup>52</sup> This more extended interpretation of Hume is directly opposed to ours, and we must now see what lies at the bottom of our disagreement.

In general, Stove takes Hume's view to be that inductive arguments do not even render their conclusions probable, for evidence gained from experience never increases the likelihood that empirical arguments are true. His instrument for analyzing Hume's "sceptical" argument is a version of the theory of logical probability. Stove construes "Hume's inductive scepticism" as resting on the following philosophical claim (34, 35):

- (1) All predictive-inductive inferences are unreasonable.

He then expresses this statement's purport in the following formal terms (64, 61):

- (1') For all  $e$  and  $h$  such that the argument for  $e$  to  $h$  is inductive,  $P(h, e \cdot t) = P(h, t)$ .

Here the form  $P(A, B)$  is translatable as "the logical probability of  $A$ , given  $B$ " and is to be understood above as "the degree of conclusiveness of the argument from  $e$  to  $h$ " [ $e$  stands for statements of evidence and  $h$  for hypothesis, following Carnap (8f); and the propositional variable  $t$  takes only tautological values (15)]. This construal (1') is a position of absolute probabilistic

52. Stove, *op. cit.* In this section all references placed in parentheses are to this book.

irrelevance, since it effectively asserts that, for the class of all statements satisfying this form, the probability of  $e$  in no way affects the (prior) probability of  $h$  (where neither  $h$  nor  $\neg h$  is entailed by  $e$ ).<sup>53</sup>

Stove argues that this inductive scepticism follows from two other positions he believes Hume held (106), one explicitly and one implicitly in the form of a suppressed premise. First, Stove thinks Hume explicitly embraced "inductive fallibilism." Stove formulates this notion as follows [where "valid" strictly means "its premiss logically implies its conclusion," as in deductive logic, and where "to judge it invalid is to affirm that  $P(A,B) < 1$ " (13)]:

(2) All predictive-inductive inferences are invalid.

Claim (2) is then translated into the following notation (64):

(2') For all  $e_1$ ,  $e_2$ , and  $h$  such that the argument from  $e_1$  to  $h$  is inductive and  $e_2$  is observational,  $P(h, e_1 \cdot t) < 1$  and  $P(h, e_1 \cdot e_2 \cdot t) < 1$ .

This formulation effectively says that in the case of predictive-inductive inferences, the addition of observational evidence  $e_2$  cannot create a probability of 1, and hence such inferences are always invalid.<sup>54</sup> That is, inductive reasoning, no matter how well supported, must remain deductively invalid, as there is a permanent possibility of falsity. Stove thinks Hume relied not only upon this claim, but also on a suppressed premise, which Stove dubs "deductivism":

(3) All invalid arguments are unreasonable.

Deductivism is thus the view that no argument rationally certifies a conclusion unless the inference to its conclusion is deductively valid. This claim is also given a formal statement (64):

(3') For all  $e$  and  $h$ , such that the argument from  $e$  to  $h$  is invalid,  $P(h, e \cdot t) = P(h, t)$ .

53. Stove recognizes the probabilistic irrelevance. Cf. his "Hume, the Causal Principle, and Kemp Smith," *Hume Studies* 1 (1975), pp. 6-8.

54. Some useful expansions in this account of inductive fallibilism are found in Stove's "Why Should Probability Be the Guide of Life?" in Livingston and King, eds., *op. cit.*, pp. 50-68, especially Section II. Some rather different glosses are found in Penelhum, *op. cit.*, pp. 51ff.

Stove argues that each of these three statements is logically independent, but that the first follows *validly* from the second and the third. He then goes on to produce a "valid" argument (68f) to show that the third is false, and hence that "Hume's inductive scepticism" (1) is false, even though inductive fallibilism (2) is true and significant.

There are at least two ways to show that Stove's contentions are mistaken. The first is to attack his translations of 1-3 to 1'-3' as incorrectly comprehending the English language meaning of 1-3 (independent of Hume's meaning). Stove has his own notion of probability, and it is controversial whether he succeeds in demonstrating the adequacy of his translations. This strategy, however, should be taken up by those interested primarily in the theory of logical probability, and it is therefore beyond the scope of our present discussion. The second way to attack Stove is to challenge the adequacy of 1-3 as interpretations of Hume's text or to attack 1'-3' as inadequate translations of Hume's meaning if he held 1-3. We will not bother to consider 1'-3' here—though we are highly doubtful that Stove's translations into the notation of logical probability are adequate in any of the three cases. Instead, we will show that Stove's argument is short-circuited at a much earlier and more fundamental point, viz., his claim that Hume held 1 and 3. By controverting this claim, we shall also undercut J. L. Mackie's critique of Hume's account of causal inference, as it appears in the first chapter of *The Cement of the Universe*, for that critique—like Penelhum's—is erected almost entirely on the foundations of Stove's argument.

If the analysis of the first four sections of this chapter is correct, it is clear that Hume does not hold 3 (deductivism), or anything remotely like it; but if he does not hold 3, then Stove's "valid" deduction of 1 from 2 and 3 is forestalled. We have also given independent reasons for thinking that Hume does not hold 1 (inductive scepticism). The interesting question is: On what textual evidence do Stove and Mackie rely in order to assert that Hume does hold 3 (deductivism) and 1 (inductive scepticism)? Surprisingly, they advance very little in the way of textual evidence, despite their abundant textual citations in other contexts (cf. 5, 34-37, e.g.). We say surprisingly because Stove in particular explicitly asserts that analysis of the text

itself is the sole basis for deciding between his and other interpretations (15).

So far as we are able to reconstruct Stove's rationale for attributing 1 and 3 to Hume, it is the following: He says that "Hume only ever gave one argument." He then proceeds to diagram this single argument, relying heavily on an interpretation of the many passages in Hume that resemble the (previously cited) one from the *Enquiry*: "nor is it by any process of reasoning, [that we are] engaged to draw this [inductive] inference" (EHU, Sec. 35). Stove takes these passages to be a close paraphrase of the *Treatise* (T, 139): "Even after we have had experience of the appropriate constant conjunction, it is not reason (but custom, etc.) which determines us to infer the idea (e.g. of heat) from the impression (e.g. of flame)" (31). In his book, Stove translates this statement to mean "All predictive-inductive inferences are unreasonable" ("Hume's inductive scepticism," or 1 above), and in his later Hume Bicentennial Address<sup>55</sup> he says it also means "that we cannot learn even from experience."

Though Stove makes not a single reference to Hume's text in order to justify this translation, he does give the following argument for it: Hume's statements about "reason" may appear to be psychological claims concerning a mental faculty. But they do not so function in his text, for his interest is logical and evaluative, not psychological:

[Hume] asserts logico-philosophical theses in the guise of remarks about the constitution of the human mind. . . . [They are] evaluative, in some sense, of a certain class of inferences (viz. predictive-inductive ones). Not just any evaluation would do, of course. For there can be no doubt that Hume intends by [his inductive scepticism] an extremely unfavourable evaluation of the inferences which are its subject. (33)<sup>56</sup>

No further textual citations are marshalled to support this interpretation. If it be asked why Stove so strongly believes "that Hume intends . . . an extremely unfavourable evaluation of [inductive] inferences," the following is the only explanation to be found:

55. D. C. Stove, "The Nature of Hume's Scepticism," *McGill Hume Studies* (San Diego: Austin Hill Press, 1979), p. 220.  
56. Cf. also Stove, "Hume, the Causal Principle, and Kemp Smith," pp. 7-

Hume certainly thought of himself as having advanced, about inductive inferences, some proposition of a sceptical kind; of a kind, that is, which is shocking to common beliefs, and unfavourable to men's pretensions to knowledge. Nearly all of Hume's readers must also have thought that he did so. I shall therefore take this point as granted. (27; cf. 38)

On the basis of this and similar passages, it appears that Stove merely *assumes* that Hume is a sceptic, and uses the theory of logical probability to *explain* in what his scepticism consists.<sup>57</sup> But if the argument in earlier sections of the present chapter is correct, then Stove's entire enterprise, as an account of Hume, is beside the point. It evades begging the question only by asking the entirely different question, "Is probabilistic inductive scepticism (a view not held by Hume) a sustainable philosophical position?"

More importantly, it is possible to locate precisely where Stove goes wrong. His fatal assumption is that for Hume "reason" governs the process of induction in a way that forces Hume to conclusions 1 and 3 above. That is, Stove thinks that Hume's use of "reason" is such that he holds *both* deductivism and, derivatively, inductive scepticism. This assumption permits Stove to claim that inductive scepticism (1) follows from deductivism (3) and inductive fallibilism (2). We have previously shown, however, that Hume does not intend "reason," in these contexts, to denote factual reasoning at all, but rather to apply only to demonstrative reasoning. The implications for Stove's argument are the following. On one construal of deductivism, Hume is a deductivist. He does believe that "all invalid arguments are unreasonable," which for him strictly means that such arguments are the products of the faculty of the imagination, not of reason, and hence are nondemonstrative. It follows validly from *this* understanding of deductivism and from inductive fallibilism that "All predictive-inductive inferences are unreasonable" in the sense of not being the products of demonstrative rationality. But, *pace* Stove's account of Hume's use of "reason," Hume's arguments are not in general evaluative; they are evaluative only

57. Stove describes his method in precisely these terms in his "The Nature of Hume's Scepticism." In this paper (pp. 213ff) he also cites other Hume passages in support of his interpretation. However, these citations are mere page references, not interpretations of the text.

of the rationalistic use of "reason." So while Hume does hold all the premises attributed to him by Stove, nothing follows in regard to his being an inductive sceptic, for the simple reason that *he is not discussing or critically evaluating inductive reason.*<sup>58</sup>

One striking feature of Stove's interpretation is that it is not supported by the very text Stove says is the "version" of Hume's analysis "to which my account of the argument corresponds most closely" (30), viz. the *Abstract* account:

It is not any thing that *reason* sees in the cause, which makes us *infer* the effect. Such an inference, were it possible, would amount to a *demonstration*, as being founded merely on the comparison of ideas. But no inference from cause to effect amounts to a demonstration. Of which there is this evident proof. The mind can always *conceive* any effect to follow from any cause, and indeed any event to follow upon another: whatever we *conceive* is possible, at least in a metaphysical sense: but wherever a demonstration takes place, the contrary is impossible and implies a contradiction. There is no demonstration, therefore, for any conjunction of cause and effect. (A, 13f, some italics added)

"Reason" is used here, even more explicitly than elsewhere in Hume's work, in a fashion confined to *demonstrative* inference. Stove correctly explains Hume's use of the word "demon-

58. Even if our interpretation of Hume's use of "reason" is incorrect, Stove's interpretation would not thereby be rendered more plausible. One of Stove's more perceptive reviewers, Donald Livingston, apparently holds a different interpretation of Hume from ours, yet sees the same problems with Stove's interpretation:

[It may be that as a matter of historical scholarship Hume uses] "rationality" in some sense completely unlike that of "degree of conclusiveness." Stove considers but rejects this objection on the ground that "so far almost nothing has been said to make the concept of rationality determinate; we do not yet know what properties we are to credit this magnitude with" (p. 70). This may be, but it will not do as an interpretation of Hume. The Hume scholar's task is diligently and empathetically to seek out the various senses of rationality in Hume's writings that might have a bearing on his conception of inductive scepticism. Stove's interpretation is, unhappily, not the result of such work.

Review, *Journal of the History of Philosophy* 13 (July, 1975), pp. 413f. For further useful commentary on Hume's senses of "reason" and "reasonableness," see Winters, *op. cit.*, and Wade Robison, "Hume's Scepticism," *Dialectic* 12 (1973), p. 99, note 16. Robison's support for the position Livingston and we are proposing is especially intriguing because of Robison's own interpretation of Hume as a sceptic. Robison also makes reference to support in both Kemp Smith and Árdal.

strative" (35),<sup>59</sup> but strangely fails to link it to "reason" in the way Hume does. It also deserves note that the *Abstract* resists Stove's interpretation in other interesting passages. For example, Hume prides himself on his analysis of "probabilities, and those measures of evidence on which life and action intirely depend" —measures, he observes, neglected in the "common systems of logic" (A, 7–8). Stove's translation, then, distorts Hume's meaning, and it is in doing so that his mistakes arise. If this assessment is correct, it should, on Stove's own admission, decide the issue against him. For he says that if Hume does not hold the *one* statement of inductive scepticism that he attributes to Hume, then "there is no inductive scepticism in Hume" (34).

The same conclusions may be reached in regard to J. L. Mackie's interpretation, which is a slightly mitigated version of Stove's:

Hume's premiss that "reason" would have to rely on the principle of uniformity holds only if it is assumed that reason's performances must all be deductively valid. . . . Reasonable but probabilistic inferences, then, have not been excluded by Hume's argument, for the simple reason that Hume did not consider this possibility.<sup>60</sup>

So far Mackie's account is modestly preferable to Stove's, for Mackie correctly notices that Hume does not even consider using "reason" in a probabilistic or inductive sense. But Mackie goes on to say that Hume embraces "the more sweeping conclusions" that causal inferences "are not even reasonable or probable, that they are to be ascribed to imagination, custom, and habit rather than to reason, that it is out of the question to try to justify them on any ground except that they are natural, instinctive, and unavoidable."<sup>61</sup> At this point, Mackie agrees with Stove on the following two conclusions: (1) Hume believes causal inferences are based solely on unavoidable natural instinct and therefore are not reasonable; (2) Hume thinks it is out of the question to justify causal inferences except on grounds of unavoidable natural instinct.

59. Cf. also Stove's perspicacious formulation in his "The Nature of Hume's Scepticism," p. 211. Stove first analyzed Hume's meaning in "Hume, Probability, and Induction," pp. 196ff (see note 64 below).

60. J. L. Mackie, *The Cement of the Universe* (Oxford: Clarendon Press, 1974), p. 15.

61. *Ibid.*, p. 18.

Consider (2) first. We have argued that Hume does not assert that natural instinct or any other factor justifies causal inferences in general. The question never arises. Hume does, of course, ask whether *a priori* causal inferences, which are purely a product of the understanding, can be justified. When he appeals to custom and instinct, he is providing an explanation, not a justification. It is therefore odd that Mackie should complain that Hume "never really justified, but only explained" causal inference. Hume only sought to explain how causal inferences are made, not to justify or to criticize the institution of induction. It follows that Hume does not hold "Hume's inductive scepticism"; and if we are correct that his sceptical doubts center only on the understanding as rationalistically conceived, then he does not hold "deductivism" either. Moreover, if as we claim, he distinguishes between inductively well-grounded beliefs and purely associational beliefs, then he is opposed to the forms of scepticism and deductivism imputed to him by Mackie's conclusion (1).<sup>62</sup>

Despite our critical estimate of the Stove-Mackie interpretation, we may end this section on a more conciliatory note. The third of the propositions Stove attributes to Hume is "inductive fallibilism," and we would agree with Stove both that Hume held this position and that it is not, as some have alleged, trivial. Indeed Stove's claim conforms to our thesis that Hume's "scepticism concerning rationalism" is a measured and proper antidote to the excesses of that philosophical view. In effect, what Stove refers to as "inductive fallibilism" alone describes the "sceptical" position we attribute to Hume. Furthermore, in the end, the position we have defended is compatible with a larger purpose of Stove's book. By attacking Hume, Stove hopes to show that philosophers who cite Hume as the forerunner of

62. Stove does say that "I do not suggest that Hume, even in his philosophical works, is an inductive sceptic consistently. That is obviously not so." ("Hume, the Causal Principle, and Kemp Smith," pp. 8f; cf. 11f, 17f.) This admission is minor, since it is effectively an assertion of inconsistency. Our problem is that we cannot locate inductive scepticism in Stove's sense anywhere in Hume, whereas Stove's position is that Hume's inconsistencies result from his acceptance of radical scepticism, on the one hand, and his attempt "to evade a charge of 'scepticism' against his writing on the other hand." This evasiveness, Stove charges, leads Hume to be "insincere" in his statements of his own views! (*Ibid.*, p. 18.)

their own "inductive scepticism" have appealed to an unsound source, and have been led astray as a result. In this connection Stove has Karl Popper most prominently in mind. Our view, of course, is that Popper is simply a misled exegete of Hume.<sup>63</sup> So we may conclude by inviting Stove to join us in rejecting Popperian excesses, and we offer him another reason for doing so, viz. that Popper misreads Hume. If our view of Hume's treatment of induction is correct, then Stove can adopt it, and still pursue his program of showing that inductive scepticism is an untenable position. Stove is concerned to argue that Hume's "refutation of I. P. [inductive probabilism] is an entirely imaginary episode in the history of philosophy."<sup>64</sup> Our agreement with this claim could not be more complete, even if our reasons for holding it could scarcely be more diverse.

## VII

An interesting philosophical question might yet be raised. Though Hume does not concern himself with what we have called the external problem, one might still wonder whether an empiricist philosophy such as his could, without inconsistency, muster the resources to resolve the problem. For this reason it might not be frivolous to show that Hume's philosophy is capable of resolving the external problem and hence that Hume could on empiricist grounds construct a suitable philosophical foundation for his well-developed views on inductive standards and internal problems of justification. Such a resolution of the external problem would provide a general framework for the logical rules Hume uses as criteria to distinguish between reasoning merely "naturally" and reasoning "justly and naturally."

We have maintained that Hume does not argue for a sceptical

63. Stove also agrees that Popper and others are misled exegetes. See his *Probability and Hume's Inductive Scepticism*, pp. 125-32. A remarkably stern rebuke is found in "Why Should Probability Be the Guide of Life?" p. 56, note 8. See also "The Nature of Hume's Scepticism," pp. 211f. The compatibility of our views with Stove's, against both Popper and Carnap, becomes especially apparent on pp. 214f, 219f of the latter paper, and in Stove's book, Chapters 7-8.

64. Stove, "Hume, Probability, and Induction," as reprinted from *The Philosophical Review* 74 (1965), in V. C. Chappell, ed., *Hume* (Garden City, N. Y.: Doubleday, 1966), pp. 189, 195, 208f, 211.

approach to the external problem. It is not difficult to show, in addition, that his empiricism is capable of directly confronting this problem and, with complete consistency, of taking any one of several plausible paths toward its resolution. We shall proceed in this demonstration by considering two recently influential treatments of the traditional problem of induction: (1) Dissolution Arguments and (2) Pragmatic Justification Arguments. It is significant that most of the philosophers we cite below as advocates of these approaches comfortably label themselves empiricists, and even as Humeans.

(1) Dissolution or pseudo-problem arguments are in no respect incompatible with Hume's philosophy. Proponents of this approach maintain that one cannot coherently ask whether inductive procedures are rational; they conclude that the traditional problem is one whose resolution comes only through dissolution. Both Antony Flew and A. J. Ayer have taken this position, and both correctly see the compatibility of their approach with the broader perspective of Hume's empiricism. They are mistaken only in thinking that Hume is a sceptic whose scepticism needs correction. Flew, for example, erroneously interprets Hume to be raising the traditional problem of induction and objects that "this is tantamount to enquiring what reason there is for insisting that our expectations should be shaped by experience. This insistence just is rational. There can be no sense in asking for any further or more ultimate reason why."<sup>65</sup> Flew rightly believes his own dissolution perfectly compatible with Hume's empiricism. He wrongly thinks this answer would save Hume from scepticism, for on our view Hume needs no such salvation. But had he been concerned with the external problem, he might well have taken the course recommended by Flew.<sup>66</sup> Much the same can be said concerning A. J. Ayer, who similarly believes that he need not sacrifice empiricist principles in order to take the dissolution approach. In *The Problem of Knowledge* he

65. Antony Flew, *Hume's Philosophy of Belief* (London: Routledge & Kegan Paul, 1961), p. 89.

66. According to Barry Stroud's interpretation of Strawson and the dissolution approach (*op. cit.*, pp. 64-66), Hume could not have found their views congenial. Stroud would be right if his understanding of Strawson's theory were correct, but we find it so distant from Strawson as to be scarcely more than a caricature (esp. p. 65).

quickly dismisses what he takes to be Hume's problem of induction and remarks, while speaking of the inductive sceptic in general, that

his demand for justification is such that it is necessarily true that it cannot be met. But here again it is a bloodless victory. When it is understood that there logically could be no court of superior jurisdiction, it hardly seems troubling that inductive reasoning should be left, as it were, to act as judge in its own cause.<sup>67</sup>

There has been an unfortunate tendency among many adherents of the dissolution approach to flail away at Hume on the pretense that he has generated a pseudo-problem by severely restricting the term "reason" and then asking whether the institution of inductive reasoning is reasonable. We have seen that Hume does indeed restrict the term "reason" but that he never proceeds to call the entire institution of inductive reasoning into question. Once Hume's commitments are thus understood, we can see that Hume might himself argue the line taken, for example, by P. F. Strawson (who is often thought to be arguing against Hume):

What reason have we to place reliance on inductive procedures? . . . It is our habit to form expectations in this way; but can the habit be rationally justified? . . . The doubt has its source in a confusion. . . . The demand is that induction should be shown to be a rational process; and this turns out to be the demand that one kind of reasoning should be shown to be another and different kind.<sup>68</sup>

Hume, who was principally concerned to discriminate between inductive and demonstrative reasoning, would easily have felt at home with the last sentence of this argument. What could be more absurd, from Hume's anti-rationalistic perspective, than the demand that "one form of reasoning should be shown to be another and different kind"? Strawson himself has noted the compatibility of his views with those of Hume, and is among the few to observe the consistency of Hume's rules section with

67. A. J. Ayer, *The Problem of Knowledge* (Baltimore: Penguin Books, 1956), p. 75. Ayer's careful statement of what he takes to be Hume's sceptical position is found in *Probability and Evidence* (New York: Columbia University Press, 1972), Chapter 1, esp. pp. 4f.

68. P. F. Strawson, *Introduction to Logical Theory* (London: Methuen and Co., 1952), pp. 249f.

his naturalistic account of inference. For Hume, he cogently argues, "it is a requirement of Reason that our beliefs should form a coherent system. Committed by nature to the 'basic canons' of induction, we are led by Reason to elaborate our procedures and policies on this basis. Reason is and ought to be, the slave of the passions."<sup>69</sup>

(2) Other contemporary neo-Humeans such as Reichenbach, Feigl, and Salmon insist on solutions rather than dissolutions and offer a pragmatic justification, or vindication, of induction (while admitting that any validation of the method of induction is impossible). They attempt to show that, presuming a desire to make correct predictions, one ought to adopt the rule of induction. It is rational to adopt this rule, they maintain, because it is uniquely suited as a means to attain correct predictions, and so is preferable to all known forms of inference, or is at least as good as any alternative.

Again, this approach is entirely compatible with Hume's philosophy. Although its proponents also share the misconception that Hume held a sceptical position in regard to the external problem, they clearly see that Hume's empiricism need not be sacrificed in order to escape scepticism. Feigl, speaking of his own pragmatic justification of induction, remarks that "the conclusion reached may seem only infinitesimally removed from Hume's scepticism" and that "it is the final point which a consistent empiricist must add to his outlook." Although Hume is not a sceptic in the way Feigl implies, he might nonetheless have wanted, as a consistent empiricist, to add this final point to his outlook.<sup>70</sup>

69. P. F. Strawson, "On Justifying Induction," *Philosophical Studies* 9 (1958), pp. 20f. Strawson's views are favorably compared to Hume's text in Farhang Zabeeh, "Hume's Problem of Induction," in Livingston and King, eds., *op. cit.*, esp. pp. 84-87.

70. Herbert Feigl, "De Principiis Non Disputandum . . . ?" in *Philosophical Analysis*, ed. Max Black (Ithaca, N. Y.: Cornell, 1950), p. 131. Wesley Salmon's ingenious essay, "An Encounter with David Hume," is apparently intended to show that Hume raised penetrating and correct questions about induction which find their best solution in those "pragmatic justifications" that derive from Reichenbach. The essay is found in Joel Feinberg, ed., *Reason and Responsibility*, 4th ed. (Belmont, California: Wadsworth Publishing Company, 1979).

## VIII

The conclusions we have reached in this chapter concerning Hume's views on induction bear directly on his theory of causation in a way that deserves reemphasis. These conclusions make it clear why Hume takes up the nature of inductive inference at the points in his work where he discusses the place of necessity in causal relatedness. An examination of the former is clearly a part of his exposition of the latter. He must attack the idea that objectively necessary connection provides the medium for inference that is required by rationalism. Additionally, our conclusions undercut the suggestion that Hume's larger philosophical enterprise in analyzing causation and inductive reasoning is purely critical and sceptical. We have not shown, of course, that Hume is not sceptical in others of his teachings; and we have certainly not shown that leading interpretations of Hume's writings as sceptical—such as Richard Popkin's seminal work<sup>71</sup>—are without merit. But these interpretations fail to capture either the letter or the spirit of his philosophy of causation. We are confident that it can be shown that these interpretations are misguided by citing the texts and using the approach instanced in this chapter.<sup>72</sup> That undertaking, however, is a major one far afield from the philosophy of causation.

Having reached the conclusion in our first two chapters that Hume's aim is fully as constructive as it is critical, we turn in the next chapter to a closer examination of his constructive enterprise.

71. Richard H. Popkin, *The High Road to Pyrrhonism* (San Diego: Austin Hill Press, 1980). Included in this collection of papers is Popkin's classic article "David Hume: His Pyrrhonism and His Critique of Pyrrhonism," *The Philosophical Quarterly* 1 (1951). Robison's work cited in footnote 1 above deserves the same careful study.

72. This nonsceptical interpretation has already been argued for in three papers by Fred Wilson: "Is Hume Really a Sceptic with Regard to Reason?," unpublished; "What Pyrrho Taught and Hume Renewed," unpublished; and "Hume's Theory of Mental Activity," *McGill Hume Studies*, *op. cit.*, pp. 101-20.