

Hume's Argument concerning Induction in *Treatise* 1.3.6

Section 1.3.6 "Of the inference from the impression to the idea" contains the famous argument concerning induction, which is sufficiently complex to be worth analysing in detail. Here the stages are labelled alphabetically so as to reflect their logical order, but set out according to their ordering in the text. Any repeated stage is shown bracketed.

C Causal relations cannot be known a priori, but can only be discovered by experience.

"the inference we draw from cause to effect, is not deriv'd merely from a survey of these particular objects, and from such a penetration into their essences as may discover the dependence of the one upon the other. There is no object, which implies the existence of any other if we consider these objects in themselves, and never look beyond the ideas which we form of them." (1.3.6.1)

A If any causal inference were a priori, this would imply the impossibility of conceiving things otherwise.

"Such an inference wou'd amount to knowledge, and wou'd imply the absolute contradiction and impossibility of conceiving anything different."

B Any effect is quite distinct from its cause, and many alternative effects are equally conceivable.

"But as all distinct ideas are separable, 'tis evident there can be no impossibility of that kind. When we pass from a present impression to the idea of any object, we might possibly have separated the idea from the impression, and have substituted any other idea in its room."

(C Causal relations cannot be known a priori, but can only be discovered by experience.)

"'Tis therefore by EXPERIENCE only, that we can infer the existence of one object from that of another." (1.3.6.2)

D The experience on which causal inferences are based is the memory of observed constant conjunctions.

"The nature of experience is this. We remember to have had frequent instances of the existence of one species of objects; and also remember, that the individuals of another species of objects have always attended them, and have existed in a regular order of contiguity and succession with regard to them. ... Without any farther ceremony, we call the one *cause* and the other *effect*, and infer the existence of the one from that of the other. ... But in all cases, wherein we reason concerning them, there is only one perceiv'd or remember'd, and the other is supply'd in conformity to our past experience."

E If reason determined us to make causal inferences it would have to proceed upon the supposition that nature is uniform, and in particular, that similar causes will in the future have similar effects to those which they have had in the past [the Uniformity Principle].

"If reason determin'd us [to infer an idea from the impression of its usual attendant], 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." (1.3.6.4)

F All (good) reasonings are either demonstrative (yielding “knowledge”) or probable.

“In order therefore to clear up this matter, let us consider all the arguments, upon which such a proposition may be suppos’d to be founded; and as these must be deriv’d either from *knowledge* or *probability*, let us cast our eye on each of these degrees of evidence, and see whether they afford any just conclusion of this nature.”

H There is no (good) demonstrative argument for the Uniformity Principle.

“there can be no demonstrative arguments to prove, that those instances, of which we have had no experience, resemble those, of which we have had experience.” (1.3.6.5)

G The contrary of the Uniformity Principle can be distinctly conceived, and is therefore possible.

“We can at least conceive a change in the course of nature; which sufficiently proves, that such a change is not absolutely impossible.”

I Probable arguments start from the evidence of our memory and senses, but go beyond it.

“in all probable reasonings there [is] something present to the mind, and ... from this we infer something connected with it, which is not seen nor remember’d.” (1.3.6.6)

J Only the relation of cause and effect can take us beyond the evidence of our memory and senses.

“The only connexion or relation of objects, which can lead us beyond the immediate impressions of our memory and senses, is that of cause and effect” (1.3.6.7)

(D The experience on which causal inferences are based is the memory of observed constant conjunctions.)

“The idea of cause and effect is deriv’d from *experience*, which informs us, that such particular objects, in all past instances, have been constantly conjoin’d with each other: And as an object similar to one of these is suppos’d to be immediately present in its impression, we thence presume on the existence of one similar to its usual attendant.”

K All probable arguments are founded on the supposition that nature is uniform [the Uniformity Principle].

“probability is founded on the presumption of a resemblance betwixt those objects, of which we have had experience, and those, of which we have had none”

L Any probable argument for the Uniformity Principle would be viciously circular.

“and therefore ’tis impossible this presumption can arise from probability. The same principle cannot be both the cause and effect of another”

M There is no good argument of any kind for the Uniformity Principle.

“Shou’d anyone think to elude this argument; and ... pretend that all conclusions from causes and effects are built on solid reasoning; I can only desire, that this reasoning may be produc’d” (1.3.6.8)

N Causal inferences are not founded on reason.

“Thus not only our reason fails us in the discovery of the *ultimate connexion* of causes and effects, but even after experience has inform’d us of their *constant conjunction*, ’tis impossible for us to satisfy ourselves by our reason, why we shou’d extend that experience beyond those particular instances, which have fallen under our observation.” (1.3.6.11)

(M There is no good argument of any kind for the Uniformity Principle.)

“We suppose, but are never able to prove, that there must be a resemblance between those objects, of which we have had experience, and those which lie beyond the reach of our discovery.”

(N Causal inferences are not founded on reason.)

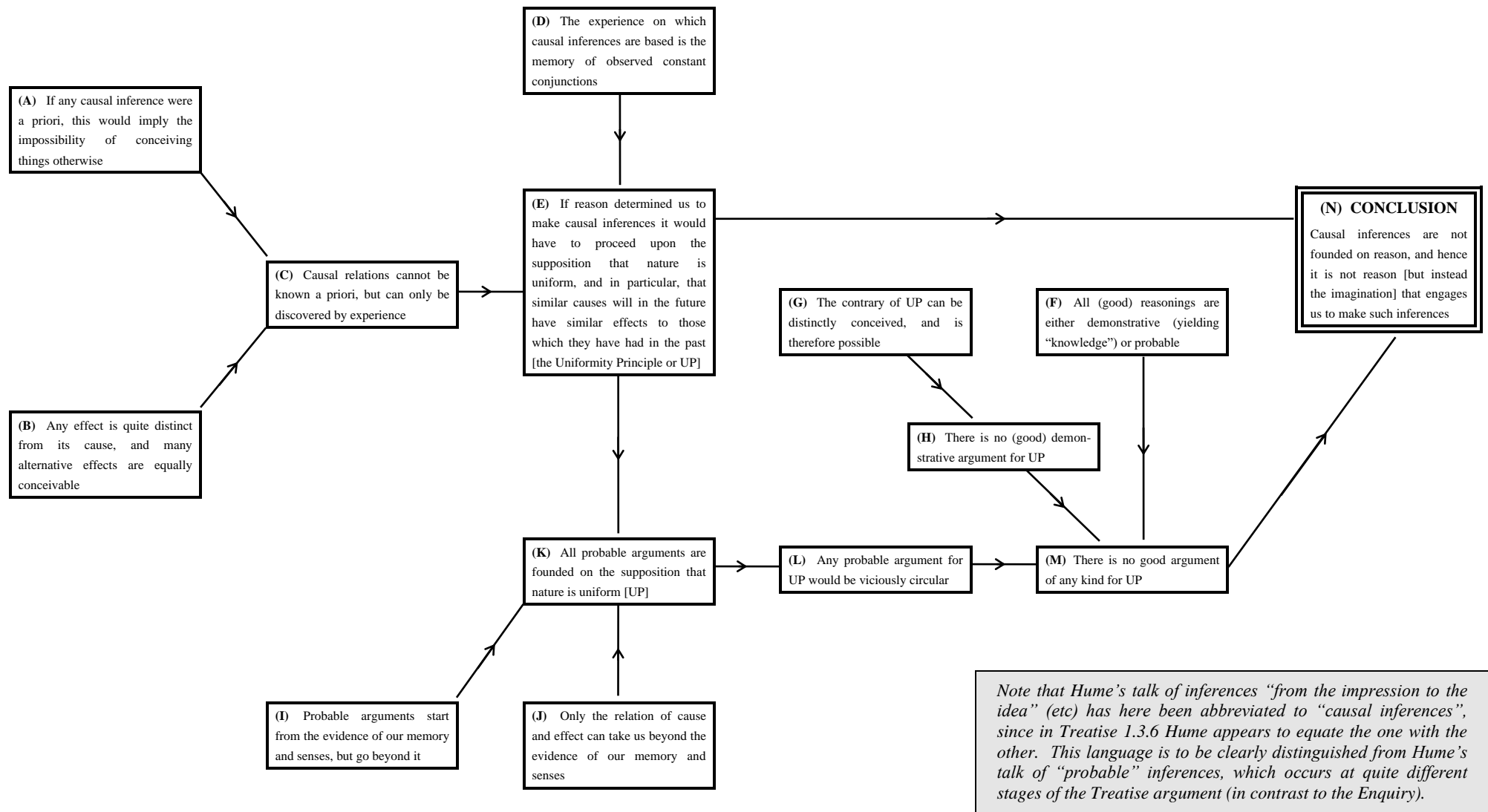
“Reason can never show us the connexion of one object with another, tho’ aided by experience, and the observation of their constant conjunction in all past instances. When the mind, therefore, passes from the idea or impression of one object to the idea or belief of another, it is not determin’d by reason, ...” (1.3.6.12)

O Causal inferences are founded on associative principles of the imagination.

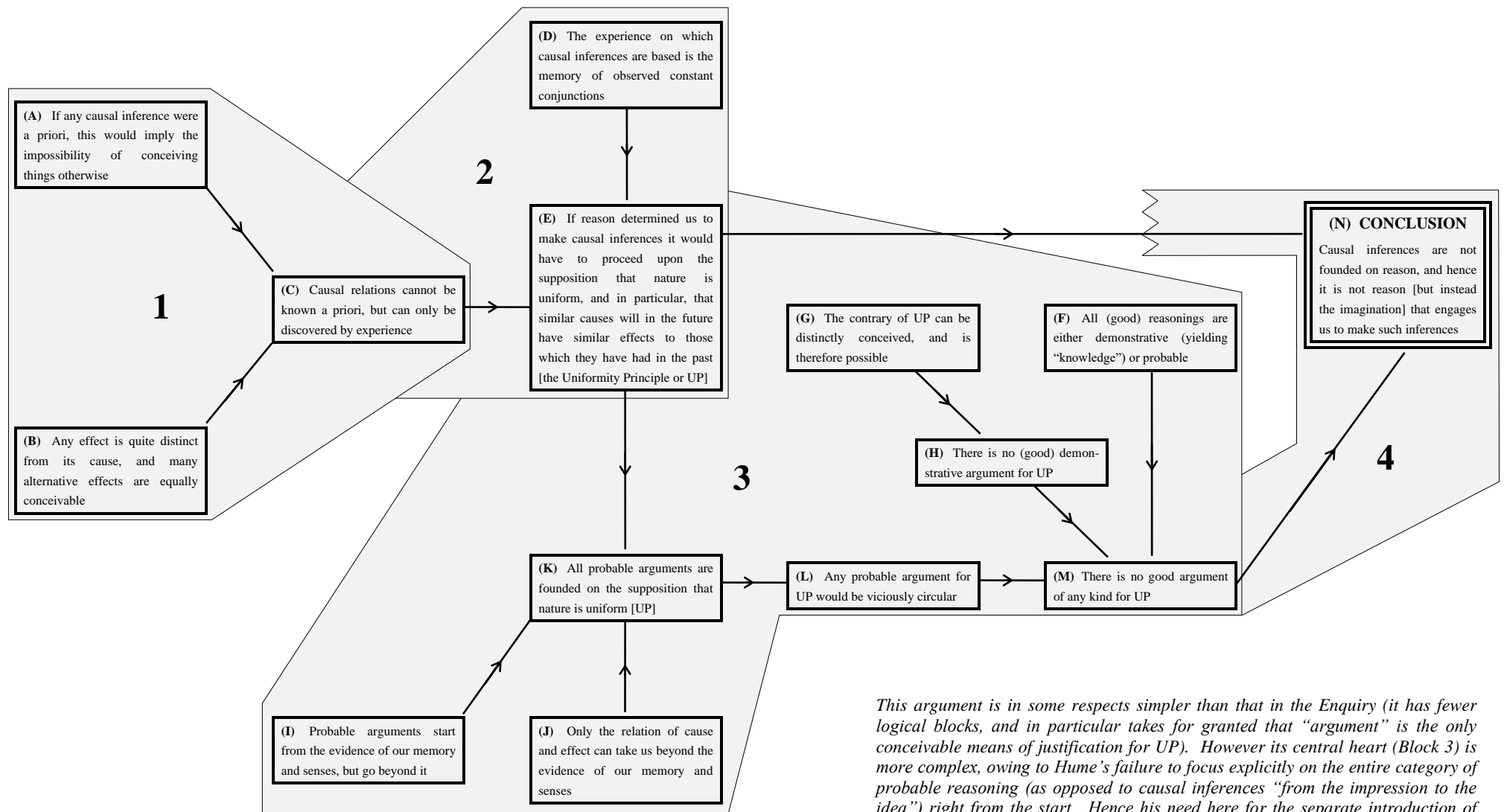
“[in causal inferences the mind is not determin’d by reason, ...] but by certain principles, which associate together the ideas of these objects, and unite them in the imagination. Had ideas no more union in the fancy than objects seem to have to the understanding, we cou’d never draw any inference from causes to effects, nor repose belief in any matter of fact. The inference, therefore, depends solely on the union of ideas.”

The logical structure of the argument is shown on the following two pages (though here the final stage O is conflated with N, because Hume straightforwardly infers the one from the other). In both diagrams, arrows indicate the inferences that Hume is understood to be drawing (with all the contributing premises converging on the conclusion). In the second diagram, the four main “logical blocks” of the argument are identified, to facilitate understanding of the overall strategy and comparison with the corresponding argument of the *Enquiry*.

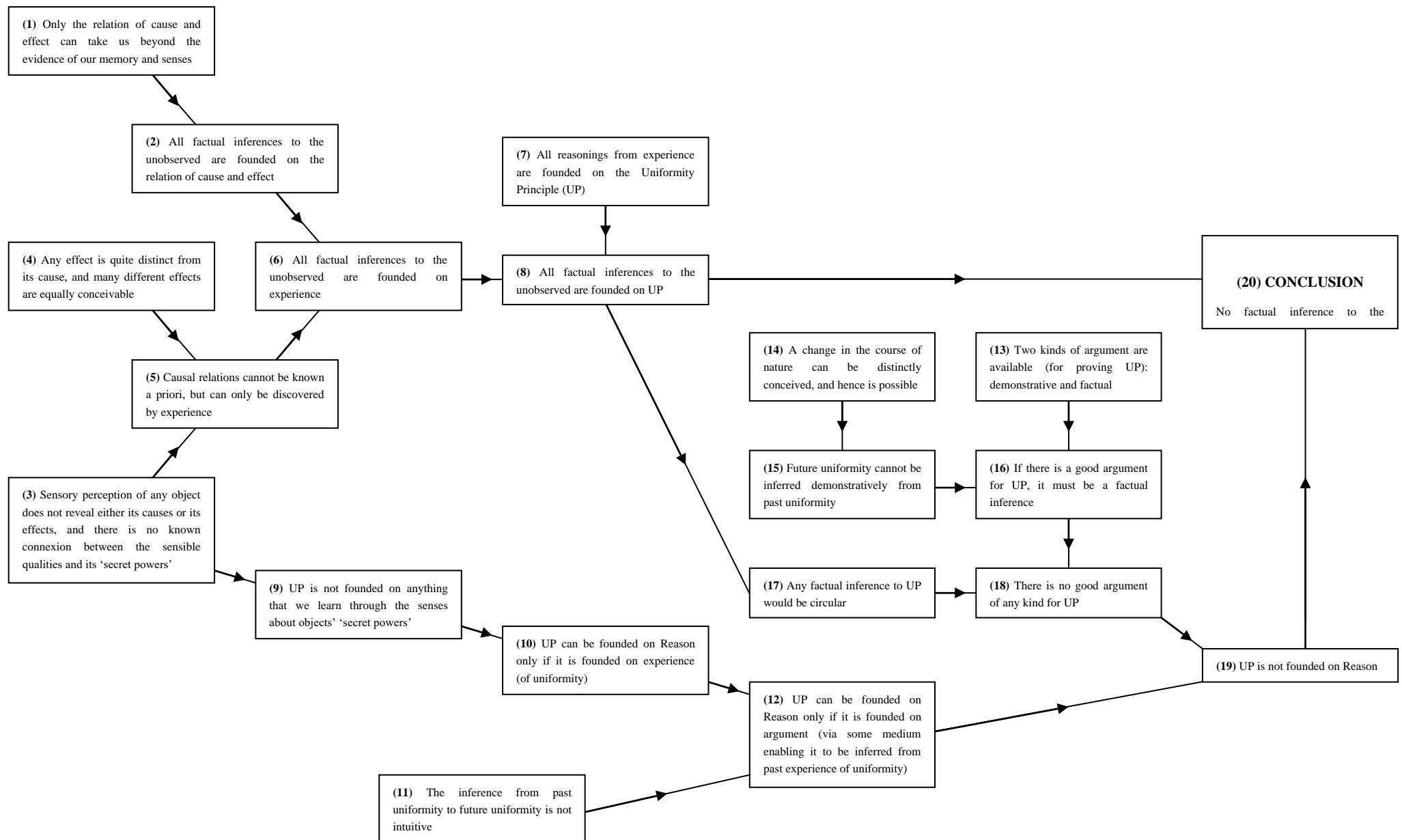
Page 6 provides, for comparison, a similar style of structure diagram for the argument as it appears in Section 4 of Hume’s *Enquiry concerning Human Understanding*, with the various propositions as they appear in Hume’s text laid out in the table on pages 7 to 8. The material of these three pages is taken from pages 90-93 of Peter Millican (2012), “Hume’s ‘Scepticism’ about Induction”, in Alan Bailey and Dan O’Brien (eds), *The Continuum Companion to Hume*, pp. 57-103. This paper can be found online at https://davidhume.org/scholarship/papers/millican/2012_Induction.pdf (or through the “Scholarship” link of the website www.davidhume.org).



Hume’s Argument Concerning Induction (from the *Treatise of Human Nature*)



The Main Logical Blocks of the *Treatise* Argument



Hume's Argument concerning Induction (from the *Enquiry concerning Human Understanding*)

Hume's Own Statement of the Propositions Identified in the *Enquiry* Structure Diagram

- (1) By means of [*Cause and Effect*] alone can we go beyond the evidence of our memory and senses. (E 4.4)
- (2) All reasonings concerning matter of fact seem to be founded on the relation of *Cause and Effect*. (E 4.4)
... all arguments concerning existence are founded on the relation of cause and effect ... (E 4.19)
... all our evidence for any matter of fact, which lies beyond the testimony of sense or memory, is derived entirely from the relation of cause and effect ... (E 12.22)
- (3) No object ever discovers, by the qualities which appear to the senses, either the causes which produced it, or the effects which will arise from it ... (E 4.6)
It is allowed on all hands, that there is no known connexion between the sensible qualities and the secret powers ... (E 4.16)
- (4) ... every effect is a distinct event from its cause. It could not, therefore, be discovered in the cause, and ... the conjunction of it with the cause must appear ... arbitrary; since there are always many other effects, which, to reason, must seem fully as consistent and natural. (E 4.11)
- (5) ... the knowledge of [cause and effect] is not, in any instance, attained by reasonings *a priori*; but arises entirely from experience ... (E 4.6)
... *causes and effects are discoverable, not by reason, but by experience* ... (E 4.7)
In vain, therefore, should we pretend to ... infer any cause or effect, without the assistance of observation and experience. (E 4.11)
... our knowledge of that relation [of cause and effect] is derived entirely from experience ... (E 4.19)
- (6) ... nor can our reason, unassisted by experience, ever draw any inference concerning real existence and matter of fact ... (E 4.6)
In vain, therefore, should we pretend to determine any single event ... without the assistance of observation and experience. (E 4.11)
- (7) ... we always presume, when we see like sensible qualities, that they have like secret powers, and expect, that effects, similar to those which we have experienced, will follow from them ... (E 4.16)
We have said, that ... all our experimental conclusions proceed upon the supposition, that the future will be conformable to the past ... (E 4.19)
... all inferences from experience suppose, as their foundation, that the future will resemble the past, and that similar powers will be conjoined with similar sensible qualities ... (E 4.21)
- (8) [This proposition is implicit in the inferential sequence:] We have said, that all arguments concerning existence are founded on the relation of cause and effect; that our knowledge of that relation is derived entirely from experience; and that all our experimental conclusions proceed upon the supposition, that the future will be conformable to the past. (E 4.19)
- (9) ... the mind is not led to form such a conclusion concerning [sensible qualities and secret powers'] constant and regular conjunction, by any thing which it knows of their nature ... (E 4.16)

- (10) [This proposition is implicit in Hume's transition from considering '*a priori*' evidence for the Uniformity Principle to considering experiential arguments for it:] As to past *Experience*, it can be allowed to give *direct* and *certain* information of those precise objects only, and that precise period of time, which fell under its cognizance: but why this experience should be extended to future times, and to other objects, which for aught we know, may be only in appearance similar; this is the main question on which I would insist. (E 4.16)
- (11) The connexion between these propositions [*I have found that such an object has always been attended with such an effect and I foresee, that other objects, which are, in appearance, similar, will be attended with similar effects*] is not intuitive. (E 4.16)
- (12) There is required a medium, which may enable the mind to draw such an inference, if indeed it be drawn by reasoning and argument. (E 4.16)
- (13) All reasonings may be divided into two kinds, namely demonstrative reasoning, or that concerning relations of ideas, and moral reasoning, or that concerning matter of fact and existence. (E 4.18)
- (14) ... it implies no contradiction, that the course of nature may change ... May I not clearly and distinctly conceive [such a thing]? (E 4.18)
- (15) That there are no demonstrative arguments in the case, seems evident ... (E 4.18)
 ... whatever is intelligible, and can be distinctly conceived, implies no contradiction, and can never be proved false by any demonstrative argument or abstract reasoning *a priori* ... (E 4.18)
- (16) If we be, therefore, engaged by arguments to put trust in past experience, and make it the standard of our future judgment, these arguments must be probable only, or such as regard matter of fact and real existence ... (E 4.19)
- (17) To endeavour, therefore, the proof [that the future will be conformable to the past] by probable arguments, or arguments regarding existence, must be evidently going in a circle, and taking that for granted, which is the very point in question. (E 4.19)
- (18) ... it may be requisite ... to shew, that none of [the branches of human knowledge] can afford such an argument ... (E 4.17)
 ... we have no argument to convince us, that objects, which have, in our experience, been frequently conjoined, will likewise, in other instances, be conjoined in the same manner ... (E 12.22)
- (19) ... it is not reasoning which engages us to suppose the past resembling the future, and to expect similar effects from causes, which are, to appearance, similar ... (E 4.23)
 ... nothing leads us to [expect constant conjunctions to continue] but custom or a certain instinct of our nature ... (E 12.22)
- (20) I say then, that, even after we have experience of the operations of cause and effect, our conclusions from that experience are *not* founded on reasoning, or any process of the understanding. (E 4.15)
 ... in all reasonings from experience, there is a step taken by the mind, which is not supported by any argument or process of the understanding. (E 5.2)
 All belief of matter of fact or real existence [is due merely to] a species of natural instincts, which no reasoning or process of the thought and understanding is able, either to produce, or to prevent. (E 5.8)