

36a  
Hume *Enquiry* VI  
Probability

Over the course of *Enquiry* IV and V Hume defended his theory of belief formation by appeals to inference to the best explanation (the claim that his account of causal inference is better able to explain why we draw a conclusion from many experiments than we will not draw from just one), to corroborating evidence (provided by the influence of the other associative principles on belief), and to analogy (with what is supposed to happen in the case of animals). A theory can also be defended by appeal to its explanatory power — that is, to its ability to account for things it was not deliberately devised to explain. This is what Hume did in *Enquiry* VI. He there showed that his account of belief formation is able to explain how we come to ascribe a particular degree of likelihood to an uncertain proposition and believe it with greater or lesser conviction. In other words, it is able to account for our judgments of probabilities.

*Enquiry* VI deals with two separate circumstances in which we make probabilistic judgments: games of chance and estimates of the likely outcome of causes that are not perfectly regular in being followed by their effects. The judgments we make in these two circumstances are described by Hume as judgments concerning the probability of “chances” and “causes” respectively. The same theory is applied to account for the judgments we make about both chances and causes.

#### QUESTIONS ON THE READING

1. Does anything ever happen by chance?
2. Why do we treat certain events as if they were the products of chance?
3. What is the “very nature” of chance events?
4. What happens when the mind is carried more frequently to one sort of event when surveying the various possible or chance outcomes of a cause, such as throwing a die with a number of faces that concur in having the same number on them?
5. What accounts for the “sentiment of belief” that we get when several “views” concur in the same event, i.e., when several of the chance outcomes of a cause are the same?
6. How do “philosophers” account for the failure of causes to produce their usual effects?
7. In cases where a cause has not always been observed to be followed by the same type of event, what do we imagine happening after the cause, when we witness it again in the future?

#### NOTES ON THE READING

Hume began his discussion of each type of probable judgment by observing that not all causes are always followed by their effects. Stones always fall, fire always burns, water always suffocates, but opium does not always put people to sleep, rhubarb does not always work as a laxative, and dice do not always come up sevens. Hume followed the established scientific opinion of his day in insisting that in all these cases there are hidden causes that are responsible for the apparent variation, and that there is no such thing as a purely chance event. But, he observed, as long as we cannot identify what the hidden causes are, we proceed by thinking of their effects as ones that are only probable.

For example, in some cases, like the rolling of dice, we might think that the original position and orientation of the dice in the thrower’s hand, the precise strength and direction of throw, the shape and weight of the dice, the nature of the surfaces where they strike, the temperature and



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wind, and other such factors precisely determine the outcome of the throw. But because we cannot practically identify these specific causes, we find ourselves in the same situation as if we experienced one general cause to lead to one or other of six different and incompatible effects. To the extent that we accept that each of the effects is as likely to occur as any of the others (perhaps because that is what a survey of past instances would lead us to think, perhaps because such general causal laws as we have learned from previous experience and bring to bear on the case can only tell us that the die will rest on some one of its faces, without specifying which one), our belief is not determined in any particular way. We consider each of the outcomes to be a “possibility,” but are no more inclined to believe any one of them to occur than the others. This, as Hume pointed out, is the essential characteristic of a chance event. More than one outcome is considered possible and because each is considered equally likely, we have no belief either way, even though we do have a general certainty that one of the alternatives will come up.

In other cases, however, either experience or a survey of the possibilities tells us that not all outcomes are equally likely. Indeed, in many cases we need to rely on experience to tell us what the range of possible outcomes is as well as how likely each is. Not every case is like the case of a die, where we think that there are just six equally likely possibilities, since the die must land with one face up, and it has only six faces. If a ship sails out to sea, it might come back, or it might get hijacked by pirates, or it might sink in a storm, or it might be seized by the authorities in a foreign port as part of some international dispute, or it might be hit by a meteorite, and so on. The entire range of possible outcomes is very large, and very hard to determine, and not all the outcomes are equally likely. Just as no one can tell by looking at an entirely new object for the first time what its cause must have been or what its effect will be, so it can often be hard to tell, after having seen three or four different results of placing a particular object in particular circumstances, whether there might not be other possible results as well or whether this exhausts the range of possible outcomes. In these cases, we rely on experience to inform us, and consider any outcome that has even once been observed to obtain in the past to be a possibility.

A particularly interesting feature of these cases is that experience will often show a certain possibility to us a disproportionate number of times. Most ships that sail out to sea come back, which is why a shipping industry exists. The disastrous possibilities do not come up as often in a survey of instances.

Something similar happens in games of chance. When we consider the possible outcomes of tossing a pair of die, we run into the possibility that the numbers on the two faces will sum to 7 more often than we run into the possibility that they will sum to any other number.

In these cases, Hume noted, we don’t just consider the possibilities to be equally likely. Instead, we get a belief. Moreover, the belief is stronger or weaker in proportion to the probability of the outcome. When we consider a large number of cases, the belief we get is patterned on past experience. If in the past, whenever we have seen 10 ships sail out we have subsequently seen 9 come back to port, then when we see 10 ships sail out today we will believe 9 will come back to port. The more interesting question is what happens if we see just one ship sail out. We don’t think that 9/10’s of it will come back. Instead, we have a weaker belief that it will come back than we would have if, in our past experience, all ships that sailed out had always come back. And the belief will be proportioned to the number of confirming and disconfirming instances in our past experience. The greater the number of confirming instances in the total number of trials (the more often ships have returned in the past) the stronger our belief, the greater the number of disconfirming instances, the weaker the belief, until (presumably at 50/50) it disappears altogether



and then starts to turn into increasingly strong disbelief (i.e., belief that the ship will not come back).

Again, something similar happens with games of chance. We have a strong belief that a card pulled at random from a standard deck will be a number card because when we survey all the cards, that possibility turns up very frequently.

*Enquiry VI* does not explain the origin of these probabilistic beliefs any further. Hume simply said that an “inexplicable contrivance of nature” leads us both to feel the “sentiment of belief” and to feel it more strongly or less strongly in proportion to the number of times the probability we believe in has come up in the total number of past trials, or (in the case of games of chance) is listed in a complete survey of all the possible outcomes. However, he went into a bit more detail in *Enquiry X*, where he specified precisely how strong the belief will be in different cases. According to that account, if we count up all the times the most probable outcome happened in the past, and also count up all the times each of the alternative outcomes happened in the past, and then subtract the latter number from the former, the result, considered over the total number of past experiments, reflects the strength of our belief. The background idea is that surveying all the past cases and finding the most probable outcome to come up over and over again builds a habit. The stronger the habit the stronger the belief. But the habit has to use a portion of its strength to cancel the influence the contrary possibilities have had in producing other, weaker habits. So the strength of belief we end up with is not equal to the probability of the most likely outcome but rather equal to the product of subtracting the greater probability from the lesser possibilities.

In another work, the *Treatise of human nature*, Hume went into even more detail and appealed to the transmission of vivacity to account both for the origin of probabilistic belief and for how it comes to have the degree of strength it does.

According to the theory of the *Treatise*, when an event has a number of different possible outcomes, the vivacity available to be transmitted from the impression or memory of the event to the associated ideas of the outcomes is split among the alternatives, and each outcome receives an equal portion of it. For belief to arise, one outcome needs to have more vivacity than the combination of all the others. As long as that is not the case, we get no belief, though the enlivening of the ideas of each possible outcome still accounts for what makes us consider each to be a “possibility” as opposed to a mere fantasy. When I roll a die I do not consider its showing a four to be any more likely than its showing any of the other six numbers, and so have no belief that four will come up, even a weak one. But I will consider it to be a possible outcome in contrast to, say, the die suddenly changing colour or turning into a bird.

Now consider what happens when there are repetitions on the list of alternatives. Hume claimed that when we run through the list of historical outcomes, we develop a tendency to associate the outcome that was repeated the most often with the cause. The greater the proportion of instances of this most frequent outcome in the total number of trials, the stronger this habit becomes, and the more vivacity it transmits from the associated impression or memory. However, as long as there are other items on the list as well, the habit of association is never developed to as full and perfect an extent as it would have been were the cause always followed by the same effect. We recall the few contrary instances as well as the many confirming ones and a share of the vivacity, and hence a degree of belief goes out to them in proportion to their preponderance in the total number of possibilities or the total number of past experiments. They are considered possibilities while the statistically most likely outcome is considered a probability.



Now consider what happens when the number of cases of the more probable outcome is greater than the combined number of all the other possible outcomes. In this case, Hume claimed, a definite belief will arise. When an individual surveys all the evidence (the complete list of possibilities where “chances” are concerned, or the past history of experiments in cases where “inconstant causes” are concerned) the probable outcome acquires so much vivacity that it cancels out all the vivacity of the rival possibilities and still has some vivacity left over. the residual vivacity boosts the idea of the probability into a belief.

Hume’s account implies a precise formula for calculating the strength of the resulting beliefs. If  $m$  is the number of past experiments that have all turned out one way, and  $n$  is the number of past experiments that have turned out differently, then the strength of our belief is calculated as  $m-n/m+n$ . For example, suppose that of every twenty ships that sail out nineteen return. An actuary, drawing up an insurance policy for a ship that is about to sail out considers a history of 200 past sailings of ships. As the actuary runs through the list, 200 different possible outcomes are presented. 190 of these are all alike: the ship comes back. The remaining 10 are wrecks or piracy or mechanical failures or foreclosures or some such other event. The 190 successful outcomes ( $=m$ ) plus the 10 contrary outcomes ( $=n$ ) sum to the total number of trials ( $200=m+n$ ). Now the actuary sees a ship sail out. The vivacity of this impression is divided into 200 streams corresponding to past experience, so each historical memory is boosted by 1/200th of the total vivacity available to be transmitted. But 190 of the memories are all alike. These vivacity streams therefore recombine producing a 19/20 vivacity stream that flows to the associated idea of the ship coming back home. However 1/20 of the vivacity stream remains diverted by the memory of the other possible outcomes, so the idea of those outcomes is elevated to a possibility in the mind of the actuary. However, the 1/20 possibility of failure is opposed to a 19/20 probability of success. Hume supposed that in the actuary’s mind, 1 of these 19 portions must be used to cancel the effect the contrary possibility has on the mind, and the remaining 18 are available to produce belief. Thus the actuary ends up with a belief in the return of the ship that is 9/10 of certainty, or  $19-1/19+1$ .

It is a feature of this account that the strength of our conviction falls off at twice the rate of the probability of a successful outcome (thus, in the example, a 19/20 chance of success produces only an 18/20 degree of certainty, and a 15/20 chance of success would produce only a 10/20 degree of certainty). But this is just what we should want because when the chances of success are 50-50 (e.g. when only 10 of every 20 ships return), we think we should suspend belief altogether (i.e. we should have 0 credulity in either alternative) because one outcome is not more probable than another.

The point of these details is simply to illustrate just how far Hume’s naturalistic account of belief formation is able to go towards providing the basis for a mathematical theory of probabilistic belief. On Hume’s account, we end up with a degree of conviction that is precisely proportioned to the census of past instances. More importantly, Hume provided us with an account of why it is that we in fact proportion our belief in accord with statistical calculations. The psychology of belief formation is one thing, having to do with matters of fact, the mathematical calculus of probabilities quite another, having to do with relations of ideas, and no one before Hume had managed to bring the two so neatly together and explain why the former reflects the latter.

Hume’s success at doing this nicely illustrates the explanatory power of his theory of belief formation, but the theory also has a practical application that will become evident when Hume turned to consider the case of our belief in miracles.



36b  
Hume, *Enquiry* VII  
Necessary Connection

There is an aspect of our common notion of causality that the theory of *Enquiry* II-VI has not discussed. We have the notion that causes make their effects happen, and we understand this to mean that they contain some power to bring those effects about. But Hume's theory of causality has no place for that notion. Hume maintained that we can only tell what effects a cause will have after the fact — after seeing what effect follows from the cause. In denying that we can determine causal relations ahead of time or a priori he was denying that we can find anything in causes that forces or necessitates their effects. As far as we can tell on the basis of our experience, a cause is merely the event that customarily happens first in a sequence of events, and nothing more.

Moreover, Hume insisted that even after we have experienced the effect to follow upon the cause, this experience merely consists of an experience of the cause at an earlier moment of time followed by the effect at a subsequent moment. The experience does not reveal any connecting link between these two moments of time that would show us why that particular effect and no other was pulled after that particular cause.

Hume had two main reasons to justify this position. First, he recalled the earlier arguments of *Enquiry* IV for thinking that we cannot tell, upon encountering a cause for the first time, what its effect will be. If our senses revealed any power in causes that enables them to bring their effects about, this should not be the case. Perceiving the power, we should discern what that power is able to do, and deduce the effect ahead of actually seeing it occur. Force or power just is the ability to produce some effect, so we cannot think of such an ability without thinking of what it is supposed to be able to do. If we cannot do that, then this shows that whatever it is that we perceive cannot really be a power, that is, a thing in the cause that necessitates its connection to an effect. At best, it is simply a quality in the cause that a subsequent experience tells us is always present in the cause just prior to the occurrence of the effect, not something through which we discern anything in the cause from which that effect is brought about.

Hume's second reason amplified on this last observation. All the properties we are able to discern in objects are, he claimed, simple or atomic in nature. Things like shape, size, colour, and solidity are each one, simple, uniform appearance. We cannot find anything in any of them that implies a reference to anything else. A colour is not connected with any other colour or any particular shape, or state of motion. Even solidity is simply a feeling of pressure we experience when we touch a body. Understood as the property of impenetrability, it is something that we only discern after the fact, when we see that a body resists being penetrated by another body that tries to enter its space, and is not something we could deduce ahead of time simply from seeing the motion of two approaching bodies. Likewise, the idea that impact of solid bodies causes motion is one that we only learn after the fact, and that we could not have anticipated simply from contemplating the motion and solidity of approaching bodies. In principle, the thought that an impact of solid bodies should produce heat, or disintegration, or a change in colour, is as conceivable as that it should produce motion, and only experience makes us prefer the latter option, not any quality we are able to discern in our ideas of the impact of solid bodies that would dictate this result. But if all the qualities we are able to discern in bodies are "atomic" in this sense, then none of them can be considered to be a force or a power, since it is impossible to conceive of a force without conceiving of what it is that that force is able to do, and so without referring to some result of the force.



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Yet, though Hume denied that we can find any force or power in causes that might bring their effects about, or any connection between causes and effects that might force or necessitate the occurrence of the effects after the causes, he had to admit that we do have ideas of force and power and necessary connection. But if all of our ideas have been copied from antecedent impressions, then where do the ideas of force, power, and necessary connection come from? How could we have such ideas if we observe no such thing as force or power in causes or a necessary connection between causes and their effects? The job of *Enquiry* VII is to answer this question.

#### QUESTIONS ON THE READING

1. Which of our ideas are always clear and determinate? Which are ambiguous, and why?
  2. What is necessary if we are to discover the precise meaning of obscure terms like “force,” “power,” “energy,” or “necessary connection?”
  3. What do our senses tell us about the operation of causes from viewing any single instance of a causal relation between external objects?
  4. What significance did Hume attach to the fact that we cannot tell, upon seeing an object for the first time, what its effects will be?
  5. What significance did Hume attach to the fact that the qualities of bodies, so far as our senses can detect them, are all complete in themselves?
  6. Why has it been thought that we acquire the idea of power from internal sensation or reflection?
  7. What do we really know about the relation between our volitions and the motion of our bodies?
  8. What significance did Hume attach to the observation that a person with a newly paralyzed or amputated limb can have the same feeling of will to move the limb as a healthy person?
  9. What does it mean to know a power?
  10. What significance did Hume attach to the fact that we are unable to explain how the mind is able to produce ideas upon a command of the will?
- Note: “The generality of mankind never find any difficulty in accounting for the more common and familiar operations of nature; ...: But suppose, that, in all these cases, they perceive the very force or energy of the cause, by which it is connected with its effect,” Hume meant to say that instead of finding any difficulty in accounting for the more common and familiar operations of nature the average person supposes (wrongly) that they perceive the very force or energy in the cause that enables it to bring about its effect.*
11. Why do “many philosophers” (e.g., Malebranche and Berkeley) think it necessary to appeal to the immediate agency of God to explain the occurrence of familiar events when uneducated people only invoke this cause to explain the occurrence of extraordinary, miraculous and supernatural events?
  12. What is wrong with the approach taken by these philosophers?
  13. What are the possible sources of an impression corresponding to our idea of power that Hume examined over the course of *Enquiry* VII.i? What is the one remaining source he still had to examine?
  14. What is the difference between observing one single event to follow upon another and observing one species (i.e., one collection of similar events or events of the same type) of event to follow upon another?
  15. What is the impression that our idea of power or necessary connection is a copy of?



16. What do we really mean when we say that one object is connected with another?
17. What is the difference between Hume's two definitions of cause? In what way do they both come up short of what we might like?

#### NOTES ON THE READING

We might think that if we do not get our ideas of force, power, or necessary connection from a study of objects as revealed to us by our external senses, we might still have originally derived the idea from an internal sensation of the power our own wills are able to exercise to cause our bodies to move or to cause ideas to come and go in our imaginations.

However, Hume rejected this way out of the difficulty. The will, he claimed, is merely a feeling. We are aware of having this feeling, and we are aware that it is regularly followed by certain events such as the motion of the limbs of our body or the creation and destruction of thoughts in our imaginations. But that is all. In being aware of it, we are not getting an impression of any force or power that enables the will to bring these effects about.

That the will is just a simple sentiment or feeling and not a force or power is a claim that Hume backed up with three main arguments, each of which he applied first to the case of the influence of the will over body motions and then to the case of the influence of the will over the ideas of imagination: First, no one claims to understand how the mind is able to act on the body or how it is able to produce ideas. Both of these actions are in a way surprising and inexplicable, the first because it involves an interaction between two very different things, the second because it involves the production of something, an idea, out of nothing. If we really knew our wills as powers, rather than simply as feelings that regularly occur prior to particular effects, we should have no difficulty explaining these connections and detailing how it is that an act of mind can produce an effect in the body or bring an idea into being out of nothing.

Second, no one knows how far their wills are able to extend over their bodies or their ideas prior to experience. I need to learn that an act of will is followed by a wiggle of the finger, but not by a wiggle of the ears, or that I can only play a game of chess in my head up to the third or fourth move. But if we were aware of our wills as powers or forces, we should know what they are able to do ahead of time, since it is impossible to conceive of a force or power without thinking of it as the force or power to do some particular thing.

Finally, there is a chain of consequences that intervene between the performance of an act of will and the observable effect. The science of physiology tells us that the will does not move the limbs of the body directly; it is rather the muscles that do so. The muscles are in turn somehow moved by the nerves, which are in turn moved by forces that were not clearly understood in Hume's day but were supposed to have something to do with the motion of animal spirits. So at the most, the will actually acts on the animal spirits, and not on the limbs of the body at all. A similar chain intervenes even between acts of will and the production of ideas. We can infer this from the fact that the will is not always able to produce the same ideas with the same effort, as is obvious from cases of inebriation, illness, sleep deprivation, etc. This suggests that there is some hidden mechanism intervening between volition and the production of the willed idea, and that this mechanism is being interfered with. But a power cannot be known without knowing what effect it really and properly produces. So if we knew our wills as powers, we should have known from the dawn of time and from our earliest infancy that our wills act on the animal spirits or on some hidden mechanism in the brain, rather than directly on our limbs or on our ideas.



For all of these reasons, then, we should infer that the will is merely a feeling that regularly precedes certain occurrences, rather than an actual force or power that produces those occurrences.

*The attack on occasionalism.* Towards the end of *Enquiry* VII.i, Hume digressed to use the points he had been making to criticize the philosophy of Malebranche, Berkeley and other occasionalists. The criticism can be seen to be particularly forceful if it is appreciated that Hume also, around this time, wrote a work on the natural history of religion, in which he traced the causes of primitive superstitions back to people's weakness, fear, and ignorance. He had there observed that primitive peoples tend to be unconcerned about events that always happen in the same way in the same circumstances, and that are simply part of the ordinary course of nature. They regard them as simply reflecting the way things are supposed to happen and do not consider that they need any particular explanation. They call them "natural" and think that is all that needs to be said. They also slip into thinking of causes, which they are only able to identify as the events that typically occur first in a natural order, with powers. That is, they think that causes are powers that bring their effects about. And if anyone asks them to explain how causes are able to make effects occur, they reply that this is what is natural for them to do, and they do not think that any further explanation is required. However, when something unusual happens, they then think that a special explanation is required and they go looking for something that they suppose has the power to bring about the event.

We all have a propensity to try to explain the unfamiliar in terms of the familiar. Since nothing is more familiar to us than ourselves, primitive peoples, who are ignorant of the true causes of the unusual events in nature, naturally tend to imagine those events to be brought about by unseen intelligent beings, more or less like themselves, only appropriately more powerful. To the degree that their lives and their fortunes are out of their control and at the mercy of events in nature, they fear these imagined agents and want to appease them, in much the way that people who are weak and downtrodden in society will attempt to appease those in power, who have the ability to improve their fortunes. They worship these imagined beings, praise them, give them gifts and sacrifices, and are concerned to obey their imagined commands. This, Hume observed, is the origin of superstitions, which are all based on a desire to appease unseen agents by performing ritual acts, and a fear of offending them and bringing on their wrath by violating taboos.

Hume charged that Malebranche, Berkeley, and the other Cartesian occasionalists are no different from those who believe in primitive superstitions. They simply took the old superstitions a step further, assisted, ironically, by advances in the new science. Researchers like Newton discovered that they could only trace forces and powers back so far, to fundamental forces that could not be further explained. For example, no more can be said about gravity than that, as a matter of fact, all bodies in the universe move towards all other bodies with a force directly proportional to the product of their masses and inversely proportional to the square of the distances between them. What causes this motion cannot be discovered. The same can be said of cohesion, the transmission of motion by impact, impenetrability, elasticity, fermentation, and so on. All that can be discovered is that under certain circumstances, certain phenomena occur. It turns out, therefore, that we are as ignorant of the true causes of the common events in nature as we are of the uncommon and disastrous ones.

Rather than be led by these scientific results to confess a sceptical determination to withhold assent, Malebranche, Berkeley, and the other occasionalists indulged in the same superstitious train of fancy as primitive peoples: they supposed that the events of which we are ignorant must have the



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same sorts of causes as those that are most familiar to us. This naturally led them to formulate the doctrine of occasionalism. (Recall that this is the doctrine that the only cause of change in nature is God, who is constantly recreating the world from one moment to the next, and who does so in a supremely constant fashion, following laws that specify what events are to be caused to happen subsequent to what prior occasions.) And since it seemed to them that our own minds are powers to make our bodies move and our thoughts come and go, they asserted that there must be one supreme mind moving everything.

Then, when they reflected that even the power of our own wills cannot be fully understood, they supposed that the divine mind not only moves bodies, but also gives us all our ideas (or, in the case of Malebranche, allows us to see those ideas as they are in it).

The fallacies of this view are obvious and multiple. It is in a way an insult to God to suppose that the universe has been so poorly created as not to be capable of running on its own. The whole theory of a mind producing all the events in nature is an arbitrary speculation, based on a psychological tendency to want to account for the unfamiliar in terms of the familiar rather than on any sound evidence. And in the end, supposing that a mind makes everything happen is no improvement, since the manner in which minds operate is as mysterious to us as the manner in which bodies might operate on one another.

*Subjectivism.* But if our ideas of force, power, and necessary connection do not arise from an inspection of the will or from an inspection of the causes revealed to us by our external senses, then what are these ideas based on? *Enquiry* VII.ii proposes an answer to this question.

The answer is quite extraordinary. In his earlier *Treatise of human nature*, Hume wrote of it,

I am sensible, that of all the paradoxes, which I have had, or shall hereafter have occasion to advance in the course of this treatise, the present one is the most violent [T I.iii.14: 166]

The “paradox” Hume was referring to is the conclusion that our idea of force or power is not an idea of anything in the cause of an effect or of anything that operates between the cause and the effect to connect them. The idea is rather an idea of a feeling or sentiment that arises in us when we think of causes and effects. We project this purely subjective feeling onto causes in much the same way that we project our sensations of colour and heat, which only exist in us, onto the bodies that we suppose exist outside of us.

This is the theory: Once we have come to associate two types of objects as cause and effect, an impression or idea of the one will lead the mind, out of habit, to conceive of the other. Hume supposed that this habitual transition of the mind is accompanied by a kind of feeling or sentiment. The mind feels itself pulled, as it were, from one perception to another, much as we feel pulled back in our seats by an airplane accelerating from one place to another at take-off. This feeling is not itself a cause or effect of anything. It is simply a feeling that occurs in the mind on particular occasions. We are naturally disposed to feel “pulled” when we habitually move from one perception to another (because it is one perception in particular that we are directed to think of and we are directed away from other perceptions). In just the same way we are naturally disposed to feel resentment upon being injured or gratitude in return for kindness.

However, when two things are commonly observed to go together we have a propensity to confuse the one with the other. That happens in this case. The perception of a cause is accompanied by a sentiment or feeling of transition that results from the habitual tendency of the mind to conceive of an associated object. But though this sentiment or feeling is only in us, it is



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confused with the cause and imagined to be something in the cause that pulls the effect after it. All that force or power really is, however, is a feeling or sentiment in us, not a property of causes enabling them to bring about their effects.

To justify this account, Hume pointed to the fact that we are reluctant to draw causal inferences from just one experiment. We are particularly reluctant to infer that just because one object has on one occasion been observed to precede another, that therefore the first object must possess some power to bring the second one about. We worry that the two might have been merely accidentally conjoined. But once we have seen a number of instances of objects of one type being followed by objects of another type, we no longer hesitate to suppose that they are causally related, and even start to imagine that the earlier type of object contains some power in virtue of which it is able to force the later one into being. What is the difference between these two cases? The bare repetition of instances cannot plausibly be supposed to have revealed anything more to us than we could have discovered through careful attention to just the first instance. At best the repetition only repeats the first case, in all its details, over and over.

But, Hume observed, while there is no difference that we can discern in the objects that are causally related, there is a difference in us: the repetition of instances has caused us to develop a habit of thought and to expect to see the second upon seeing the first. Since this is the only difference between the case of seeing just one instance and the case of seeing repeated instances, and since we only ascribe forces or powers to causes in the case where we have seen repeated instances, it must be, that our tendency to ascribe a force or power to the cause arises from the change that has taken place in our own mental constitution. Though this change is a change in us, not anything new we have discovered in the object, we know that it often happens that things that are regularly observed at one and the same time get confused with one another. It would not be unusual if this happened here as well, and we confused a connection that we experience between our own ideas, produced in us by habit, with a connection between the objects we are having the ideas of.

This is a third instance of something that is in fact a general theme of Hume's philosophy: the elevation not just of nature, but also of passion and sentiment over reason. It is a feeling or sentiment that distinguishes impressions from ideas, that accounts for the nature of belief, and, here, that is the true object of the idea of necessary connection. In other work, Hume observed that it is only feeling, and not reason, that ultimately determines the will, and he grounded his account of ethics in a moral sentiment and in passions that are approved of by the moral sentiment, rejecting the efforts of Locke before him and Kant after to ground ethics in reason alone.

In Hume rationalism is truly and thoroughly rejected, not just in favour of empiricism, but in favour of the recognition that human nature is more properly grounded in the feeling than the thinking part of our being.

*The two definitions of cause.* Hume closed *Enquiry* VII by offering two, summary "definitions" of "cause." He defined a cause, first, in terms of antecedent position in a regular succession, and second, in terms of a felt impulse of the mind. A cause is, "an object, followed by another, and where all the objects, similar to the first, are followed by objects similar to the second. Or in other words, where, if the first object had not been, the second never had existed." But a cause is also "an object followed by another, and whose appearance always conveys the thought to that other." The first of these definitions is what we would expect from the account of causality



laid out in *Enquiry* V. The second draws more on the theory of necessary connection laid out in *Enquiry* VII.

The presence of these two, alternative definitions has perplexed a number of Hume's modern commentators, who have questioned the legitimacy of defining one and the same concept in two different ways. If a definition is a good definition, it should capture everything that there is to say about the nature of thing defined. That there should be two definitions suggests either that one of the definitions is a bad one, or that both are incomplete. If one is a bad one, it ought to be abandoned. If both are incomplete, then they ought to be put together somehow. Hume himself declared that the two definitions are "at bottom, the same" (*Enquiry* 8.27: Steinberg, 65). But it is hard to see why. He also said that they are not "just" definitions because they only manage to define "cause" in terms of "foreign" or "extraneous" circumstances.

The two definitions are actually definitions of subtly different, though related things, commonly referred to by the same name and so often confused with one another. Hume's first definition is a definition of causality, considered as a *relation* holding between two different events. The other is a definition of causal power, considered as a *property* of one of these events. Hume meant to say that we consider *two* objects, A and B, to be *causally related* if and only if i) A is followed by B, and ii) all objects similar to A are followed by objects similar to B. He further meant to say that we consider *one* object, A, to be *a cause* if and only if i) A is followed by some object, B, and ii) the perception of A impels the mind to imagine B. The two definitions are "at bottom the same" because the impulse of the mind only arises because A and B are causally related as specified in the first definition, and the relation specified in the first definition always gives rise to an impulse of the mind. The definitions pick on "foreign" or "extraneous" circumstances in the sense that they say nothing about any quality in causes in virtue of which they are able to make their effects come about but instead define causes either in terms of their regular precedence or the effect their regular precedence has on the mind.

Hume's discussion of the first of the two definitions raises a further issue. After stating the two clauses of the definition (given above) Hume added the further remark "Or, in other words, where, if the first object had not been, the second never had existed." But, Hume's claim notwithstanding, this does not seem to be just another way of wording the first definition. It introduces an entirely new notion, that of a counterfactual claim. Whereas the original two clauses of the first definition just talk about what is and was the case (A *is* followed by B, all objects similar to A *are* followed by objects similar to B), Hume's "other words" talk about what *would have been* the case *had* things been otherwise than they are. This counterfactual claim is puzzling. We can understand how we could know that A *is* followed by B and that all objects similar to A *are* followed by objects similar to B. We know this by experience. But experience can't tell us what would have been the case had things been otherwise than we have found them by experience to be. If we have such beliefs, it is only by appeal to background knowledge of causal relations. But that means that an appeal to counterfactual results ought not to be part of an alternative definition of what causal relations are.

## ESSAY QUESTIONS AND RESEARCH PROJECTS

1. According to Hume, our belief in an outcome is stronger or weaker depending on the number of times that outcome has been observed in the total number of trials. In the *Enquiry* Hume attributed the fact that our belief is stronger or weaker in this way to "an inexplicable contrivance of nature." However, in his earlier *Treatise of human nature* he offered a very



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detailed explanation of how the belief arises. How can he have said something is inexplicable in one work, when he had himself explained it in another? Did Hume change his mind about the soundness of his earlier explanation? If so, why did he continue to invoke it to the extent that he did in *Enquiry X*?

2. It has often been charged that Hume's account of causality is defective insofar as it treats causes as nothing more than events that regularly precede certain other events and denies that they have any productive power. According to authors of this objection, Hume's account confuses accidental correlations with causes. Just prior to crossing a road, a train blows its whistle. But though a whistle blow regularly occurs prior to a train crossing the road, we do not think that the former event is the cause of the latter. It does, however, seem to satisfy Hume's definition of "cause." Consider whether this objection is a good one, in the light of some of the recent literature discussing Hume's views on causality.
3. Do a survey of the recent literature on Hume's two definitions of cause. Critically assess the positions taken by recent scholars on this issue in comparison to the position taken in the notes.

