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Hume's Evidential/Testimonial Epistemology, Probability, and Miracles



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ABSTRACT

In this paper I will critically analyze the first part of David Hume's argument against miracles, which has been traditionally referred to as the in-principle argument. However, unlike most critiques of Hume's argument, I will (1) present a view of evidential epistemology and probability that will take into consideration Hume's accurate observation that miracles are highly improbable events while (2) arguing that one can be within one's epistemic rights in believing that a miracle has occurred.

As for the proper definition of a miracle, I offer the following, which I believe most religious people generally mean when they call an event miraculous: *A miracle is a divine intervention that occurs contrary to the regular course of nature within a significant historical-religious context.* Although I am fully aware that this definition has its detractors, it will merely function in this paper as a working definition so that we can come to grips with Hume's argument. This definition has been defended in detail elsewhere.¹

Presentation of Hume's In-Principle Argument

Hume begins this section of *An Enquiry Concerning Human Understanding* with a comparison of his work on miracles with John Tillotson's² argument against the Roman Catholic doctrine of transubstantiation. Hume writes that Tillotson's argument "is as concise, and elegant, and strong as any argument can possibly be supposed against a doctrine so little worthy of a serious refutation."³ Tillotson puts forth his argument in the following way:

Every man hath as great evidence that transubstantiation is false as he hath that the Christian religion is true. Suppose then transubstantiation

to be part of the Christian doctrine, it must then have the same confirmation with the whole, and that is miracles: but, of all the doctrines in the world, it is peculiarly incapable of being proved by a miracle. For if a miracle were wrought for the proof of it, the very same assurance which any man hath of the truth of the miracle, he hath of the falsehood of the doctrine; that is, the clear evidence of his senses. For that there is a miracle wrought to prove that what he sees in the sacrament, is not bread, but the body of Christ, there is only the evidence of sense; and there is the very same evidence to prove, that what he sees in the sacrament, is not the body of Christ, but bread.⁴

Hume's argument is similar in this regard: Tillotson argues that if the truth of the unobservable phenomenon of transubstantiation were dependent on an observable miracle, the evidence for transubstantiation (the observability of the miracle) would actually count against transubstantiation; that is, the reason you believe the miracle (it can be observed) is the same reason why you reject transubstantiation (it cannot be observed). In like manner, Hume argues that the reason why you believe an event is miraculous—that it violates natural law—is the same reason why you reject the miraculous: the proof of natural law outweighs the proof of any miracle (as to the possible ways to interpret what Hume means by this, see the following critique). Comparing his argument to Tillotson's, Hume writes:

I flatter myself, that I have discovered an argument of a like nature, which, if just, will, with the wise and learned, be an everlasting check to all kinds of superstitious delusion, and consequently, will be useful as long as the world endures. For so long, I presume, will the accounts of miracles and prodigies be found in all history, sacred and profane.⁵

Reiterating the epistemological framework set forth earlier in the *Enquiry*, Hume continues that experience is "our only guide in reasoning concerning matters of fact," although "this guide is not altogether infallible, but in some cases is apt to lead us into errors." Admitting that "in our reasonings concerning matter of fact, there are all imaginable degrees of assurance," he asserts that "a wise man," nevertheless, "proportions his belief to the evidence." In some cases, a belief may be founded on infallible experience, and the wise man therefore "regards

his past experience as a full *proof* of the future existence of that event." However, "in other cases, he proceeds with more caution: He weighs the opposite experiments: He considers which side is supported by the greater number of experiments: to that side he inclines, with doubt and hesitation; and when at last he fixes his judgment, the evidence exceeds not what we properly call *probability*."⁶

Hume then applies this reasoning to the reports of eyewitnesses in general (not only to the alleged eyewitnesses of miracles). He writes that when it comes to human testimony we should not ignore the epistemological principle set forth in the earlier part of the *Enquiry*: "It being a general maxim, that no objects have any discernible connexion together, and that all the inferences, which we can draw from one to another, are founded merely on our experience of their constant and regular conjunction." Since human testimony "is founded on past experience, so it varies with experience, and is regarded either as a *proof* or a *probability*, according as the conjunction between a particular kind of report and any kind of object has been found to be constant and variable."⁷

According to Hume, whenever we are judging human testimony, "we balance the opposite circumstances, which cause any doubt or uncertainty; and when we discover a superiority on any side, we incline to it; but still with a diminution of assurance, in proportion to the force of its antagonist."⁸ What he means by this is simply that the human testimony of a particular event may be opposed by a contrariety of evidence (for example, contradictory testimony, too few witnesses of doubtful character, and so forth), "which may diminish or destroy the force of any argument, derived from human testimony."⁹ Therefore, an event having strong evidence in its favor and little or no contrary evidence possesses a very high degree of probability.

Prior to applying the above to the miraculous, Hume first applies it to those witnesses who have claimed to have partaken in what he calls "the extraordinary and the marvellous." (Today we put in the classification of extraordinary or marvellous such alleged events as visitations by UFO occupants.) Hume writes that "the evidence, resulting from the testimony, admits of a diminution, greater or less, in propor-

tion as the fact is more or less unusual." That is to say, "when the fact attested is such a one as has seldom fallen under our observation, here is a contest of two opposite experiences; of which one destroys the other, as far as its force goes, and the superior can only operate on the mind by the force, which remains."¹⁰ Hume is saying that the extraordinary nature of the event counts as contrary evidence against the event having actually happened. For example, our overwhelming experience tells us that elephants do not have wings and therefore cannot fly. Suppose, however, that two airplane pilots on a rainy, lightning-filled, winter night observe from the cockpit what they perceive to be a flying elephant. According to Hume, we should weigh the pilots' testimony against the contrary evidence of our overwhelming experience of never having observed a flying elephant, not to mention the bad weather conditions, and conclude that it is more likely that the pilots were somehow deceived than that a flying elephant was actually observed. "The very same principle of experience, which gives us a certain degree of assurance in the testimony of witnesses [i.e., pilots are trained observers and often accurate], gives us also, in this case, another degree of assurance against the fact, which they endeavor to establish [i.e., flying elephants have never been a part of our experience, bad weather can alter one's perceptions, and pilots have been mistaken]."¹¹

Hume now moves from the marvellous to the miraculous. He asks us to imagine that there is testimony for an alleged miracle that "amounts to an entire proof." He is arguing that *even if* there is good evidence for the miraculous we still should not believe that it has occurred. For the regularity of natural law is itself a "proof." Therefore, we weigh proof against proof; and since "a miracle is a violation of the laws of nature" and "a firm and unalterable experience has established these laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument can be imagined."¹² Hume goes on to assert:

There must, therefore, be a uniform experience against every miraculous event, otherwise the event would not merit that appellation. And as a uniform experience amounts to a proof, there is here a direct and full

proof, from the nature of the fact, against the existence of any miracle; nor can such a proof be destroyed, or the miracle rendered credible, but by an opposite proof, which is superior.¹³

Take, for example, the story in the Book of Joshua when the sun stood still for one day while the Amorites were conquered by Israel (Joshua 10:13). According to Hume, Newton's laws of planetary motion (which include the law that the sun never remains motionless), having been substantiated by a countless number of observations, would serve as contrary evidence to what allegedly happened in the Book of Joshua.¹⁴

Hume recognizes that one of the consequences of his argument is that in principle no testimony is sufficient to establish the veracity of any miraculous event.¹⁵ For example, he tells us that if someone approached him claiming to have witnessed a dead man resurrected to life, Hume would ask himself whether it is more probable that this witness "should either deceive or be deceived, or that the fact, which he relates, should really have happened."¹⁶ And, of course, since it is more probable that the witness is involved in some sort of deception than that a resurrection had actually occurred, Hume would reject the miracle. As he puts it: "If the falsehood of his [the witness'] testimony would be more miraculous, than the event which he relates; then, and not till then, can he pretend to command my belief or opinion."¹⁷ Therefore, "since the wise man . . . proportions his belief to the evidence,"¹⁸ one should not believe that a miracle has occurred. Hume's in-principle argument can be summarized as follows:

1. Natural laws are built on uniform experience (which, according to Hume, is what makes something a "proof").
2. Miracles are alleged violations of natural law (and are, therefore, rare).
3. Therefore, the "proof" of natural laws always outweighs the "proof" of any particular miracle.
4. The wise person should always choose to believe that which has the greater weight of evidence.
5. Therefore, miracles can never be believed by a wise person.

Critique of Hume's In-Principle Argument

I believe there are at least two problems with Hume's in-principle argument: (1) it begs the question, and (2) it confuses evidence and probability.

A Question-Begging Argument

A number of thinkers have made the observation that Hume's argument begs the question.¹⁹ It is my contention that the degree to which Hume begs the question is contingent upon how one interprets his argument. For instance, if Hume defines nature as that which is by definition uniform, he clearly begs the question in favor of naturalism. This has been aptly pointed out by C. S. Lewis:

Now of course we must agree with Hume that if there is absolutely "uniform experience" against miracles, if in other words they have never happened, why then they never have. Unfortunately, we know the experience against them to be uniform only if we know that all the reports of them are false. And we can know all the reports to be false only if we know already that miracles have never occurred. In fact, we are arguing in a circle.²⁰

Is Lewis correct in his assessment of Hume's argument? Is Hume *really* arguing that nature is uniform? The answer to both questions is no. Given Hume's rejection of necessary connection²¹ and his reliance on an empiricist epistemology, it would stretch credibility to the limit to claim that Hume is arguing for the uniformity of nature. I think it is safe to say, however, that Hume is arguing that our *formulations* of natural law, if they are to be considered lawful appraisals of our perceptions, must be based on uniform *experience* or they cease to be natural law. According to David Fate Norton's interpretation, the following is the crux of Hume's argument:

If our experience of X's has been "firm and unalterable" or "infallible," then we have, in Hume's scheme, a "proof" and are in a position to formulate a law of nature, or a summation of uniform experience. Correlatively, the moment we fail to have a proof, or perfect empirical support for any summation, we fail to have a law of nature.²²

Hence, given that a law of nature must be what Hume calls a "proof," and proofs are by definition built on uniform and infallible experience, a violation of natural law would automatically disqualify the alleged law and would relegate it to the status of a probability. Norton continues:

It is in this context that Hume grants (for the sake of argument, no doubt) that the evidence for a particular (alleged) miracle may be perfect of its kind. But even given this concession, he points out, there would be insufficient grounds for concluding that the event was a miracle, for there would be, contra this evidence, equally perfect evidence that the event has not taken place—the evidence of the uniform experience that is summarized by the (allegedly) violated law of nature. . . . A miracle is a violation of the laws of nature; a law of nature is established by a firm and unalterable experience. The champion of miracles is arguing, however, that this experience is not firm and unalterable; at least, one exception is, he claims, known. From this exception it follows, Hume reminds us, that there is no violation of a law of nature because there is no law of nature, and hence, there is no miracle.²³

What Norton is saying is simply this: a miracle is an event that is, by definition, a violation of natural law, but a violated law (because a natural law, by definition, is only such if based on uniform experience, i.e., a proof) is no longer a law. Hence, "the proof against a miracle, from the very nature of the fact, is as entire as any argument can possibly be established."²⁴

Although this interpretation is much truer to the text than Lewis's interpretation, one could still argue that Hume begs the question in favor of naturalism (although the circle is certainly not as vicious as the one pointed out by Lewis). For the question can be asked, why must one accept that a natural law cannot be a natural law if it has been violated? If the reply is that natural law cannot be otherwise, then the question has been begged, or Hume's argument against miracles is strictly tautological. Asserting that a natural law can only remain a natural law if it has not been violated is to assume that a violation can *count against* a natural law. In terms of Hume's own epistemology, this is entirely consistent; for this reason, I believe that Norton is correct in his interpretation. It should be noted, however, that Hume understood natural law in the sense that it was understood in his day: strictly determined

and mechanistic. And it was against this version that he reacted, arguing that necessary connection could not be philosophically validated (hence, his appeal to unalterable *experience*). He thus rejected natural law as then understood, or at least he argued that one could not justify it philosophically.

However, I think that one can question Hume's view of natural law by showing that it is possible, and hence perfectly coherent and in accord with both contemporary science and our experience of the world, to speak of a natural law and its violation. As Swinburne points out, in order to combat Hume's view of natural law "one must distinguish between a formula being a law [i.e., a law that can be violated and still remain a law] *and* a formula being (universally) true or being a law which holds without exception [i.e., Hume's view]."²⁵

Before examining natural law, it is well worth pointing out George Mavrodes's observation that this interpretation of Hume's argument "need not be greatly disturbing to any religious person or any 'friend of miracles.'"²⁶ After all, writes Mavrodes, the fact that these "violations" have undermined "natural law" does not mean they did not really occur. As he puts it:

Nothing that the objector has said tends to show at all, or make it in any way probable, that Jesus did not turn water into wine, that he did not calm a storm with a word or raise Lazarus from the dead, and so on. Nor does it tend to show that these events did not have a profound religious significance. It does not even tend to show that these things, if they happened, were not miracles. At most (for better or worse) it tends to show that they are not *Humean* miracles.²⁷

No doubt there is considerable debate among philosophers of science as to the precise technical meaning of the term *natural law*. However, R. S. Walters writes that there is "agreement that a minimum necessary condition of a scientific statement proposed as lawlike is that it be a universal generalization."²⁸ Swinburne defines what scientists generally mean by natural law when he writes that a natural law is that which describes "what happens in a *regular and predictable* way" (emphasis mine).²⁹ Contrary to Hume's appeal to con-

stant conjunction and proof (an unvaried constant conjunction), a natural law does *not* only describe what happens in the actual course of events, but explains the actual course of events in terms of hypothetical universal formulas (regular and predictable); for example, if X has a certain mass, it will have a certain weight in Earth's gravity. For if a natural law were merely descriptive of what regularly occurs and nothing more, the term 'natural law' would be devoid of any cognitive content, similar to such assertions as "whatever will be will be." After all, scientists do revise laws because of recurring anomalies, but rarely if ever on the basis of a *single* non-recurring anomaly that is nevertheless recognized as an anomaly (which obviously does not *count against* the law violated). Hence, natural laws must be cognitively significant assertions in which a true counterfactual is possible, whether it be a violation (a singular non-analogous anomaly) or a recurring anomaly. For this reason, if "what happens is entirely irregular and unpredictable [i.e., a violation], its occurrence is not something describable by natural laws." In other words, to "say that a certain such formula is a law is to say that in general its predictions are true and that any exceptions to its operations cannot be accounted for by another formula which could be taken as a law. . . ."³⁰ Furthermore, a violation of natural law is non-analogous; that is, it should not be confused with an anomaly that occurs regularly under like natural circumstances, which is usually a good indication that the law in question should be revised, replaced, or altered in some fashion so as to account for this anomaly under these particular circumstances.

Consider the following example. Suppose we have a natural law, L, which states that when a human being has been dead for 24 hours it is physically impossible for this corpse to become alive again. L is so intertwined with what has been well established by years of anatomical, physiological, and biological study that no one doubts its status as a law; it is regular and predictable (i.e., given these circumstances, X, P will remain dead). Every epitaph testifies to this reality.

Suppose that on one Sunday afternoon a certain human being, H (let us say, a recognized holy person), who has been dead for more than 24 hours, gets up and walks out of the

coroner's office. If this counterinstance to L, E, cannot be subsumed under either L or a more comprehensive law and it is a non-recurring anomaly, I do not see why it is incorrect to call E a legitimate violation of natural law without saying that L is no longer a natural law.

Let us say, however, that prior to his death H had drunk a yet-undiscovered serum that has a natural chemical ability to restore life. Furthermore, let us say that the scientists studying this serum conclude that its chemical composition fits perfectly with what we already know about life, but yet takes us far beyond this knowledge. We are then forced to alter (although not completely change) some of our natural laws in light of this new discovery confirmed by repeatable experiment and observation (i.e., if P drinks the serum prior to his death, P will resurrect within 36 hours of his death): L will be replaced by a new law, L₂.

But if E cannot be subsumed under a more comprehensive law such as L₂ and we have good reason to believe that E would not occur again under similar circumstances (that is, it is a non-repeatable counterinstance), it is perfectly coherent to say that E is a violation of natural law without saying that E counts against L. For E to be able to count against L, it would have to be an anomaly repeatable under similar circumstances (such as in the case of the serum and L₂). "For these latter reasons it seems not unnatural to describe E as a non-repeatable counterinstance to a law of nature L. . . ." ³¹

Suppose the naturalist responds by saying that it is possible that any alleged miracle has a natural explanation.³² But to simply say that one should treat an alleged miraculous event as a mere scientific oddity ad infinitum is to be guilty of special pleading. For if the "natural" is compatible with everything and anything that may occur in the natural world, then the term *natural* has lost any significant meaning. This is not to say that we should resort to the interpretation of miracle whenever an anomalous event occurs. Rather, I am asserting that the non-theist should take seriously the strength of well-established natural law, especially if science's problem-solving capacity has been completely impotent in explaining an alleged miracle in terms of any known law (and is not even remotely close in a forthcoming explanation), as in the case of

the primary law-violating miracles of the Christian tradition (e.g., resurrections, changing water into wine, multiplying fishes and loaves, instantaneously healing lepers, walking on water, and so on). Although it is certainly *possible* that scientific explanations of these events will some day be discovered, the fact that the possibility is currently remote, and that science has been incapable of finding *any* explanations, should count for something. Hence, we do have natural, albeit corrigible, grounds to assert what is and is not beyond the scope of nature's capacities.

In summary, to argue that natural law is based on 'uniform experience,' and that this epistemologically forbids one from asserting that a violation of natural law has occurred, is to beg the question in favor of naturalism (whether you take Lewis's or Norton's interpretation of Hume), for it is possible to be perfectly coherent in speaking of a violation of natural law without undermining the law's status as a law.

Proof, Probability, and Evidence

There are some scholars who acknowledge that it is possible to interpret Hume's in-principle argument to be "softer" than Norton interprets it to be.³³ This interpretation emphasizes Hume's rejection of miracles as a weighing of probabilities. Hume is arguing that the "proof" of the way nature generally functions (i.e., violations do not generally occur) outweighs the "proof" of the extremely rare occurrences of the miraculous. As Antony Flew explains it: "But now, clearly, the evidence for the subsistence of such a strong order of Nature will have to be put on the side of the balance opposite to that containing the evidence for the occurrence of the exceptional overriding."³⁴ And for this reason, Flew asserts that Hume was *not* trying to establish "that miracles do not occur . . . ; but that, whether or not they did or had, this is not something we can any of us ever be in a position positively to know."³⁵ In contrast to Norton, who views Hume's argument as demonstrating the logical inconsistency in holding to both the miraculous and natural law, Flew sees Hume's argument as a precursor to critical history.³⁶ Of course, it is possible to view these interpretations as two sides of the same coin. That is,

Hume is showing both the logical (Norton's interpretation) and the testimonial (Flew's interpretation) problems of asserting that a violation of natural law has occurred. Since we have already shown that it is perfectly coherent to speak of violations of natural law, it is only the latter that remains an obstacle to be hurdled.

Hume's weighing of probabilities in his miracles argument is entirely consistent with his epistemological foundation. All knowledge is derived from experience, and "a wise man . . . proportions his belief to the evidence."³⁷ For Hume, we are unable to know *the necessary connection* between any two events, but can only *believe* what we *customarily* infer from a constant conjunction. Consequently, when particular events continue to occur together, our *belief* that there is a causal connection present is given greater credibility. So in actuality what Hume means by "greater evidence" are events of greater repetition. This is why a miracle (which is a rare event) can never be believed for Hume: it is, by definition, evidentially weaker than the laws of nature it is being weighed against.

Now the problem with this argument is that Hume confuses evidence with probability. He asserts that we should always believe what is more probable, and whatever has occurred more often has greater probability in its favor and hence greater evidence. One must weigh as evidence the antecedent improbability of a miraculous event occurring against the particular evidence for the alleged event. Of course, based on this reasoning, it is never reasonable to believe that a miracle has occurred. Hume's assertion can be put this way:

1. If E is a highly improbable event, no evidence is sufficient to warrant our belief that it has occurred.

This is certainly not a correct form of reasoning. Is it not the case that on the basis of sufficient evidence it is perfectly reasonable to believe that which is improbable has in fact occurred? A number of examples should help demonstrate this.³⁸ Take for instance the following well-documented case:

Life magazine once reported that all 15 people scheduled to attend a rehearsal of a church choir in Beatrice, Neb., were late for practice on March 1, 1950, and each had a different reason: a car wouldn't start, a

radio program wasn't over, ironing wasn't finished, a conversation dragged on. It was fortunate that none arrived on schedule at 7:15 p.m.—the church was destroyed by an explosion at 7:25. The choir members wondered whether their mutual delays were an act of God. . . . Weaver estimated there was a one-in-a-million chance that all 15 would be late the same evening.³⁹

According to Hume's view of probability and evidence, it seems that a wise man should reject the reliable testimony and circumstantial evidence that has substantiated the fact of this occurrence, even though we know that no reasonable person would reject it.

It is highly improbable that my friend will be dealt a royal flush in a Las Vegas poker room; i.e., it is much more probable that he will be dealt a less promising hand (in fact, the probability of being dealt a royal flush is $0.15 \cdot 10^{-5}$).⁴⁰ But according to Hume's reasoning, if my friend is dealt a royal flush, which is a highly improbable occurrence, I should not believe the testimony of several reliable witnesses who claim to have seen the hand.

Finally, suppose a man, who had never murdered anyone in his life, is accused of murder and brought to trial. Five responsible and upstanding citizens, with no reason to lie about what they had witnessed, testify on the witness stand that they had seen the accused commit an act of murder. However, the defense attorney, a follower of Hume, calls 925 people to the witness stand to testify that they had known the accused for a good part of their lives and they had never seen him murder anybody. After this long parade of witnesses, the defense attorney argues: "Let us weigh the 'evidence' of all the people who have seen my client not murdering against the evidence of the five people who say that they had seen my client commit murder at one single moment. Since the 'evidence' ('proof') of non-murdering is greater than the evidence of murdering and the intelligent person always sides with what has greater evidence, my client is *not* guilty." If the jury in this case is any jury at all, it would see through the clever charade this defense attorney is trying to pull; for they know that what is most probable (i.e., that which occurs most often, like non-murdering) can never be weighed as irrefut-

able 'evidence' against the evidence of a rare occurrence (like murdering).

Now it may be the case that we have misunderstood Hume. After all, the above are examples of improbable, yet *natural*, events. Maybe he is saying that we should only disbelieve the testimonial and circumstantial evidence for violations of natural law, not just any improbable event. I think this is closer to what Hume is saying, for in one place Hume makes the following interesting comment:

I beg the limitations here made may be remarked, when I say, that a miracle can never be proved, so as to be the foundation of a system of religion. For I own, that otherwise, there may possibly be miracles, or violations of the usual course of nature, of such a kind as to admit the proof of human testimony; though, perhaps, it will be impossible to find any such in all the records of history. Thus, suppose, all authors, in all languages, agree, that, from the first of January 1600, there was a total darkness over the whole earth for eight days: suppose that the tradition of this extraordinary event is still strong and lively among the people: that all travellers, who return from foreign countries, bring us accounts of the same tradition, without the least variation or contradiction: it is evident, that our present philosophers, instead of doubting the fact, ought to receive it as certain, and ought to search for the causes whence it might be derived. The decay, corruption, and dissolution of nature, is an event rendered probable by so many analogies, that any phenomenon, which seems to have a tendency toward catastrophe, comes within the reach of human testimony, if that testimony be very extensive and uniform.⁴¹

Apparently Hume is saying that one can know that an improbable event has occurred, but that there is no reason to suppose that it does not have a natural explanation. Although he calls the above event a "miracle," it seems Hume is using it in a different way than he did earlier in the text (i.e., in the sense of a bizarre or apparently law-violating event). This seems clear enough when Hume presents another example in which Queen Elizabeth dies (and the witnesses of her death are many and above reproach) and returns to claim her throne a month after her successor assumes it (and the same witnesses of her death are sure it is the same queen who has returned to her throne). Despite this apparently strong evidence for the

queen's resurrection, Hume declares: "I would still reply, that the knavery and folly of men are such common phenomena, that I should rather believe the most extraordinary events to arise from their occurrence, than admit of so signal a violation of the laws of nature."⁴² Hume goes on to make two important points. First, even if the above event is ascribed to God, it does not make it any more probable, since we know only of God's attributes and actions in what we observe in the usual course of nature (i.e., nature is uniform). And from this, Hume's second point follows: since in the usual course of nature it is more likely that a person not tell the truth about a religious miracle than the laws of nature be violated, it is more probable that the miracle did not occur.⁴³ The problems that lurk behind both these points—whether one can ascribe a divine source to a miraculous event and whether religious people tend to exaggerate—have been discussed elsewhere and for the sake of brevity must be shelved for another time.⁴⁴ However, resolution of these problems is not germane to this paper.

But let us first confront the claim implied in what Hume asserts in the employment of the above two stories. It seems Hume is saying that if apparent violations of natural law occur, they either have a natural cause (and hence, they would not be *real* violations of natural law) or they did not really occur as the witnesses have described them. Hume's assertion can now be put this way:

2. If E is a *real* violation of natural law, no evidence is sufficient to warrant our belief that it has occurred.

But since we have already seen that it is possible to be perfectly coherent in speaking of a violation of natural law, which is an improbable event, and sufficient testimony and evidence can make it reasonable to believe that an improbable event has occurred, to say that no testimony or evidence is sufficient to warrant our belief that a violation of natural law has occurred is to beg the question in favor of naturalism.

For the only way Hume could rightfully argue that no evidence is sufficient to warrant our belief that a violation of natural law has occurred is if violations of natural law are

maximally improbable if one already *knows* they could or have never occurred. But as Alvin Plantinga points out, "... why should a theist think that such a proposition [i.e., *E has occurred and E is a violation of a law of nature*] is maximally improbable? (Indeed, why should anyone think so? We aren't given a priori that nature is seldom interfered with.) Even if a theist thinks of miracles as a violation of laws of nature ... she needn't think it improbable *in excelsis* that a miracle occur; so why couldn't she perfectly sensibly believe, on the basis of sufficient testimony, that some particular miraculous event has occurred?"⁴⁵ Therefore, the defender of Hume's argument cannot say that violations of natural law are maximally improbable unless he begs the question.

This is not to say that a wise person should not be skeptical of the testimony of an individual who claims to have witnessed a violation of natural law (or any highly improbable event for that matter). However, as J. C. A. Gaskin has pointed out: "There is an uncomfortable sense that by means of it [Hume's argument] one may well justify disbelieving reports of things which did in fact happen—like your disbelief in my report of seeing water turned into wine if my report had also been vouched by numerous other good and impartial witnesses."⁴⁶ He continues:

While it is certainly true that when something altogether extraordinary is reported, the wise man will require more evidence than usual and will check and re-check the evidence very carefully, nevertheless at some stage in his accumulation of respectable evidence the wise man would be in danger of becoming dogmatic and obscurantist if he did *not* believe the evidence.⁴⁷

For example, suppose someone tells you that he has just seen his father, who has been dead for the past two days, alive and walking the streets of New York City. You would be perfectly reasonable if you thought like Hume: "When someone tells me, that he saw a dead man restored to life, I immediately consider with myself, whether this person should either deceive or be deceived, or that the fact, which he relates, should really have happened."⁴⁸ That is, it is more probable that deception is involved than that the testimony is

accurate. After all, you would have no problem believing the testimony if this man's father had never died. This is because your expectations and judgments hinge on your previous experience: dead men do not come back to life. However, let us say that there are a number of reliable witnesses who corroborate this testimony. Furthermore, the mortuary, which had embalmed the body, reports that it is missing, and police confirm that the fingerprints of the living man (which they found on a glass he had touched) correspond perfectly to the fingerprints of the dead man. Moreover, the man in question was very religious and had prayed prior to his death asking God to resurrect him in order to demonstrate to his atheistic relatives the truth of his religious convictions.

In light of this example, it becomes apparent that Hume's weighing of probabilities is highly artificial, not to mention woefully inadequate. In this case it is not a weighing of a probability, L (a law of nature), against a probability, T (a testimony claiming to have witnessed a violation of L), but a weighing of L against what Cardinal Newman called a "convergence of independent probabilities,"⁴⁹ T, T₁, T₂, ... T_n (i.e., diverse and reliable testimonies, fingerprints, circumstantial evidence such as the missing embalmed body and his prayer to God, and so on).

As some have pointed out, just as our formulations of natural law are based on certain regularities, our standards of evaluating testimony and evidence are also based on certain regularities (e.g., "Witnesses in such-and-such a situation are more apt to tell the truth").⁵⁰ Because these standards do not have the same individual probative strength as a natural law, a single piece, or even several pieces, of testimonial evidence in most cases is insufficient to warrant our belief that a violation of natural law has occurred (although a single testimony is usually sufficient to warrant belief in most everyday situations, such as "Honey, get the checkbook, the paper boy is here"). However, if the testimonial evidence is multiplied and reinforced by circumstantial considerations (as in the above example), and the explanation of the event as a violation connects the data in a simple and coherent fashion (just as we expect a natural law to do),⁵¹ and a denial of the event's occurrence becomes an ad hoc naturalism-of-the-gaps,⁵² I do

not see why it would not be entirely reasonable to believe that this event has occurred (based on a convergence of independent probabilities). I believe that this approach retains a healthy Humean skepticism by taking into consideration the improbability of a miraculous event, but I also believe that it resists a dogmatic skepticism by taking seriously the possibility that one may have evidence for a miracle.

This in no way denies Hume's point that we make our judgments on the basis of uniformity, regularity, and probability. Rather, the point is being made that Hume incorrectly assumed that, because we *base* our knowledge of the past on regularities (constant conjunction), the *object* of our knowledge must therefore be a regular event and not one that is either singular or highly improbable. Therefore, since we base both evidential and natural law judgments on regularities, it is certainly possible that we can have sufficient evidence to believe that an event highly improbable in terms of natural law has occurred. For if the question of a miracle's occurrence is relegated exclusively to whether the event is improbable in terms of our general experience, then we would be forced to the absurd conclusion that we can never know that an improbable event has occurred; but we do in fact know that some improbable events have occurred. Hence, the question of the event's probability of having occurred must be answered in terms of the evidence for its occurrence on this single occasion, not exclusively on its antecedent improbability. That is why it is entirely reasonable to believe that the above examples of improbable events have in fact occurred: evidential considerations, based on certain regularities, were able to "outweigh" the antecedent improbability of the event occurring.⁵³

As to what standards or criteria would be employed in judging the adequacy of the evidence of any alleged violation of natural law that is a miracle, the evidential criteria employed in legal reasoning have been suggested.⁵⁴ For the purposes of this paper, however, it is only necessary to justify the possibility that sufficient testimony and evidence can warrant our belief that a violation of natural law has occurred. I believe that this task has been accomplished. In summary, Hume has failed to realize that the wise and intelligent person

bases his or her convictions on *evidence*, not on Humean "probability." That is, an event's occurrence may be very improbable in terms of past experience and observation, but current observation and testimony may lead one to believe that the evidence for the event is good. In this way, Hume confuses evidence with probability.

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NOTES

1. See Francis J. Beckwith, *David Hume's Argument Against Miracles: A Critical Analysis* (Lanham, Md.: University Press of America, 1989), pp. 7–18.

2. Tillotson (1630–1694), a Presbyterian theologian and archbishop of Canterbury (1691–1694), argued in both his *Rule of Faith* (1676) and *A Discourse Against Transubstantiation* (1684) that it is not possible to establish transubstantiation as part of Christian doctrine.

3. David Hume, *An Enquiry Concerning Human Understanding*, 3rd ed., text revised and notes P. H. Nidditch, introduction and analytic index L. A. Selby-Bigge (Oxford: Clarendon Press, 1975; reprinted 1777 edition), p. 109. It should be noted that John Passmore writes that the tenth section of the *Enquiry*, "Of Miracles," "was originally meant to form part of the *Treatise [on Human Nature, 1739–1740]*; and without it the *Treatise* is incomplete" (*Hume's Intentions*, rev. ed. [New York: Basic Books, 1952], p. 32). Concerning this point, Hume writes in a letter to Henry Home: "Having a frankt [*sic*] letter, I was resolved to make use of it; and accordingly inclose some *Reasonings Concerning Miracles*, which I once thought of publishing with the rest, but which I am afraid will give too much offence, even as the world is disposed at present" (J. Y. T. Greig, ed., *The Letters of David Hume*, 2 vols. [Oxford: Clarendon Press, 1932], Vol. I, p. 24). See also John O. Nelson, "The Burial and Resurrection of Hume's Essay 'Of Miracles,'" *Hume Studies* 12 (April 1986): 57–76.

4. Tillotson, *A Discourse Against Transubstantiation*, Vol. II, p. 448, as quoted in Antony Flew, *Hume's Philosophy of Belief* (London: Routledge & Kegan Paul, 1961), p. 172. For an extended discussion of Tillotson's argument and how Hume applies it, see Dennis M. Ahern, "Hume on the Evidential Impossibility of Miracles," in Nicholas Rescher, ed., *Studies in Epistemology*, APQ Monograph No. 9 (Oxford: Basil Blackwell, 1975), pp. 14–30. Ahern writes in detail of the possible ways one can interpret Hume's use of Tillotson and concludes that a similar interpretation to mine possesses independent plausibility and is a viable interpretation of Hume's

argument. Although the interpretation of Tillotson's argument and how it relates to Hume's argument are worthy topics, for both the sake of brevity and the importance of dealing exclusively with the specific content of Hume's argument, I refer the reader to Ahern's excellent work.

5. Hume, *Enquiry*, p. 110.
6. Ibid., pp. 110–11.
7. Ibid., p. 112.
8. Ibid.
9. Ibid., p. 113.
10. Ibid.
11. Ibid.
12. Ibid., p. 114. Concerning Hume's use of the term 'unalterable,' J. C. A. Gaskin's comments are worth noting: "Even here there is an incipient mistake. The word 'unalterable,' although justifiable on some account of the laws of nature, is not justifiable on Hume's. What he should have written is something like 'unvaried'" (*Hume's Philosophy of Religion* [London: Macmillan, 1978], p. 122).
13. Hume, *ibid.*, p. 115.
14. This is an example used by Richard Swinburne, *The Concept of Miracle* (New York: Macmillan, 1970), p. 14.
15. Hume, *Enquiry*, pp. 115–16.
16. Ibid., p. 116.
17. Ibid.
18. Ibid., p. 110.
19. For example, see C. S. Lewis, *Miracles* (London: Fontana Books, 1947), pp. 104–7.
- James Noxon writes: "If Hume really intended his critique 'Of Miracles' to 'establish it is a maxim, that no human testimony can have such a force as to prove a miracle, and make it a foundation for any such system of religion' . . . , his argument is a question-begging failure" ("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], p. 77).
20. Lewis, *Miracles*, p. 106.
21. See Robert J. Roth, S.J., "Did Peirce Answer Hume on Necessary Connection?" *Review of Metaphysics* 38 (June 1985): 867–80.
22. David Fate Norton, *David Hume: Common-Sense Moralism, Sceptical Metaphysician* (Princeton, N.J.: Princeton University Press, 1982), p. 298.
23. Ibid., p. 299.
24. Hume, *Enquiry*, p. 114.
25. Swinburne, *Concept*, p. 28.
26. George Mavrodes, "Miracles and the Laws of Nature," *Faith and Philosophy* 2 (October 1985): 337.

27. Ibid.

28. R. S. Walters, "Laws of Science and Lawlike Statements," in Paul Edwards, ed., *Encyclopedia of Philosophy*, Vol. 4 (New York: Macmillan & The Free Press, 1967), pp. 410–11. See John Hospers, "Law," in F. D. Klemke, Robert Hollinger, and A. David Kline, eds., *Introductory Readings in the Philosophy of Science* (Buffalo, N.Y.: Prometheus Books, 1980), pp. 104–11; Charles E. Hummell, *The Galileo Connection* (Downers Grove, Ill.: Inter-Varsity Press, 1986), pp. 180–88; and Ernest Nagel, *The Structure of Science* (New York: Harcourt Brace, 1961), pp. 75–78.

29. Swinburne, *Concept*, p. 26. This view of scientific law as regular and predictable is echoed by Hummell, Walters, and Patrick Nowell-Smith. Hummell writes: "Since laws are based directly on experimental data, they can be tested at any time. They not only describe present natural phenomena but also precisely predict future results for a given set of conditions. Thus they also provide the basis for technology, the use of science for practical purposes" (*Galileo*, p. 184). Walters asserts: "Suppose it is a law, *s*, that sodium burns when exposed to air. This law . . . can explain why a given piece of sodium burns when exposed to air and can be used to predict that a given piece of sodium will burn when exposed to air" ("Laws," p. 412). Nowell-Smith, whose article is written in opposition to belief in miracles, writes that "a scientific explanation is an hypothesis from which predictions can be made, which can afterwards be verified. It is the essence of such an hypothesis—a 'law' is but a well-confirmed hypothesis—that it should be capable of such predictive expansion" (Patrick Nowell-Smith, "Miracles," in Antony Flew and Alasdair MacIntyre, eds., *New Essays in Philosophical Theology* [New York: Macmillan, 1955], pp. 249–50).

30. Swinburne, *Concept*, pp. 26, 27–28.

31. Ibid., p. 27.

32. Alastair McKinnon, "'Miracle' and 'Paradox,'" *American Philosophical Quarterly* 4 (October 1967): 308–14.

33. For example, see William Lane Craig, *Apologetics: An Introduction* (Chicago: Moody Press, 1984), pp. 121–22; Antony Flew, *David Hume: Philosopher of Moral Science* (New York: Basil Blackwell, 1986), pp. 81ff.; R. F. Holland, "The Miraculous," in John Donnelly, ed., *Logical Analysis and Contemporary Theism* (New York: Fordham University Press, 1972), pp. 226–35; and Noxon, "Hume's Concern," pp. 73–82.

34. Flew, *Hume: Philosopher of Moral Science*, p. 81.

35. Ibid., p. 80.

36. Referring to how Hume's argument affects the defender of miracles, Norton writes: "His conceptions are, to say the least, incompatible, and thus to argue that there are both uniformities and miracles is inconsistent" (*David Hume*, p. 299). Flew writes that Hume's work on miracles shows "what Hume never manages outright to say, that the critical historian, in

approaching the detritus of the past, has to assume whatever he knows, or thinks he knows, about what is probable or improbable, possible or impossible. For it is only upon these always fallible and corrigible assumptions that he becomes able to interpret any of that detritus as historical evidence at all; much less to erect upon it his account of what did and did not actually happen" (*David Hume: Philosopher of Moral Science*, p. 84).

This is not to say that Flew does not see the epistemological problem inherent in the concept of miracle as it relates to natural law, for he in fact has written on this problem elsewhere. However, in contrast to Norton, Flew denies that Hume himself specifically argues in this way: "All this argumentation, although (in spirit at least) thoroughly Humean, has little to do with the line of argumentation which Hume chose to develop in the section 'Of Miracles'" ("Miracles," *Encyclopedia of Philosophy*, Vol. 5, p. 349).

37. Hume, *Enquiry*, p. 110.

38. Hume writes of two types of probability, probability of chances and probability of causes. The former is similar to what probability theorists call the a priori theory of probability, and the latter is similar to what they call the relative-frequency theory of probability. An example of how both theories work can be seen in the odds of a flipped coin landing on heads. According to the a priori theory, prior to any flip, the odds are 1:2 that the coin will land on heads. In contrast, the relative-frequency theory measures the frequency of an event having occurred, and then a probability is calculated in light of this frequency. According to this theory, a coin that has landed on heads six times out of ten flips has a probability of 3:5, or .600. Irving Copi uses the following example to explain the relative-frequency view: "... the probability of a twenty-five-year-old woman surviving her twenty-sixth birthday is .971. . . . Of 1,000 twenty-five-year-old women, if 971 exhibit the attribute of surviving at least one additional year, the number .971 is assigned as the probability coefficient for the occurrence of this attribute in any such class" (*Introduction to Logic*, 5th ed. [New York: Macmillan, 1978], pp. 510, 513).

The probability of causes, which roughly corresponds to the relative-frequency theory of probability, is the view I believe Hume speaks of in his miracles argument. For the sake of covering all bases, however, in the text I will use examples of both improbable events (a priori and relative-frequency), which reasonable people should believe on the basis of sufficient evidence.

39. Richard Blodgett, "Our Wild, Weird World of Coincidence," *Reader's Digest* 131 (September 1987): 127.

40. Richard A. Epstein, *The Theory of Gambling and Statistical Logic* (New York: Academic Press, 1967), p. 222.

41. Hume, *Enquiry*, pp. 127–28.

42. *Ibid.*, p. 128.

43. *Ibid.*, p. 129.

44. See Beckwith, *David Hume*, pp. 12–13, 51–52, 54–63.

45. Alvin Plantinga, "Is Theism Really a Miracle?" *Faith and Philosophy* 3 (April 1986): 113. Another similar response to Hume's argument from probability along the same lines is Roy A. Sorenson's observation that "one cannot establish this kind of scepticism merely by showing that the low probabilities of the individual testimonies do not add up in such a way as to make probable 'There is at least one miracle.'" He concludes, "Hume's argument does not rule out the possibility that one accepts case by case scepticism and yet one knows through testimony that at least one miracle took place" ("Hume's Scepticism Concerning Reports of Miracles," *Analysis* 43 [January 1983]: 60).

My argument for the possibility of miracles that follows, based on the convergence of independent probabilities, could be viewed as an extrapolation of Sorenson's observation.

46. Gaskin, *Hume's Philosophy of Religion*, p. 115.

47. *Ibid.*

48. Hume, *Enquiry*, p. 116.

49. As cited in John Warwick Montgomery, "Science, Theology, and the Miraculous," in *Faith Founded on Fact* (New York: Thomas Nelson, 1978), p. 55.

50. See Swinburne, *Concept*, pp. 41–48. Montgomery explains that legal reasoning is an example of evidential criteria based on certain regularities: "The lawyer endeavors to reduce societal conflicts by arbitrating conflicting truth-claims. Inherent to the practice of the law is an effort to resolve conflicts over legal responsibilities, and such conflicts invariably turn on questions of fact. To establish a 'cause of action' the plaintiff's complaint must allege a legal right, which the defendant was duty-bound to recognize and which he violated; at the trial evidentiary facts must be marshaled in support of the plaintiff's allegations, and the defendant will need to provide factual evidence in his behalf to counter the plaintiff's prima facie case against him. To this end, legal science, as an outgrowth of millennia of court decisions, developed meticulous criteria for distinguishing factual truth from error" (Montgomery, *The Law Above the Law* [Minneapolis: Dimension Books, 1975], p. 86).

51. Swinburne writes: "So then a claim that a formula L is a law of nature and claims that testimony or trace of a certain type is reliable are established basically the same way—by showing that certain formulae connect observed data in a simple coherent way" (*Concept*, p. 43).

That simplicity and coherence are values, which the scientist seeks in formulating any law or theory, is defended by not a few philosophers of science. For example, see W. H. Newton-Smith, *The Rationality of Science* (London: Routledge & Kegan Paul, 1981), pp. 226–32; Karl R. Popper,

"Truth, Rationality, and the Growth of Knowledge," in his *Conjectures and Refutations* (New York: Harper & Row, 1963), pp. 240–41; Hilary Putnam, *Reason, Truth, and History* (New York: Cambridge University Press, 1981), p. 35; and J. P. Moreland, *Christianity and the Nature of Science: A Philosophical Investigation* (Grand Rapids: Baker Book House, 1989), Chs. 1–3.

52. A fine example of naturalism-of-the-gaps is Hume's defense of maintaining naturalism in his fictional account of Queen Elizabeth's resurrection (*Enquiry*, p. 128).

53. I am not the first to employ Hume's own view of probability against him. John King-Farlow cites a work of the little-known philosopher and scientist Charles Babbage, *Ninth Bridgewater Treatise* (1837), in which Babbage employs numerical probability to quantify the probability of a miraculous resurrection and the probability of witnesses to give accurate testimony of such an occurrence. He concludes that it is sometimes reasonable to believe that a miracle has occurred. Although I do not agree entirely with his approach, I believe Babbage was on the right track. See King-Farlow, "Historical Insights on Miracles: Babbage, Hume, Aquinas," *International Journal for Philosophy of Religion* 13 (1982): 209–18.

54. Beckwith, *David Hume*, pp. 121–38.