

III

Causality and the Inference from the Observed to the Unobserved:

The Negative Phase

Together let us bear this ample field,
Try what the open, what the covert yield,

Seeing, hearing, smelling—in short, perceiving—something is for Hume 'a mere passive admission of the impression thro' the organs of sensation' (p. 73). But not everything that goes on in the mind, or that is important for human life, is a case of perceiving in this sense. People think about and have beliefs about matters of fact that they are not perceiving at the moment. And it is very important for human life that this is so. If we had no such beliefs, Hume says:

We should never know how to adjust means to ends, or to employ our natural powers in the production of any effect. There would be an end at once of all action, as well as of the chief part of speculation. (*E*, p. 45)

Acting often involves deliberation, and that in turn requires beliefs about various means to the ends we seek and the probable results of those possible courses of action. Since the actions have yet to occur, their consequences have not occurred either, and so any beliefs we have about them must be beliefs about something 'absent', something that is not present to our minds at the moment. In fact, a little reflection is enough to show that almost all our beliefs are at least partly about what is not presently being observed by us. How do we get them?

If you were to ask a man, why he believes any matter of fact, which is absent; for instance, that his friend is in the country, or in France; he would give you a reason; and this reason would be some other fact; as a letter received from him, or the knowledge of his former resolutions and promises. . . . All our reasonings concerning fact are of the same nature. And here it is constantly supposed that there is a connexion between the present fact and that which is inferred from it. Were there

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nothing to bind them together, the inference would be entirely precarious. (*E*, pp. 26-7)

We think there is some kind of connection between what we observe and what we believe to be the case about what is not presently observed, and we follow up that connection and *infer* from one to the other. So we get beliefs about the unobserved by some kind of inference. We make a transition from observing something to a belief in something that is not observed.

Hume believes that all such transitions are causal inferences, or 'reasonings . . . founded on the relation of *Cause and Effect*' (*E*, p. 26). Therefore he thinks that to understand what it is that assures us of any matter of fact that is not presently observed, we must understand the relation of causality.

'Tis impossible to reason justly, without understanding perfectly the idea concerning which we reason; and 'tis impossible perfectly to understand any idea, without tracing it up to its origin, and examining that primary impression, from which it arises. (pp. 74-5)

The previous chapter sketched the justification Hume gives for this general methodological principle. It will soon be clear, however, that there are several other important tasks he is engaged in.

To find the origin in experience of the idea of causality Hume first looks at an example of two things we would regard as being related as cause and effect and asks what impressions we get when we perceive them.

I find in the first place, that whatever objects are consider'd as causes or effects, are *contiguous*; and that nothing can operate in a time or place, which is ever so little remov'd from those of its existence. Tho' distant objects may sometimes seem productive of each other, they are commonly found upon examination to be link'd by a chain of causes, which are contiguous among themselves; and to the distant objects; and when in any particular instance we cannot discover this connexion, we still presume it to exist. (p. 75)

He concludes that contiguity is 'essential' to causality (p. 75).

It is widely believed that for Hume contiguity is a necessary condition for two things' being related as cause and effect, but he can hardly be said to have established that. He actually claims to be looking for the impressions from which the idea of causality is derived, and he

admits that we do not get an impression of contiguity *every* time we observe a pair of objects which we take to be related as cause and effect. We see the sun and melted butter, and we believe that the one is the cause of the other, but we do not get an impression of the contiguity between them or of a chain of intermediate, contiguous, objects. It might well be, as Hume suggests, that in such cases 'we presume' that there is contiguity nevertheless, but that is irrelevant to the search for the *impressions* we always get in every case of causality. It might be that, once we have the idea of causality, and hence know that contiguity is 'essential' to it, we presume that there is a chain of intermediate objects, and that the cause and the effect are therefore contiguous, but we certainly do not get an impression of contiguity in every case of what we take to be a causal connection. How then do we know, if at all, that contiguity is 'essential' to causality?

Do we even presume contiguity to hold in every case? Where one thought or idea causes another do we believe that there is literally some contact between cause and effect? Hume is especially interested in this form of what might be called mental causality, but the requirement that cause and effect be contiguous makes it difficult to see what he thinks contiguity is. In any case, nothing he says even begins to show that 'X caused Y' implies 'X and Y are contiguous'. In the *Enquiry* he never mentions contiguity as part of the notion of causality.¹

Another relation said to be 'essential' to causality is the priority in time of the cause to the effect. Hume does not even suggest that we always get an impression of this priority, although he claims to be searching for what is 'essential' to causality by trying to discover the impressions from which the idea is derived. Here too it would seem that we do not always, or perhaps ever, get an impression of the priority in time. We do not actually see the contact of two billiard balls to be slightly earlier than the beginning of the motion of the second ball. Hume thinks there must be such priority, and he thinks he has a general argument to prove it.² But even if the argument is successful, and priority is shown to be 'absolutely necessary' for causality, that will not necessarily help Hume in his search for the impressions from which the idea of causality is derived. To show that something Y is an essential ingredient of the idea of X is not to show that every time we observe an X we have an impression of Y. The crudest interpretation of Hume's 'first principle of the science of human nature' might suggest that it is, but Hume himself seems to recognize the difference.

The important point Hume goes on to make is that, even if in every case of causality we did get impressions of contiguity and priority, that would not be enough to explain the origin of the idea of causality. Two objects might be related by contiguity and priority in time 'merely coincidentally'. If, at the very moment that I look at the traffic light it

turns green, I do not regard my looking as the cause of the light's turning. So there must be some other ingredient in the idea of causality, or in the origin of it, that has yet to be accounted for.

What is the difference between what we call a 'coincidence' and a genuine case of causality? Obviously, in the case of causality one thing *produces* another, but to say that is to say no more than that they are causally connected. We believe that when two events are related causally the second one happens *because* of the first, but that is really no better. We might believe that the second thing *would not* have happened unless the first one had; or that, given the first, the second *had* to happen. These are not equivalent, and they do not really explain anything, but they represent different rough and ready ways of expressing what we believe when we think that two contiguous events, one of which is temporally prior to the other, are related causally and not just coincidentally. Hume says that we think there is a 'necessary connection' between cause and effect.

When we consider any particular instance of causality which we observe, we can find no impression which is an impression of the necessary connection between cause and effect. We might observe that A happened before B and was contiguous with it, but we cannot have an impression of B's happening *because* A happened, or an impression of the fact that B *would not have happened* unless A had. Of course, we often say things like 'I saw the white ball knock the red ball into the pocket', or 'I saw the stone break the window', and 'knock . . . into' and 'break . . . ' are causal verbs. But for Hume such sentences are not the reports of single impressions. They could not be reports of the only impression a person ever had. Some reasons for this will become clearer later.

If we never get an impression of the necessary connection between cause and effect in any particular instance of causality, it would seem that Hume's main methodological principle must be abandoned. The idea of causality appears to be a counter-example to the principle that all ideas arise in the mind as the result of their corresponding earlier impressions. Hume is aware of the threat this poses, and admits, albeit somewhat disingenuously, that the principle will have to be given up if the impressions from which the idea of causality is derived cannot be found (p. 77). This gives some further evidence that he regards the principle as contingent.

Hume makes some of his greatest contributions to philosophy when he gives up the direct search in perceptual experience for the impression of necessary connection and tries to save his fundamental principle by a more roundabout technique. He focuses on the inference or transition we make from cause to effect, or from the observed to the unobserved, and asks what determines us to make it at

all, and in the particular ways that we do. He is to be understood as asking straightforward empirical questions whose answers will contribute to the science of man. The main part of his discussion of causality is clearly 'an attempt to introduce the experimental method of reasoning into moral subjects'.

Seen simply in terms of the theory of ideas, the investigation of what we *do* and what leads us to do it—i.e. why we make the inference from the observed to the unobserved that we do—might look like a considerable detour. The questions Hume spends most time answering are not really about the impressions from which the idea of causality is derived at all, but rather about how and why we get beliefs about what is not being presently observed. He is concerned with certain natural human ways of thinking, certain more or less mental phenomena that occur in certain circumstances.

On particular occasions, when presented with a certain object or event, all of us uniformly expect some other particular object to exist, or some other event to happen. Or, more generally, we get a belief about something that is not presently being observed by us. It is this bit of human life he wants to understand. We have already seen how important it is that it goes on.

It might seem plausible to say that no one could even understand what it is for something to happen, or for something to begin to exist, without also believing that it had a cause. On this view, knowing or believing that something began to exist would necessarily involve believing that something else existed and was its cause. That would be to accept the traditional causal maxim that whatever begins to exist must have a cause of its existence. Now Hume believes that all inferences from the observed to the unobserved are 'founded on the relation of cause and effect', and there is a sense in which he agrees that every event must have a cause, but he thinks that the traditional way of understanding the causal maxim is completely wrong.

It had been thought that it was 'innuitively' or 'demonstratively' certain that every event has a cause—merely understanding that principle was enough to guarantee its acceptance. Hume argues that that is not so, and that the maxim is incapable of conclusive deductive proof. Whatever certainty we have that every event has a cause, it is not derived solely from our understanding the idea of an event, or of something's beginning to exist. But intuitive or demonstrative certainty can come only from 'the comparison of ideas', so the maxim is not intuitively or demonstratively certain.

Hume allows that it is demonstratively certain that every *effect* has a cause, 'effect being a relative term, of which cause is the correlative' (p. 82). So a thing could not possibly be an effect unless it had a cause. But

that does not establish the causal maxim that every *event*, or everything that begins to exist, must have a cause. Although every husband must have a wife, it does not follow that every man must be married. The causal maxim needs more proof than that.

Hume argues quite generally that the maxim could never be demonstrated to be true by any argument. If it were 'demonstratively true' that everything that begins to exist must have a cause of its existence, then it would be absolutely impossible for something to begin to exist without a cause. But he says it is not absolutely impossible for something to begin to exist without a cause, for the following complicated reason. All distinct ideas are separable from each other. The idea of A's beginning to exist is 'evidently distinct' from the idea of a cause of A's beginning to exist. Therefore we can separate the one idea from the other in the mind; we can conceive of an object's coming into existence without having to conjoin to it the idea of a cause of its coming into existence. Whatever we can conceive is possible in the sense of not implying any contradiction. But nothing that is possible in that sense can be refuted 'by any reasoning from mere ideas' (p. 80). And since it is impossible to demonstrate the necessity of anything except by reasoning from mere ideas, the necessity of a cause for everything that begins to exist can never be demonstrated. So the traditional causal maxim is not demonstratively certain.

This is a very important argument for Hume, but it is difficult to know what to make of it. To begin with, he thinks the idea of A's beginning to exist is 'evidently distinct' from the idea of a cause of A's beginning to exist. But what is it for two ideas to be 'distinct'? How can we tell whether the idea of X is distinct from the idea of Y or not? One suggestion is that we have two distinct ideas only when they can be separated without contradiction. It is contradictory to say of something that it is a husband and does not have a wife, but apparently not contradictory to say of something that it began to exist but had no cause.

There are at least two difficulties in this. First, if this is what Hume had in mind, then he can scarcely be said to have *argued* to the conclusion that it is not impossible (in the sense that it implies no contradiction) for something to begin to exist without a cause. It first looked as if he were arguing to that end from the distinctness of two ideas, but if separability without contradiction is the test for distinctness then he is simply *stating* that the negation of the causal maxim is not contradictory. There is no independent argument.

Second, even if Hume were relying directly on the absence of contradiction as the test of possibility, there would still be the question how that test is known to be fulfilled. What is a contradiction? If it is

simply a proposition which could not possibly be true, Hume's 'argument' again would shrink to a mere assertion of the possibility of something's beginning to exist without a cause. But what grounds are there for that assertion? To say that 'A began to exist without a cause' is not contradictory on the grounds that it is possible for something to exist without a cause is to put the putative argument backwards. Hume is trying to establish that it is possible.

It will not help to say simply that a contradiction is a proposition which is 'logically' incapable of being true—that it violates or is the negation of a principle of logic. Even if the principles of logic could be independently identified, this would not be enough. It is supposed to be demonstratively certain that every husband has a wife, and therefore contradictory to say of someone that he is a husband but lacks a wife, but what is the principle of logic of which that is the negation? The statement appears to be of the form '(Ex) (Fx - Gx)', and that is a satisfiable schema, and so does not contradict any theorem of logic.

Of course, it is natural to reply that 'There is a husband who lacks a wife' is really not of that form. Involved in the very idea of being a husband, it will be argued, is the idea of having a wife. Having a wife is just what it is to be a husband—they are one and the same idea, or the former is included in the latter. Therefore, 'There is a husband who lacks a wife' is really of the form '(Ex) (Gx.Hx - Gx)', and that is not a satisfiable schema. So 'There is a husband who lacks a wife' is the negation of a truth of logic after all, and is thus contradictory.

Obviously this line of argument, however plausible, makes essential use of the notion of the 'same' or 'distinct' ideas. It says in effect that a statement is contradictory if it is the negation of a principle of logic either directly or when any terms in the statement are replaced by other terms which stand for the same idea. But then the notion of sameness or distinctness of ideas is being used in the test for contradictoriness, whereas contradictoriness was originally invoked to explain the sameness or distinctness of ideas. Hume really has no non-circular argument on this point at all. He thinks he can start from the 'evident' distinctness of two ideas, but he never says how he can recognize that distinctness.³

It might be thought that he can recognize it by a kind of thought-experiment. Take the ideas in question and see whether you can in fact hold one in your mind without the other, or whether you can apply one of the ideas to a certain thing while not applying the other to it. Presumably one cannot do this with the idea of being a husband and the idea of having a wife. Since the thought-experiment fails, the ideas are not distinct. If Hume were to take this line as a way of providing that something can begin to exist without a cause it would not be all smooth sailing.

First, the test is not really a test of the identity or non-distinctness of ideas. According to Hume 'the mind cannot form any notion of quantity or quality without forming a precise notion of degrees of each' (p. 18), so it is impossible for us to form an idea of a straight line without forming an idea of a line of a certain specific length. But if on a particular occasion we form an idea of a straight line one inch in length, that does not show that the idea of being a straight line and the idea of being one inch in length are the same idea, or that the second is included in, or is part of, the first. There is a sense in which it is not true that 'all ideas, which are different, are separable' (p. 24), although this does not prevent us from making what was traditionally called a 'distinction of reason' between them.

When considering a globe of white marble, for example, we do not have separable ideas of the colour and the shape. But if we think of the globe of white marble first in relation to a globe of black marble and then in relation to a cube of white marble, 'we find two separate resemblances, in what formerly seem'd, and really is, perfectly inseparable' (p. 25). So we distinguish between the colour and the shape of the white globe, not directly, by actually separating them, but only by viewing it 'in different aspects'.

When we wou'd consider only the figure of the globe of white marble, we form in reality an idea both of the figure and colour, but tacitly carry our eye to its resemblance with the globe of black marble: And in the same manner, when we wou'd consider its colour only, we turn our view to its resemblance with the cube of white marble. By this means we accompany our ideas with a kind of reflexion, of which custom renders us, in a great measure, insensible. A person, who desires us to consider the figure of a globe of white marble without thinking on its colour, desires an impossibility; but his meaning is, that we shou'd consider the colour and figure together, but still keep in our eye the resemblance to the globe of black marble, or that to any other globe of whatever colour or substance. (p. 25)

So the test is not a matter of straightforward introspection. How it turns out will depend on what particular 'reflexion' we engage in—what features we take as relevant, and what 'resemblances' we keep in mind.

But since in the present argument Hume is interested in the distinctness, rather than the identity, of two ideas, it might be thought that this does not really matter. If we *can* conceive of a thing's beginning to exist without conceiving of it as having a cause, doesn't that prove everything Hume needs?

The answer to that question, I think, is 'No'. If the test of whether or not a certain thing is conceivable involves only a conscientious attempt to perform a certain mental act and a sincere judgment of the degree of one's success, then the conceivability of something's beginning to exist without a cause does not establish the possibility of something's beginning to exist without a cause. It does not show that there is no contradiction involved in that alleged possibility. And that is what Hume has to show.

The point has been made by William Kneale (Kneale (1), pp. 79-80). Goldbach's Conjecture to the effect that every even number is the sum of two primes has never been proved or disproved. A great many even numbers have been tested and each has been found to be the sum of two primes, but no general proof of one way or the other has ever been found. It seems easy to conceive of Goldbach's Conjecture's being proved one day, although that is not to say that it is easy to believe that it will be proved. But I can also conceive of its being disproved, of someone's proving its negation, perhaps by finding a very large even number that is not the sum of two primes. I can conceive of a computer's coming up with one tomorrow.

If I conscientiously try, then, I sincerely find that I can conceive of Goldbach's Conjecture's being proved, and of its being disproved. But it is either true or false, and if true, necessarily true, and if false, necessarily false. If it is true, then in conceiving of its being disproved I have conceived of something that is necessarily false, and therefore impossible; and if it is false, then in conceiving of its being proved I have conceived of something that is necessarily false, and therefore impossible. In one case or the other I must have conceived of something that is actually impossible. So conceivability is not an adequate test of possibility. Of course, if 'conceivable' is taken to mean simply 'non-contradictory', then it could be said to imply possibility, and so not everything I have said I can conceive of would really be conceivable after all. But that would lead back to the first criticism of Hume's argument—that no non-circular test for contradictoriness, conceivability or possibility has been given. We would be back on the treadmill.

Despite its importance, Hume's treatment of this whole subject is perfunctory at best. He nowhere gives even the beginnings of a satisfactory account of 'reasoning from mere ideas'. That is probably because his real interests lie elsewhere.

He argues against the intuitive or demonstrative certainty of the causal maxim in order to show that the 'opinion' that every event must have a cause can arise only from experience. As a student of the human mind, he wants to know *how* that 'opinion' arises. What is it

about human nature and human experience that leads people to believe that every event must have a cause? In rejecting the intuitive or demonstrative certainty of the causal maxim he thinks he has exposed one wrong answer to that question, but he is mainly interested in offering his own positive account. He does not just seek the origin of the 'opinion' that every event must have some cause or other; he asks what leads us to believe that this particular event was caused by that particular event and will itself have such-and-such particular effects. He wants to know why and how we make the particular inferences that we do from one event or state of affairs to another. That is the question about causality that Hume spends most of his time trying to answer.⁵

We can look out the window and see rain, and, although we cannot see the street, still infer, and hence come to believe, that the street is wet. Why, having the first belief, do we get the particular belief about the street that we do? Why don't we come to believe that it is paved with gold? Hume tries to answer this question by asking under what conditions we actually make such inferences.

First, all inferences must start from something, and the inferences we are interested in all start from something present to the mind and proceed to a belief in something that is not present to the mind at the time. Hume says that all such inferences start from an *impression*, either from the senses or from the memory. Without an impression as starting-point or foundation, reasoning from causes to effects would be merely hypothetical; we could reason that if A exists then B exists and if B exists then C exists, and so on, but at no point could we detach an unconditional belief unless there were some impression present to the mind to serve as the foundation of that inference. But although an impression is required in order for us to infer from the observed to the unobserved, it is by no means enough. Merely having an impression of A is never enough in itself to give rise to any belief about something not then present to the mind.

It might be thought that having an impression of A would be enough to give rise to such a belief if we could prove, by demonstrative reasoning alone, that if A exists, then something else B also exists. If B is something not then present to the mind, we would then have made an inference from what is present to the mind to what is not, and on the basis of the impression alone. Again, as he did in the case of the traditional causal maxim, Hume argues that this is impossible. Just as he earlier tried to show that from the fact that an object exists we cannot deduce that it has some cause or other, he now claims on the same grounds that we cannot deduce from the fact that a certain object exists that it has this or that particular cause or effect (pp. 86-7). If the earlier argument were successful, this conclusion would follow directly.

The present argument, like the earlier one, obviously turns on the

uncritical use of such notions as 'distinct ideas', 'separability', 'conceivability', 'contradiction', and so on, and even less effort is made here to explain or justify them. But the point of the argument is clear enough. He thinks that if our mere understanding of something A, which is now present to the mind, is not enough in itself to lead us to believe anything about the unobserved—if the inference from the observed to the unobserved is never a demonstrative one—then we can be led to make it only by experience. And he is mainly interested in what our experience must be like, what it must contain in addition to the impression of A, to lead us to have a particular belief about some particular thing that is not present to our minds at that moment.

In what situations do we actually make inferences from the observed to the unobserved? Under what circumstances do we come to believe that two things are related causally, or to believe that something B will occur because something A is observed to be occurring now? 'After the discovery of the constant conjunction of any objects', Hume says, 'we always draw an inference from one object to another' (p. 88). Whenever men observe a particular object or event which belongs to a class of things that have been constantly conjoined in their experience with things of another class, then they come to believe that an object or event of the second class exists or will occur. We observe constant conjunctions between things of two kinds, and then upon observing something of the first kind we come to believe that a thing of the second kind exists. This, Hume believes, is a true universal generalization about human behaviour.

How can the truth of this generalization be explained? Hume claims to have discovered the circumstances under which inferences from the observed to unobserved take place, but he wants to understand the mechanism, as it were, by means of which those inferences occur in those circumstances. *How* does an experienced constant conjunction work on us to give us a belief about the unobserved? What is it about experiencing a constant conjunction of As and Bs that 'determines' us, when we observe a particular A, to get an idea of a B, and then to believe that a B will follow? Hume asks:

Whether experience produces the idea by means of the understanding or of the imagination; whether we are determin'd by reason to make the transition, or by a certain association and relation of perceptions. (pp. 88-9)

In giving his answer to this question he rejects 'reason' or 'the understanding' as the source of such inferences on the grounds that none of them are ever reasonable or rationally justifiable. This is his most famous sceptical result. And there is no doubt that it was meant to be sceptical. But his contribution to philosophy does not stop with

that negative result; it was put forward for a definite, positive purpose, and understanding that purpose is the best way to see the kind of theory of human nature he is advancing.

According to the traditional theory of belief, men come to believe something, in so far as they are rational, by weighing the considerations on both sides and deciding to believe that for which they have the best evidence or the most adequate justification. By showing that no inference from a past constant conjunction of As and Bs and a presently observed A to a belief that a B will occur is ever reasonable or justified, Hume rejects this account. Past and present experiences of that sort give us no reason at all to believe anything about the unobserved. But he thinks there is no doubt that we do get beliefs about the unobserved in just such circumstances. Therefore, either the traditional theory of beliefs is wrong about how we in fact get the beliefs we do, or else we are not rational beings with respect to any of those beliefs that are most important and most fundamental for human life.

If, as Hume believes, we are not 'determin'd by reason' to infer from the observed to the unobserved, then some other explanation of how and why we do it must be found. He looks for that explanation in what he calls 'the imagination'. He tries to find those principles 'of association and relation of perceptions', those natural and primitive dispositions of the mind, that are responsible for our making the inferences we do. The search for such principles is just the experimental, naturalistic study of human nature that Hume advocates, and the need for such a study is exposed more clearly after the traditional theory of reason and belief has been exploded. That destructive or negative task is the point of Hume's sceptical argument.

He condemns as unjustifiable a whole mode of inference or pattern of reasoning. He says that past experience of a constant conjunction between As and Bs, and a present impression of an A, gives us 'no reason at all' to believe that a B will occur. 'So the mode of inference he is interested in might be represented in completely general terms as follows:

(PE) All observed As have been followed by Bs.

(PI) An A is observed now.

Therefore, (FE) A B will occur.⁷

According to Hume, whenever statements of the form of PE and PI are true about a particular person's experience, then that person will always in fact infer, and hence come to believe, a statement of the form of FE. But, he argues, the person is not 'determin'd by reason' to do so. Of course, there will be a reason *why* the man believes what he does. That is just what Hume, as a student of the science of man, is trying to find out; he seeks causal explanations of human behaviour. But in

order to show that the operation of the man's 'reason' is not what leads him to that belief Hume claims that the man has no reason *to* believe what he does. His belief has no rational support or justification. He does not, and cannot, have a reasonable belief that a B will occur. To put it most strongly, even if PE and PI are true about someone, it is no more reasonable for that person to believe that a B will occur than for him to believe that a B will not occur. As far as the competition for degrees of reasonableness is concerned, all possible beliefs about the unobserved are tied for last place. But of course the man will in fact believe that a B will occur. That is not in question.

The first and most important step of the argument to this startling conclusion is:

If reason determin'd 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.* (p. 89)

I call the italicized proposition the uniformity principle. Hume here claims that all inferences from the observed to the unobserved 'proceed upon the supposition' that it is true. The rest of his argument is designed to establish that no one could ever reasonably believe the uniformity principle, and therefore that no one could ever reasonably believe anything about the unobserved on the basis of what has been observed.

One way to support one's belief in a particular proposition is to discover a demonstrative or deductive proof of it. According to Hume, that would be to show that the proposition in question could not possibly be false. But no demonstrative arguments of this sort could be used to establish the uniformity principle, since:

We can at least conceive a change in the course of nature; which sufficiently proves, that such a change is not absolutely impossible. To form a clear idea of any thing, is an undeniable argument for its possibility, and is alone a refutation of any pretended demonstration against it. (p. 89)

But either one supports one's belief by demonstrative reasoning, which proceeds from ideas alone, or one must rely on the findings of sense-experience. For Hume those are the only two ways in which beliefs can be supported or justified.

The uniformity principle cannot be established by observation alone, since it makes a claim about some things that are not, and have not been, observed. It says that *unobserved* instances resemble

observed ones in certain respects. Therefore, any experiential justification for the uniformity principle must consist of a justified inference from what *has* been observed to the truth of the principle. But according to the first step of the argument *every* inference from the observed to the unobserved is 'founded on the supposition' that the uniformity principle is true, so by instantiation it follows that any inference from the observed to the truth of the uniformity principle is itself 'founded on the supposition' that that principle is true. Therefore, no experiential justification can be given for the uniformity principle without already assuming that it is true, and that would be 'evidently going in a circle, and taking that for granted, which is the very point in question' (E, p. 36). So no one could ever be justified in any way in believing the uniformity principle. And since all inferences from the observed to the unobserved are 'founded' on that principle, no one could ever reasonably believe anything about the unobserved. We are not 'determin'd by reason' to believe what we do about the unobserved.

There are many different points at which this sceptical argument might be attacked, but I want to concentrate on one line of criticism which seems to be fundamental. Not surprisingly, it focuses on the first step of the argument. What does Hume mean by saying that every inference from the observed to the unobserved 'proceeds upon' or is 'founded on the supposition' that the uniformity principle is true? Only when we understand what that means can we see the real source of his scepticism.

One thing that makes the claim obscure is the uniformity principle itself. Can a principle even be formulated which can serve as the 'foundation' of all such inferences without being so obviously false that no sane man would even be inclined to accept it? I do not want to minimize the importance of this problem, but I prefer to concentrate on the *role* that the uniformity principle is said to play in all inferences from the observed to the unobserved. We need some understanding of what that role is supposed to be if we are to formulate something that might fulfill it. The question is what Hume means by saying that all inferences from the observed to the unobserved are 'founded on the supposition' that that principle is true.

One thing he means is fairly clear. Having said that all inferences from the observed to the unobserved depend upon the uniformity principle, he immediately begins to look for 'all the arguments upon which such a proposition may be suppos'd to be founded' (p. 89). So he means at least that one whose experience is correctly described by statements of the form of PE and PI will not have reason to believe a statement of the form of FE unless he has reason to believe the uniformity principle. That is why he then goes on to ask what reasons

there are to believe the uniformity principle. To say that an inference is 'founded' on a particular supposition is to say at least that no one will be justified in inferring the conclusion from the premisses unless he is also justified in believing the supposition on which the inference is 'founded'.⁹

If that is part of what Hume means, why does he think that inferences from the observed to the unobserved are 'founded' on the uniformity principle in that sense? One plausible suggestion leaps to mind. It is an obvious feature of all such inferences that they are logically invalid as they stand.¹⁰ It is quite possible for a statement of the form of FE to be false even though statements of the form of PE and PI are true. Hume himself in effect points this out when he shows that a change in the course of nature is always at least possible, in the sense of not implying a contradiction. Many have supposed that that is Hume's *only* support for saying that no one is justified in believing the conclusion of an inference from the observed to the unobserved unless he is justified in believing the uniformity principle.

If that is Hume's only support, he must think that the conjunction of the uniformity principle with PE and PI logically implies FE. If something else is needed only because the original argument is not deductively valid, then what is needed must be such that, when it is found, the augmented argument *is* deductively valid. But then if he thinks that someone of whom only PE and PI are true does not have reason to believe FE, and that he would have reason to believe FE if he had reason to believe the uniformity principle as well, Hume must be assuming that no one has reason to believe anything unless he has reason to believe something that logically implies it. He must believe that all reasoning is deductive, or that an inference is a 'good' or 'reasonable' one only if it is deductively valid. It is widely believed that Hume's negative argument relies on precisely that view of reasons.¹¹

On this interpretation Hume's conclusion, in the sense in which he is said to mean it, would be perfectly correct. He demonstrates that no set of statements about what has been observed ever logically implies anything about what has not been observed, and on the assumption that no one is justified in believing a proposition unless he is justified in believing something that logically implies it it follows immediately that no one is ever justified in believing anything about the unobserved on the basis of what has been observed. But most defenders of this interpretation go on to point out that this conclusion, although correct, does not really have any general sceptical force. The most that Hume can be said to have established, on this interpretation, is a conditional statement to the effect that *if* no one is ever justified in believing a proposition unless he is justified in believing something that logically implies it, *then* no one is ever justified in believing

anything about the unobserved. That conditional statement is true: it is equivalent to the admitted truth that no set of statements about what has been observed logically implies anything about what has not been observed. But, the criticism continues, Hume is wrong simply to assume that the antecedent of that conditional is true—in fact it is not true—and so Hume's general sceptical conclusion has not been established.¹²

Hume's assumption is said to be false because an argument or inference does not need to be deductively valid in order to be a 'good' one, or to justify belief in its conclusion on the basis of its premisses. Not all justification or reasons need be deductively sufficient. A man is reasonable or justified in believing something about the unobserved as long as his past and present experience entitles him to believe it, or makes it reasonable for him to believe it, or makes it more reasonable for him to believe it than to believe its negation. And he could be reasonable in believing it even though it turned out to be false.

According to the present interpretation, Hume simply does not take account of that possibility. From the admitted truth that no one ever has deductively sufficient reasons for believing anything about the unobserved he is said to conclude immediately that no one has *any* reason *at all* for such beliefs. And that is simply to assume without argument that all reasons for believing must be deductively sufficient. It is arbitrarily and quite unreasonably to lay down ridiculous and impossible strict conditions for justified belief in matters of contingent fact. So the complaint against Hume is that to require that inferences from the observed to the unobserved be shown to be reasonable in the sense of being deductively valid is simply to require that one thing (non-demonstrative inference) be shown to be something else (demonstrative inference) which it is not. No wonder the demand can never be met. But it is a mistake to think it must be met if our beliefs about the unobserved are to be shown to be reasonable. So Hume's general sceptical conclusion does not follow from what he actually establishes.

This is a very attractive diagnosis of Hume's alleged failure, and it has actually attracted many commentators. It makes what he says clearly and importantly true while saving us from the unpalatable scepticism he thought he had proved. But I find it unsympathetic in ascribing to Hume a quite arbitrary and unjustified assumption with no explanation why he might have found it convincing. For that reason alone it would be desirable at least to supplement it with some plausible motivation for Hume. Also, it makes it difficult to see why and how so many able philosophers since Hume should have thought that his argument, if successful, would have just the sceptical implications he claimed for it.¹³ Either they completely missed some

rather obvious point in Hume, or else they unknowingly share his assumption about reasons. Since the latter possibility is scarcely credible in the case of recent philosophers who take seriously the problem of 'the justification of induction', it follows that they have simply misread Hume. But how? Is there any other interpretation or defence of Hume's scepticism that makes it more plausible?

Why does Hume believe that we must have some reason to believe the uniformity principle if we are to be justified in making an inference from the observed to the unobserved? At one point in explaining or defending the claim that all inferences from experience 'suppose, as their foundation' the uniformity principle, Hume says:

If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion. (*E*, pp. 37-8)

This might suggest that without some reason to believe that the course of nature will not change, our past experience does not provide a basis for any inference about the future. And that is just the first step of Hume's argument, according to which no one of whom statements of the form of PE and PI are true is justified in believing FE unless he is justified in believing the uniformity principle. If that step were implied by the passage just quoted, then I think Hume's argument and its sceptical conclusion would be correct, since what that passage says seems to me to be true.

If, on a particular occasion, someone of whom statements of the form of PE and PI are true was also justified in believing that in this case the uniformity principle is false, then I think he would not be justified in believing FE on the basis of the evidence then available to him. A somewhat fanciful example which nevertheless accords with Hume's theory might bring this out. I stand on the street opposite a door marked 'Misogynists Society: Members Only', and see people coming out the door. I find a constant conjunction, holding in 499 cases, between coming out of that door and being male, and when I hear someone else coming down the stairs, according to Hume, I infer that it is a man too. But suppose I then get unimpeachable evidence, say from some members I trust, that there are 500 members altogether, and that one of them is a woman, and that no one but members is allowed in the building. Although it is still true that every person coming out that door in my past experience has been male I no longer have good reason to infer or believe on that basis that the next person to come out of the door will be male. I have extremely good grounds for believing that the uniformity principle, at least with respect to the properties of coming out of that door and being male, is not true.¹⁴

Consequently I am not justified in believing that the next person will be male even though in my past experience all observed persons have been male, and that is because I am justified in believing that in this particular case the relevant form of the uniformity principle is false.

So what Hume says in the above passage seems to be correct, and its correctness does not depend on the assumption that all reasons or justification must be deductively sufficient. Nothing has been said about *why* I no longer have reason to believe that the next person will be male, but whatever the explanation might be, it surely does not involve the fact that my reasons are not deductively sufficient. I did not have deductively sufficient reasons before I got the additional information either, but there was no suggestion that I had no reason then.¹⁵

But although the example supports what Hume says and does so without our having to assume that all reasons are deductively sufficient, what he says does not establish the first step of his sceptical argument. All that Hume says in the quoted passage, and all the example shows, is that if anyone of whom statements of the form PE and PI are true is to be justified in believing a statement of the form of FE then it cannot be the case that he is justified in believing that the uniformity principle is false. But that is not strong enough in itself to establish Hume's claim that if anyone of whom statements of the form of PE and PI are true is to be justified in believing something of the form of FE then he must be justified in believing that the uniformity principle is true. This second statement says much more than the first. Not being justified in believing that the uniformity principle is false (as the first requires) is not the same as, nor does it imply, being justified in believing that the uniformity principle is true (as the second requires). One might have no justified beliefs either way about the truth-value of a certain proposition, and hence lack justification for believing it false, without having any justification for believing it true.

It is fully in accord with what might be called 'common sense' to say that we are often justified in believing many things about the unobserved and that we are so justified on the basis of past and present experience. As long as we have no evidence to the contrary, constant conjunctions of phenomena in our past experience are thought to give us good reason to believe things about the unobserved. But it also seems to agree with 'common sense' to say that if we *do* have evidence to the contrary, then those constant conjunctions do not give us good reason, or at least not to the same degree. So 'common sense' would seem to accept the weaker principle Hume expresses, but not the stronger one he needs for his sceptical argument. One must not be justified in believing that the uniformity principle is false if one is to be justified in believing things about the unobserved, but 'common

sense' does not appear to require that we also have some *positive* justification for believing the uniformity principle to be true, if we are ever to be justified in believing anything about the unobserved. Hume's stronger principle does require that, and so, therefore, does his sceptical argument, since the stronger principle is the first step of that argument. If we must have such positive justification, and if, as Hume shows, we can never get it, then it follows that we are never justified in believing anything about the unobserved.

Only the weaker principle has been shown to be true so far. Did Hume mistakenly infer the stronger principle from the weaker one? And if so, did his alleged demand that all reasons or justification be deductively sufficient somehow lead him to make that faulty inference? Is that the only source of the plausibility of Hume's first and crucial step? The standard interpretation I have been considering would suggest that the answer to all these questions is 'Yes'. Of course, it is not a matter of what went through Hume's mind, but of how his argument is to be most plausibly reconstructed and understood.

I have suggested that Hume's negative or sceptical arguments are directed against the claims of a certain traditional conception of reason or rationality. The standard interpretation I have been considering holds that Hume shares that conception at least in assuming that all reasoning must be deductive, or that one has reason to believe something only if one has reason to believe something that logically implies it. Then it is a short step to the conclusion that no beliefs about the unobserved are reasonable, since there are no deductively valid arguments with premisses only about what has been observed and conclusions about what has not been observed.

But Hume might well be exploiting another aspect of what I have called the traditional conception of reason, and in a way that leads him to a truly sceptical conclusion without having to assume that all reasons must be deductively sufficient. I do not mean to suggest that he tries explicitly to deny that assumption, but only that perhaps he could be led to his sceptical conclusion without explicitly or implicitly having to make it. I can just sketch a natural and seductive pattern of thinking along such lines.¹⁶

Suppose someone has observed a constant conjunction between As and Bs and is presently observing an A. Suppose also that he believes that a B will occur. Now Hume is interested in whether that belief is, or can be, a reasonable one. And it is easy to see that, for all that has been said so far, it might not be. The man might believe it for some very bad reason, completely unconnected with his past and present experience of As and Bs. Or he might just find himself believing it for no reason at all. He might have made a lucky guess. So something else must be true of him as well. It would seem that, if he is to be reasonable in

believing that a B will occur, he must somehow take his past and present experience with respect to As and Bs as good reason to believe that a B will occur. His 'premisses' must in some sense be taken by him as grounds for believing his conclusion. If that were not so, then in believing that a B will occur the man would be no better off, his believing what he does would be no more worthy of positive rational appraisal, than if he had simply made a lucky guess.

If his past and present experience of As and Bs in fact gives him good reason to believe that a B will occur, but he does not believe¹⁷ that it does, then although in one sense he has good reason to believe what he does, still his believing that a B will occur has not yet been shown to be reasonable or justified. It would be true that, among all the things he believes there is something that is good reason to believe that a B will occur, viz. that observed As have been followed by Bs and an A is observed now, but that alone does not imply that if he believes that a B will occur (as he does) then he does so reasonably. A detective might have rounded up everyone who could possibly have murdered the victim, and so in that sense have the culprit before him, but he will not yet have caught the guilty one. That involves more than having before him someone who in fact is the murderer. Similarly, believing reasonably that a B will occur involves more than believing that a B will occur and also believing something else which is in fact good reason to believe that a B will occur. It would seem that reasonable belief also requires that one see or take that something else as good reason to believe what one does.

But then this kind of thinking about the conditions of reasonableness or rationality will tend to continue. It seems clear enough that, even if the man does believe that what he has experienced is good reason to believe that a B will occur, and even though that belief is true, it does not yet follow that the man's belief that a B will occur is reasonable or justified. He might have no good reason for believing that what he has experienced is good reason to believe that a B will occur. He might believe that for some very bad reason, or for no reason at all. Or he might have made a lucky guess. So something else must be true of him as well.

It would seem that, if his believing that a B will occur is to be reasonable or justified, and his believing that what he has experienced is good reason to believe that a B will occur is to be part of his reason for believing it, then his believing that what he has experienced is good reason to believe that a B will occur must itself be reasonable or justified. It cannot be just something he happens to believe, for no reason at all. If it were, then his belief that a B will occur would not be reasonable. He would not be making a reasonable or justified inference from the observed to the unobserved at all.

This 'self-conscious' and therefore potentially regressive aspect of the notion of reason or justification might well be what Hume is focusing on in the traditional conception. A fully rational agent is not one who proceeds rationally only at the last step, so to speak, and who does not bother to arrive at earlier steps by any reasonable or justified process. This conception is certainly one of the sources of the quest for the alleged foundations of knowledge, for an indubitable basis from which all reasoning can start.¹⁸ Once we try to see our beliefs as reasonable in this way, and realize that everything we appeal to must itself be shown to be reasonable, it is difficult to stop short of something we could not fail to be reasonable in believing, if there is such a thing. By concentrating on this aspect of reasonableness Hume could find support for his claim that a reasonable belief in something unobserved requires more than certain kinds of past and present experiences. It requires as well that one reasonably believe that what one has experienced is good reason to believe what one does about the unobserved. And then Hume's question, which he thinks leads to scepticism, is how one can ever get a reasonable belief to that effect.

If that question does in fact lead to scepticism, it is not because Hume implicitly assumes that all reasons must be deductively sufficient. The reflections about reasonable belief that I have just sketched do not depend on that assumption at all. They purport to show that an experienced constant conjunction between As and Bs and a presently observed A are not enough in themselves to make someone's belief that a B will occur a reasonable or justified one. One must also believe that an observed conjunction of As and Bs, along with an observed A, is good reason to believe that a B will occur. But clearly this more complicated belief, when added to what was originally believed, still does not provide the person with a deductively sufficient set of premisses for the conclusion that a B will occur.

If to the two premisses:

(PE) All observed As have been followed by Bs.

(PI) An A is observed now.

we add the further statement:

(R) PE and PI are reason to believe that a B will occur.

we still do not have a deductively valid argument to the conclusion that a B will occur.¹⁹ If PE, PI, and R are all true, it is still possible for a B not to occur. There can be, and one can have, very good reason to believe what is in fact false.

So if the reflections I sketched were to show that a justified belief in something like R is needed in addition to PE and PI in order for one's belief that a B will occur to be reasonable, it is not because R is needed in order to provide a deductively valid argument to the conclusion that a B will occur. The additional requirement does not find its source in

an arbitrary assumption about the deductive nature of all reasoning. One serious difficulty in the line of interpretation I am suggesting is that, although it gives some plausible support for something like the first step of Hume's argument, it does not support that step in precisely the form in which I originally represented it. I have suggested that what is needed for a reasonable belief that a B will occur, in addition to an observed constant conjunction between As and Bs and a presently observed A, is a reasonable belief that what is and has been observed is good reason to believe that a B will occur. And that is not equivalent to the claim that a reasonable belief in the *uniformity principle* is what is required, since the uniformity principle says that 'those instances of which we have had no experience, must resemble those, of which we have had experience', or that 'the course of nature continues always uniformly the same' (p. 89). That principle appears to say or imply nothing about one thing's being good reason to believe another.

That is true, and might well be sufficient to discredit the interpretation I am suggesting. But it is perhaps significant that Hume sometimes expresses the additional requirement for a reasonable inference from the observed to the unobserved by saying that it requires the principle that 'instances of which we have had no experience, *must* resemble those, of which we have had experience', or that the past is a '*rule* for the future' (E, p. 38, my italics). And that comes close to the claim that one must reasonably believe that what is and has been observed can be relied on as a guide to the future, or that it gives one good reason to believe certain things about the unobserved, and not just that the observed *is* actually like the unobserved. To say that the murderer *must* have only four toes on the left foot is to indicate that what you already know is good or conclusive reason to believe that about the murderer, and not just that he does have only four toes on the left foot.

In any case, it is plausible to argue that no one who has observed a constant conjunction between As and Bs and is presently observing an A will reasonably believe on that basis that a B will occur unless he also reasonably believes²⁰ that what he has experienced is good reason to believe that a B will occur. But, Hume asks, how could one ever come reasonably to believe that? How is one to get a reasonable belief that a past constant conjunction between As and Bs, along with a presently observed A, *is* good reason to believe that a B will occur?

It might be thought that this question presents no difficulty at all, and that therefore there is no regress or circularity involved in trying to answer it. To believe that a B will occur when you have observed a constant conjunction between As and Bs and are presently confronted with an A might be thought to be the very height of reasonableness. What better reason could one possibly have for believing that a B will

occur—especially if the constant conjunction between As and Bs has been observed to hold in a large number of instances in a wide variety of circumstances over a long period of time?

If that is the best reason one could possibly have, surely it would be absurd to say that even in that case one has no reason to believe that a B will occur. And this thought can easily lead to the conclusion that anyone who even understands anything at all about reasonable belief, and about what it is to have a reasonable belief in something unobserved, will thereby know that a past constant conjunction between As and Bs and a presently observed A are good reason to believe that a B will occur.

So it might be thought that even if Hume, on the present interpretation, is right in saying that one must have some reason to believe that one's past and present experience's having been a certain way is reason to believe that a B will occur if one is to have a reasonable belief to that effect, there is still no threat of scepticism. One *can* know such a thing. In fact, this suggestion goes, everyone who understands the meaning of 'reason to believe' does know that already. To have observed a constant conjunction between a great many As and Bs under a wide variety of circumstances over a long period of time, and to be presently observing an A, is *just what it means* to have reason to believe that a B will occur. So what Hume claims is a necessary condition of having a reasonable belief that a B will occur is sometimes easily fulfilled.²¹

This is really an appeal to a bit of *a priori* knowledge about one sort of thing being a reason, or good reason, to believe another. The idea is that, solely by understanding the concept of being a reason for, or being reasonable, or solely by knowing the meanings of certain words, one knows that having observed a constant conjunction between As and Bs and being presently confronted with an A is good reason to believe that a B will occur. It is 'analytic' that one has good reasons in that case. Strawson puts the point as follows:

It is an analytic proposition that it is reasonable to have a degree of belief in a statement which is proportional to the strength of the evidence in its favour; and it is an analytic proposition, though not a proposition of mathematics, that, other things being equal, the evidence for a generalization is strong in proportion as the number of favourable instances, and the variety of circumstances in which they have been found, is great. So to ask whether it is reasonable to place reliance on inductive procedures is like asking whether it is reasonable to proportion the degree of one's convictions to the strength of the evidence. Doing this is

what 'being reasonable' *means* in such a context. (Strawson (1), pp. 256-7)

One could know that one had good reason solely on the basis of knowing what reasons are, or what 'having a reasonable belief' means, only if it were analytically and therefore necessarily true that a past constant conjunction and a present A are reason to believe that a B will occur. That is a condition of the success of this strategy—all analytic propositions are necessary. But in fact that condition is not fulfilled. That proposition is not necessarily true. This is not yet to say, with Hume, that it is not true; that one in fact never *does* have reason to believe that a B will occur. It is to say only that it is not true that, *necessarily*, if one has observed a constant conjunction between As and Bs and is presently observing an A, then one has reason to believe that a B will occur. And if that is not necessarily true, then it is not analytic, and so one cannot know it simply in virtue of understanding certain concepts or knowing the meanings of certain words.

It is quite possible for two sorts of things always to be found together for a long time without the presence of a thing of one of the kinds affording us any reason in itself to believe that a thing of the second kind will occur.²² I have never drawn a breath in the state of Mississippi; there has been a constant conjunction between being a breathing by me and being outside Mississippi. But that alone is no reason to believe on a particular occasion that the breath I am about to draw will not be in Mississippi. Suppose I am standing on the border. Or if I wake up somewhere and find myself breathing, that alone, even with the past constant conjunction, does not give me reason to believe that I am not in Mississippi. And if I definitely am in Mississippi, that alone does not give me reason to believe that I am not breathing.

Similarly, having found nothing but silver coins in the pocket of a certain pair of trousers over a long period of time is no reason to believe that the small but unseen coin I now feel in my pocket is silver. The admitted correlation between being a coin in that pocket and being silver is merely 'accidental'. Now our world is such that many accidental correlations get broken in time—especially when we ourselves interfere and break them. I run, panting, over the Mississippi border, or I finally receive a penny in change and put it in my pocket. But there is no *necessity* for all accidental correlations to break down. In fact the notion of 'historical accidents on the cosmic scale'²³ makes perfect sense.

But if it is *possible* for two sorts of things to be merely accidentally correlated in different circumstances over a long period of time, then a constant conjunction's having held in the past is not of *necessity* reason to believe that it will continue into the future. There being some reason to believe that it will continue does not follow logically from the

fact that the correlation has held up till now. But the view under discussion to the effect that having observed a constant conjunction between As and Bs in the past and being confronted with an A now, is just what it means to have reason to believe that a B will occur, is committed to saying that that does follow. So that view must be rejected as incorrect.

Again, it is important to see that this by itself does not imply Hume's sceptical conclusion that there is no reason to believe, of any constant conjunction, that it will continue into the future. Nor is it meant to suggest that any of the long-standing correlations we are interested in are in fact accidental. It is intended to show only that, if we believe of a particular observed correlation that it does give us reason to believe that it will continue, then we cannot support that belief purely *a priori*, by appealing to nothing more than the meanings of words or the concept of having a reason to believe.

Incidentally, my defence of the empirical character of Hume's question does not really involve ascribing to Hume the distinction between accidental and law-like generalizations. That distinction is one he never makes, to the detriment of his own positive theory, as we shall see in Chapter IV. But I invoke the distinction here only to oppose those who would try to forestall Hume's regress in a certain way. Since he is convinced at the outset that it is always a matter of fact whether one thing is a reason to believe another, he never contemplates that particular way of stopping the regress at all, and so he does not rely on the 'accidental/law-like' distinction in order to meet it.

So we are still left with Hume's question of how one is ever to have any reason to believe that a constant conjunction's having held in the past is reason to believe that a presently observed A will be followed by a B. Any support there could be for it would have to come at least partly from experience. If it cannot be supported in that way, then no one could have a reasonable belief that a B will occur. That is just the first step of Hume's reconstructed argument: no one who has observed a constant conjunction between As and Bs and is presently observing an A will reasonably believe on that basis that a B will occur unless he also reasonably believes that what he has experienced is good reason to believe that a B will occur. The sceptical conclusion that no one could ever reasonably believe that would then be argued for as follows.

Since having observed a constant conjunction between As and Bs and being presently confronted with an A does not logically imply that one has reason to believe that a B will occur, any support for that conclusion must consist of a reasonable inference from observed instances to the truth of 'observed instances provide good reason to believe that a B will occur'. But *every* inference from the observed to the unobserved is such that it is reasonable or justified only if one has

reason to believe that observed instances provide reason to believe a certain statement about unobserved instances. And therefore in particular the inference from observed instances to the conclusion 'observed instances provide reason to believe that a B will occur' is reasonable or justified only if one has reason to believe that observed instances provide reason to believe a certain conclusion about unobserved instances. But, as before, that would be 'evidently going in a circle, and taking that for granted, which is the very point in question' (E, p. 36). So no one could ever have any reason to believe that observed instances provide reason to believe that a B will occur. And since that in turn was seen to be a necessary condition of having a reasonable belief about the unobserved, it follows that no one ever has a reasonable belief about the unobserved.

So there might well be more in Hume's negative argument than what has come to be the standard interpretation would allow. Perhaps not all the sceptical force, or apparent sceptical force, of that argument is derived from an arbitrary requirement that all good reasoning be deductive. In any case, it seems to me that the subject is still open.