



## **Hume on the Logic of Design**

Stephen Barker

*Hume Studies* Volume IX, Number 1 (April, 1983) 1-18.

Your use of the HUME STUDIES archive indicates your acceptance of HUME STUDIES' Terms and Conditions of Use, available at <http://www.humesociety.org/hs/about/terms.html>.

HUME STUDIES' Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the HUME STUDIES archive only for your personal, non-commercial use.

Each copy of any part of a HUME STUDIES transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

For more information on HUME STUDIES contact [humestudies-info@humesociety.org](mailto:humestudies-info@humesociety.org)

<http://www.humesociety.org/hs/>

## (i) Respectable Inductive Thinking

Readers seeking to understand Hume's views concerning inductive reasoning often turn just to the obviously relevant sections of the Treatise<sup>1</sup> and the first Enquiry.<sup>2</sup> In this paper I want to suggest that a broader approach is desirable, and specifically that the Dialogues Concerning Natural Religion shed additional significant light on Hume's views about induction.

In those well known passages of the Treatise and the first Enquiry Hume presents his critique of the idea of necessary connection; central to this critique is his point that thinking which goes beyond its premises in order to arrive at non-trivial factual conclusions cannot be demonstrative reasoning. Does this lead Hume into a radical scepticism concerning factual knowledge? A majority of interpreters do regard him as holding that because this kind of thinking is not demonstrative reasoning it cannot have any justification for the conclusions it reaches. In this connection, Hume is said to be committed to "deductivism"-- the assumption that only demonstrative (deductive) reasoning can succeed in justifying conclusions.<sup>3</sup> Interpreted in this way, Hume holds that demonstrative reasoning cannot establish non-trivial factual conclusions and that non-demonstrative thinking cannot establish them either; Hume is therefore committed to the view that non-trivial factual claims cannot be established, and so cannot be known. Thus, Hume is a radical sceptic who denies that we can attain any knowledge of non-trivial factual conclusions. Of course Hume does not stop with this negative result, but proceeds to affirm that our human nature impels us to derive conclusions about matters of fact even when it is not rational to do so. This occurs in accordance with the innate propensity by which the imagination operates, so that we cannot help but

engage in a specific style of non-rational thinking about these matters. This style may be characterized roughly as that of expecting to have future experiences which resemble our past experiences.

This way of interpreting Hume which I have just sketched has been quite widely accepted, and I think it represents the way of understanding Hume which most readers are likely to arrive at if they simply read those well known passages of the Treatise and first Enquiry. It does seem to me to be essentially correct as a reading of those passages. To be sure, this interpretation has been challenged by several writers, and recently it has been denounced with especial vigor by Beauchamp and Rosenberg in their stimulating book.<sup>4</sup> Beauchamp and Rosenberg maintain that nowhere in the Treatise or Enquiry does Hume voice any general scepticism about the drawing of conclusions concerning matters of fact. On their reading, Hume is merely rejecting the view that factual conclusions can be proved demonstratively; he is not at all suggesting that the drawing of such conclusions is in general unjustified. They see him as a staunch and consistent advocate of inductive reasoning.

I shall not take time here to try to thresh out the complex details of this controversy. For present purposes I shall merely indicate where I stand. I believe that Beauchamp and Rosenberg have read the Treatise and the Enquiry too much in the light of what they think Hume ought to be saying in order for him to have a consistent and plausible position. I think they water down too much his acid remarks about the lack of rationality of thinking which reaches non-trivial factual conclusions, and I think they attach too little weight to the manner in which Hume aligns himself with ancient scepticism. Unlike Beauchamp and Rosenberg, I consider that Hume is not a highly consistent writer,<sup>5</sup> I think he sometimes has not thought through the implications of what he says in one place so

as to reconcile it with what he says in some other places. (To say this is not to denigrate the value of his work; much of the excitement of his thought stems from his willingness to press his opinions to inconsistent extremes.) Therefore, I think it best in reading Hume to be alert for possibly conflicting lines of thought which are present in the texts and which should not be artificially forced into harmony when we interpret him. In this spirit, I favor interpreting Hume's critique of necessary connection as implying a radical scepticism about our ability to have knowledge of matters of fact.

Assuming that this interpretation is legitimate, a reader who adopts it and who attends merely to those passages in the Treatise and the first Enquiry may well come away with the impression that for Hume there is only one style of thinking by which humans reach non-trivial conclusions about matters of fact, and that Hume regards every piece of such thinking as just as illogical and illegitimate as every other. I believe that such an impression does constitute a fair reading of those passages. However, there are other different passages elsewhere in Hume's writing where a contrasting line of thought is often to be found. Therefore, it is an inadequate and misleading interpretation of Hume's over-all philosophy to say that with regard to induction he is a radical sceptic, and to leave the matter at this.

The contrasting line of thought to which I refer is present in many places elsewhere in Hume's work where he firmly commits himself to the common-sense view that some non-trivial conclusions about matters of fact are arrived at by worthier and more respectable styles of thinking than are others. Thus, for example, Hume clearly holds that the way Galileo and Newton arrived at conclusions about astronomy and physics is to be admired, and a person of good sense will accept their conclusions;<sup>6</sup> whereas, the way superstitious or enthusiastic persons reach

conclusions about the world is not to be admired, and a person of good sense will reject many of their conclusions.<sup>7</sup> In these passages Hume is not urging us to be systematically sceptical but instead is urging us to exercise discrimination both as to what conclusions we accept and as to what conclusions we reject. We are to accept Galileo's astronomical results, instead of rejecting them as his opponents did; we are to reject belief in miraculous cures, instead of accepting it as the superstitious do.

Now, if some factual conclusions that people draw are respectable and some others are disreputable, then of course human beings are psychologically capable of drawing conclusions about matters of fact in different styles. According to this line of thought, human nature does not strictly compel all humans to draw factual conclusions in just one way. When he is thinking along this line, Hume seems to commit himself to supposing that human nature is normative in this area: that it establishes a specific style of drawing conclusions as the norm to which we should try to conform, if we are to think well. Perhaps this norm is somehow immanent in all human thinking, as a standard which, if he reflected adequately about it, each human thinker could recognize as what he would want his thinking to measure up to. Presumably the norm shows its presence even in the minds of those who violate it: when someone accepts a conclusion as a result of thinking which does not measure up to the standard, he may have to practice self-deception in order to do so, for were he candidly to recognize that his thinking does not meet the standard he perhaps would tend to find it psychologically impossible to believe the conclusion.<sup>8</sup> Nevertheless, it does not seem that untutored instinct will reliably bring our thinking into conformity with this norm. As is the case with deductive norms, we surely need to have proper training so that we learn how to recognize deviations from the norm and how

to bring our thinking into conformity with it.

Thus I think we find in Hume's writings two contrasting lines of thought about how human beings reach conclusions concerning non-trivial matters of fact. One involves the very sceptical view that all such thinking is equally irrational, and the other involves the common-sense view that some of this thinking is respectable and some is not. Here I agree with David Fate Norton's remark that "...one can doubt some claim while at the same time believing this claim... Humans are complicated enough to be able to go off in two directions at once."<sup>9</sup> Hume, I believe, is both doubting and believing the claim that Galileo's style of thinking is justified.

Can these two viewpoints be combined into one coherent Humean position? How should we interpret their relationship in Hume's thought? What is chiefly at stake here is not just the question whether Hume's scepticism (his epistemological doctrine that these factual conclusions are unjustifiable) contradicts his naturalism (his psychological theory about how the mind operates). Surely the correct answer to this question is that those two doctrines are consistent with each other and together yield an account of the mind as operating irrationally.<sup>10</sup> But answering this question by no means suffices to clear up the situation concerning these two contrasting lines of thought in Hume's philosophy. There remains the different and more troublesome question whether it can be consistent behavior on Hume's part for him to urge that we ought to reach conclusions about matters of fact in one particular style rather than in any other, while he also declares that this particular style of thinking is just as unjustifiable as any other.<sup>11</sup> How can he coherently urge upon us an intellectual obligation to do what he himself tells us is irrational? He is trying to recommend a certain style of thinking, while at the same time he seems to be declaring that it has nothing to recommend it. My own view is that

6.

Hume's position here is not consistent, and I do not think that we should try to paper over the inconsistency or explain it away.<sup>12</sup>

However, my main aim here is not to deal with that controversial question of inconsistency. At this point what I want to urge is that both these lines of thought are genuine parts of Hume's philosophy and neither should be set aside or forgotten. The sceptical first view should have a prominent place in a fair over-all account of Hume's philosophy, and so should the common-sense second view. To emphasize either view alone to the exclusion of the other seems to me to be a misinterpretation of Hume's thought.

If this can be granted, let us give further attention to the second view. We are regarding Hume as committed to the existence of a respectable style of thinking in the reaching of conclusions about matters of fact, a style to which human beings ought to conform yet from which they often actually deviate. If we use the word "induction" broadly to cover all kinds of non-demonstrative thinking which start from observations and reach non-trivial conclusions concerning matters of fact, then it is respectable induction which is at stake. But Hume's development of this second view would be inadequate and would leave us very much in the dark if he merely told us that there is some respectable style of inductive thinking. We need to hear more from him about how it contrasts with other styles of thinking and about what specific style of thinking it is. Only if he tells us more under both these headings will Hume succeed in developing the second view and clarifying to us his conception of respectable inductive thinking.

Hume has something, but not a great deal, to say about this in the Treatise.<sup>13</sup> However, his Dialogues are richer in illuminating suggestions. In the Dialogues what I have called Hume's second line of thought is dominant

throughout: both Philo and Cleanthes agree that some inductive arguments are respectable and some are not. Although Philo is ridiculed as a sceptic by Cleanthes,<sup>14</sup> Philo does not himself voice advocacy of generalized inductive scepticism, and that sort of scepticism is never referred to in the central parts of the discussion.

In the rest of my paper, I want to consider aspects of the Dialogues which serve to clarify Hume's positive line of thought about induction. In the Dialogues he is examining the argument from design. I believe that his treatment of that argument clarifies his own positive view of induction both by exhibiting his shrewd grasp of how inductive thinking differs from deductive thinking, and by displaying his strong appreciation of the distinctive character of good inductive thinking.

(ii) Deductive versus Inductive Arguments from Design

Let us consider how Hume's treatment of the argument from design serves to bring out and highlight his understanding of the contrast between deductive and inductive thinking.

The argument from design, or teleological argument, has a long history in philosophy, from Plato<sup>15</sup> onwards. However, almost all the leading thinkers who have employed this argument up through the eighteenth century have formulated it in ways that are unsatisfactory because they stifle whatever force the argument has. Hume's formulation of the argument has the special merit of allowing the argument to put its best foot forward, giving it the fairest possible opportunity to show whether it can be a respectable argument. Let us briefly notice two other classic formulations, to see how Hume improves upon them.

Aquinas, in his fifth way of trying to prove the existence of God, employs a version of the argument which may be paraphrased as follows:

Things in nature act purposively, but without being aware of it. Nothing can act purposively unless someone knowingly directs it.

∴ There is a being<sup>16</sup> who knowingly directs all things in nature.

Of course the argument as it stands is not sufficient to establish that only one being is responsible for the design of all nature, but Aquinas no doubt thought he could fill that gap by supplementary argumentation; to skirt this difficulty, let us understand the conclusion to mean merely that there is at least one being involved in designing some or all of nature. A more serious difficulty is that the syllogistic form which Aquinas imposes upon the argument obscures the nexus of controversy.

Here we must note that for an argument to function successfully in intellectual exchange it must make its conclusion convincing and must do so in the right sort of way. An argument succeeds in convincing someone of its conclusion only if the person, at first in doubt about the conclusion, is brought by the argument to believe in the conclusion. And this belief should result from his being shown that the premises provide a respectable basis for believing the conclusion. Now, with Aquinas's argument, anyone who was in doubt about the conclusion (that there is at least one being involved in designing nature) would surely be at least as much in doubt about the first clause of the first premise (that things in nature act purposively). In Aquinas's formulation the most controversial point at stake has merely been leaped over. What we need is to be given reasons for believing that things in nature do act purposively. Aquinas does not even try to give us such reasons, because he thinks we can just see that the first premise is true. But the doubter will not find this obvious (perhaps he has heard of the Epicurean hypothesis that nature works by blind necessity and does not see how to rule this out). And so Aquinas's argument has no proper strength to win him over. The argument when

formulated in this way begs the question by employing a premise which is just as doubtful as is the conclusion to be proved.

Paley is another author who used the design argument. Writing a generation after Hume, he still formulated the argument in essentially the same way as Aquinas had done. Paley invites us to consider in great detail "all the organized parts of the work of Nature,"<sup>17</sup> and he claims we perceive that these are "framed and put together for a purpose."<sup>18</sup> Thus in effect his argument comes merely to this:

The parts of nature are designed.  
 Whatever is designed has a designer.  
 ∴ Nature has a designer.

Again, let us think of the conclusion as saying merely that there is at least one intelligent being involved in the design of some or all of nature. Even as thus weakened, the argument fails to convince, because it is question-begging in just the same way as was Aquinas's. Any clear-thinking person who doubts that nature has at least one designer will surely be at least equally in doubt that the parts of nature are designed.

Butler, a more penetrating thinker than Paley, had earlier decided that it is not syllogism but probable reasoning by analogy which needs to be employed by natural religion in its argumentation. Butler understood that deductive arguments can make little headway in this field, and that what we would call inductive arguments show greater promise. Hume's Cleanthes seems to be more or less modeled after Butler.<sup>19</sup> However, in his Analogy of Religion Butler did not offer any argument for the existence of God. He begins by "taking it for proved, that there is an intelligent Author of nature,"<sup>20</sup> and he devotes his book to examining the immortality of the soul, God's government of the world, and the evidence in favor of revealed religion.

It remained for Hume to formulate the argument from

design as an inductive argument. He does so through Cleanthes:

*Look round the world: Contemplate the whole and every part of it... The curious adapting of means to ends, throughout all nature, resembles exactly, though it much exceeds, the productions of human contrivance; of human design, thought, wisdom, and intelligence. Since therefore the effects resemble each other, we are led to infer, by all the rules of analogy, that the causes also resemble; and that the Author of Nature is somewhat similar to the mind of man; though possessed of much larger faculties...*<sup>21</sup>

Hume's formulation of the argument makes very clear that he interprets it as an inductive argument, whose conclusion is reached with probability, at best. When formulated in this way, the argument does not need to be question-begging, for it can be understood as taking non-controversial observations as its starting point.<sup>22</sup>

We can think of the argument as having three steps:

- (1) We observe many things which have intricately inter-related parts, enabling them to function in orderly ways (clocks, engines, houses, etc.); and we find that these things have been created by intelligent designers.
- (2) We observe that nature as a whole contains many intricately interrelated parts, which function together in harmonious and orderly ways (e.g., the parts of the solar system, which move in a complex but steady pattern).
- (3) Because nature as a whole is similar in its structure and functioning to clocks, engines, etc., we may infer that probably it is similar to them also as regards its origin. That is, there probably is an intelligent designer of nature.

Here the general form of the argument is that of an inductive argument by analogy, one of the basic forms of inductive argumentation.<sup>23</sup> We can represent this general form as follows:

$\underline{a}_1, \underline{a}_2, \underline{a}_3 \dots$  each has been observed to be  $\underline{S}$  and to be  $\underline{P}$ .

$\underline{b}$  is  $\underline{S}$ .

$\therefore$  (probably)  $\underline{b}$  is  $\underline{P}$ .

Such reasoning starts from cases  $\underline{a}_1, \underline{a}_2, \underline{a}_3$ , and so on, in which the properties  $\underline{S}$  and  $\underline{P}$  are found to be conjoined. In a further case,  $\underline{b}$ , property  $\underline{S}$  is known to be present but it is not known whether property  $\underline{P}$  is present. The point of the argument is to conclude that because case  $\underline{b}$  resembles  $\underline{a}_1, \underline{a}_2, \underline{a}_3$ , and so on, in having property  $\underline{S}$ , probably it resembles them in having  $\underline{P}$  also. In the argument from design  $\underline{a}_1, \underline{a}_2, \underline{a}_3$ , etc., are the clocks, engines, houses, etc.;  $\underline{S}$  is the property of having intricately interrelated parts which function harmoniously;  $\underline{P}$  is the property of having an intelligent designer; and  $\underline{b}$  is nature as a whole.

By formulating the argument from design as an inductive argument rather than as a deductive argument Hume weakens the tightness of the linkage between its premises and its conclusion, but this is a price well worth paying in order to avoid begging the question. Hume shows his grasp of the contrast between induction and deduction when he formulates the argument in this way, thereby giving it the fairest possible chance to show whatever force it can properly have. His grasp of this contrast sets in clearer light his view that there can be respectable inductive thinking. We still need to hear more from him, however, about the difference between respectable and non-respectable inductive thinking.

### (iii) Criteria for Evaluating such Arguments

While he was writing the Dialogues Hume seems to have experienced some pangs of sceptical doubt as to whether any inductive argument by analogy can be respectable or have any proper force. In a letter he says:

*I cou'd wish that Cleanthes' Argument could be so analys'd, as to be render'd quite formal & regular. The Propensity of the Mind towards it, unless that Propensity were as strong & universal as that to believe in our Senses & Experience, will still, I am afraid, be esteem'd a suspicious Foundation... We must endeavour to prove that this Propensity is somewhat different from our Inclination to find our own Figures in the Clouds, our Face in the Moon, our Passions & Sentiments even in inanimate Matter. Such an Inclination may, & ought to be controul'd, & can never be a legitimate Ground of Assent.*<sup>24</sup>

The most natural interpretation of these words seems to me to be that Hume is worried about how any mere set of analogies could yield solid conviction about an unobserved matter of fact: how any inductive argument by analogy could properly carry more conviction than the tracing of figures in the clouds. To render Cleanthes' argument formal and regular would surely be to convert it into syllogistic form, in the style of Aquinas and Paley. So in this letter I believe that Hume is hankering after a deductive argument, in a way contrary to what I take to be the main spirit of the Dialogues. But this letter was written before the Dialogues were finished, and in them I believe that Hume overcame these qualms. His position in the Dialogues, I believe, is that some inductive arguments by analogy (for example, those used by Galileo) are highly respectable and definitely are to be accepted by sensible people; Hume calls these *irrefragable*.<sup>25</sup> It has to be shown that the argument from design is not one of these.

Thus Hume's position, as I understand it, is that to classify an argument as inductive (or more specifically as one by inductive analogy) is not yet to settle whether it is a good argument or a bad one. Some inductive arguments are firmly satisfactory and others are flimsy and far-fetched. Does Hume have more to tell us about how we are to recognize the difference?

One suggestion that has been made toward clarifying

Hume's view of this difference invokes the role of the passions. The suggestion is that for Hume good inductive arguments are ones whose conclusions are drawn by the imagination operating in response to past experience and nothing else, while bad inductive arguments are ones where the passions intrude and make the imagination more hasty or more slow in reaching conclusions than it would otherwise have been.<sup>26</sup> Certainly Hume does think that where the passions intrude, they tend to worsen our style of drawing factual conclusions; to this extent, the proposed interpretation is in the right direction. However, it is not clear that Hume means to say that removing the influence of the passions is all that is needed in order to make excellent our reasoning about matters of fact. I do not think he commits himself to this explicitly. Moreover, it would be a highly implausible thing for him to say-- as if the Reverend Falwell, merely by learning to separate his passions from his inductive thinking, could become as good as Einstein at judging scientific conclusions. Curbing the intrusion of the passions is necessary, but surely not sufficient for developing good judgment about the evaluation of inductive conclusions. There is an intellectual skill here that also needs to be developed.

The intellectual skill involved in deductive logic relates to general laws which specify that inferences of certain logical forms are strictly and universally valid. These laws go a considerable way (some logicians have said, all the way<sup>27</sup>) toward defining the difference between valid and invalid deductive inference. But the difference between good and bad inductive thinking does not seem to be capturable in terms of laws about logical form.<sup>28</sup> Inductive thinking involves "sizing up" complex arrays of evidence. The person who has learned to do it well has developed a "feel" for when to draw conclusions and when not to do so. He has acquired this intellectual skill, but what he is doing can be described only in terms of informal

rules of thumb.

Hume offers various rules of thumb about what good inductive reasoning is. His formulations are apt and trenchant. He says that *similar causes prove similar effects, and similar effects similar causes.*<sup>29</sup> He tells us that *where several known circumstances are observed to be similar, the unknown will also be found similar.*<sup>30</sup> And, even better, *The liker the effects are, which are seen, and the liker the causes, which are inferred, the stronger is the argument. Every departure on either side diminishes the probability...*<sup>31</sup> These rules of thumb are helpful in drawing our attention to what matters in inductive thinking, but the application of these rules of course requires good judgment. It takes judgment to tell how much similarity a good inductive argument should involve, and what weight should be attached to particular similarities and differences. It is because of this situation that Hume's searching examination of the argument from design takes the path of comparing it with other inductive arguments. Is it better or worse than the argument that the world resembles an animal, and so probably arose from animal procreation? Is it better or worse than the argument that the world resembles a vegetable, and so probably grew from seed? This style of reasoning by logical analogy is the one effective way of carrying on the inquiry, and Hume uses it with great skill and insight.

Twentieth-century writers on induction have recognized several factors as bearing on the goodness of inductive arguments. Hume notices some but not all of these. One factor to which Hume gives special emphasis has to do only with inductive arguments by analogy; it is the extent of the known similarities and differences between the already observed cases (a<sub>1</sub>, a<sub>2</sub>, a<sub>3</sub>, etc.) and the new case b. Hume gives much attention to this consideration in the Dialogues, trying to bring out the character of these

similarities and differences in the case of the argument from design.

Another factor relevant to the goodness of an inductive argument is the number of the already observed cases ( $a_1, a_2, a_3$ , etc.). Hume seems to be recognizing this factor when he speaks of how Galileo's astronomical hypotheses are supported by many *earths* as instances.<sup>32</sup>

Hume does not seem to recognize the importance of variety among the already observed instances; here some recent writers have gone further than he. But it is not surprising that Hume did not notice this factor, as it is a more complex one. Keynes was the first author to draw clear attention to it; he put it forward as a vital factor for inductive conclusions.<sup>33</sup> Keynes speaks of the "negative analogy" among the observed instances; this is the extent of the observed differences among them. Keynes's very plausible view is that the greater this negative analogy, the stronger will be the inductive argument. His view is that this is a more fundamental factor than the number of instances, because, he says, increasing the number of instances strengthens the argument only insofar as it increases the negative analogy; a mere multiplying of instances which are not observed to differ among themselves would not help, as he sees it.

My aim has been to suggest that Hume in the Dialogues shows on the whole a very good grasp of what inductive thinking should be. His understanding of the logic (if we may call it that) of induction is remarkably acute for the eighteenth century, both as regards his ability to describe good induction in general terms and as regards his ability to carry out concrete evaluation of particular inductive conclusions. Thus the Dialogues serve remarkably well to compensate for the one-sidedness of the picture we could obtain of Hume's views of induction were we to read those famous passages of the Treatise and Enquiry only.

Stephen Barker  
Johns Hopkins University

16.

1. A Treatise of Human Nature, edited by L. A. Selby-Bigge (Oxford: Clarendon Press, 1888), Book I, Part III.
2. An Enquiry concerning Human Understanding, ed. L. A. Selby-Bigge, 2nd ed. (Oxford: Clarendon Press, 1902), sections IV, V, VI, VII.
3. For a discussion of this assumption, see D. C. Stove, Probability and Hume's Inductive Scepticism (Oxford: Clarendon Press, 1973), p. 64.  
In opposition to Stove's type of interpretation, Stroud has criticized the attributing to Hume of this assumption, because Stroud finds the assumption "quite arbitrary and unjustified." See Barry Stroud, Hume (London: Routledge & Kegan Paul, 1977), pp. 56-63. / However, I believe that when Stroud judges the assumption to be arbitrary it is because he fails to appreciate its deep roots in traditional philosophy. And I believe that even under Stroud's alternative interpretation of Hume, the assumption would merely be accorded less centrality-- Hume would still be committed to it.
4. Tom L. Beauchamp and Alexander Rosenberg, Hume and the Problem of Causation (New York: Oxford University Press, 1981), chapter 2.
5. Hume and the Problem of Causation, p. 51.
6. For example, in Dialogues concerning Natural Religion, Parts I and II. In Norman Kemp Smith's edition (Indianapolis: Bobbs-Merrill, 1947) this is on pp. 136 and 150-51.
7. Expressions of this view are scattered throughout the discussion of miracles in An Enquiry concerning Human Understanding, Section X.
8. This point about self-deception is discussed by James Noxon in "Hume's Concern with Religion", in Kenneth R. Merrill and Robert W. Shahan (eds.), David Hume: Many-Sided Genius (Norman: University of Oklahoma Press, 1976).
9. David Fate Norton, David Hume (Princeton: Princeton University Press, 1982), p. 289.
10. This matter has been much discussed. Two helpful accounts are Wade L. Robison, "David Hume: Naturalist and Meta-Sceptic", in David L. Livingston and James T. King (eds.) Hume: A Re-Evaluation (New York: Fordham University Press, 1976), and Terence Penelhum, "Hume's Scepticism and the Dialogues", in David Fate Norton et al. (eds.), McGill Hume Studies (San Diego: Austin Hill Press, 1979)

11. One forceful discussion of this is G. E. Moore, "Hume's Philosophy", in his Philosophical Studies (London: Kegan Paul, 1922). Penelhum in the paper previously cited (pp. 261-62) seeks to resolve the difficulty by holding that Hume is merely urging us to resist, so far as we can, the drawing of non-deductive conclusions; on this interpretation, Hume thinks we have it in our power to refrain from drawing metaphysical conclusions, but we do not have it in our power to refrain from drawing common-sense and scientific conclusions. While some of what Hume says accords with this interpretation, the interpretation does not fit those passages where Hume urges us to accept the non-deductive conclusions of leading scientists such as Galileo. We see that others have succeeded in avoiding these conclusions, and we could probably do so too, if we schooled ourselves to it.
12. Readers who admire Hume may be reluctant to admit that he could be inconsistent, feeling that to admit this would be to deny that his work has value. That feeling is quite mistaken, in my opinion. A thinker's work can be of great value even if it contains considerable inconsistency. Indeed, the merit of a set of philosophical doctrines is seldom proportional to their degree of consistency.
13. The most explicit passage is the section entitled *Rules by which to judge of causes and effects*, Book I, Part III, Section XV.
14. Dialogues, Part I, pp. 132-38.
15. Plato, Laws, Book X (886) and Book XII (966).
16. Thomas Aquinas, Summa Theologica, Part I, Question II, Third Article.
17. William Paley, Natural Theology (1802), Chapter 5.
18. Natural Theology, Chapter 1.
19. See E. C. Mossner, "The Enigma of Hume", Mind, vol. 45 (1936).
20. Joseph Butler, The Analogy of Religion, Natural and Revealed (London, 1736), Introduction.
21. Dialogues concerning Natural Religion, Part II, p. 143.
22. Even advocates of Hume have not always appreciated this point. Thus Henry D. Aiken writes in the Introduction to the Dialogues (New York: Hafner, 1948): "Before one can argue to the existence of a Divine

Planner, one must first establish that the world of nature actually exhibits a plan." (p. xv) That demand is unreasonable. The point is rather that in arguing for a Divine Planner, one needs to be arguing that nature exhibits a plan.

Kant, who seems to have admired and been influenced by Hume's treatment of the argument from design, nevertheless succeeds in giving only an ambiguously jumbled formulation of it, in which syllogistic reasoning predominates. See his Critique of Pure Reason, A 626 = B 654.

23. I offer an informal discussion of this and other types of inductive argument in my Elements of Logic, third edition (New York: McGraw-Hill, 1980), chapter 6.
24. J. Y. T. Greig (ed.), The Letters of David Hume (Oxford: Clarendon Press, 1932), vol. I, p. 155.
25. Dialogues, Part II, p. 144.
26. This suggestion seems to me to be present in Fred Wilson's paper "Hume's Theory of Mental Activity", in David Fate Norton et al. (eds.), McGill Hume Studies, pp. 116-17.
27. The most noteworthy of these is Bertrand Russell. See Our Knowledge of the External World (Chicago: Open Court, 1914), first lecture.
28. For a discussion of this, see my Elements of Logic, pp. 227-28.
29. Dialogues, Part II, p. 147. Similar phrases are found in Part II, p. 146 and part V, p. 165.
30. Dialogues, Part VI, p. 170.
31. Dialogues, Part V, p. 165.
32. Dialogues, Part II, p. 150.
33. John Maynard Keynes, A Treatise on Probability (London: Macmillan, 1921), chapters XIX-XX.