

Weighing Up Hume on Miracles

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Resources on Hume

- All of Hume's texts, in authoritative editions, are free and searchable from www.davidhume.org (a website I created, and run, with Dr Amyas Merivale).
- Hume's argument on miracles is in Section 10 of his *Enquiry concerning Human Understanding* (often called "the first *Enquiry*". The online version is textually the same as my 2007 *Oxford World's Classics* edition.
- In what follows, references of the form "E 4.18" or "E 10.4" are to section and paragraph numbers in the first *Enquiry*.



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Eminent Scholars Disagree

- Hume's discussion of miracles in *Enquiry* 10 is highly regarded by many scholars:
 - proves it "pretty well impossible that reported miracles" should effectively support theism (Mackie 1982, p. 27)
 - refutes "a certain way of trying to rationally ground belief in Christianity" (Owen 1987, p. 348)
 - "careful, detailed, and coherent" (Garrett 2002, p. 330)
- Others fiercely abuse it, notably John Earman:
 - "Hume's essay seems both tame and derivative. It is also something of a muddle ... [In] Hume's maxim ... I see only triviality ... Hume's seemingly powerful argument [is] a shambles from which little emerges intact, save for posturing and pompous solemnity" (2002, pp. 93, 97, 108)

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Getting Straight on the Basics

- To vindicate or defend the argument, Hume scholars have come up with an implausibly wide range of interpretations (chapter 7 of Garrett's *Cognition and Commitment*, 1997, provides a useful brief review).
- For an attempt to get straight on many basic points, *most* of which I consider unlikely to be disputed by well-informed scholars, see my paper "Twenty Questions on Hume on Miracles" (in *Philosophy and Religion*, ed. Antony O'Hear, CUP, 2011), which was written with schoolteachers and students in mind.
 - In what follows, references to "20Q" are to the sections of that paper, which can be found under "2011" at www.davidhume.org/scholarship/Millican.

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1. Principles of Inductive and Testimonial Evidence



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The Lockean Context

- John Locke's *Essay Concerning Human Understanding* of 1690, though the most prominent manifesto for epistemological empiricism, argues that belief in miracles can be justified *even when they radically conflict with the course of our experience*:



"Though the common Experience, and the ordinary Course of Things have justly a mighty Influence on the Minds of Men ... yet *there is one Case, wherein the strangeness of the Fact lessens not the Assent to a fair Testimony given of it*. For where such supernatural Events are suitable to ends aim'd at by him, who has the Power to change the course of Nature, there, under such Circumstances, they may be the fitter to procure Belief, by how much the more they are beyond, or contrary to ordinary Observation." (IV xvi 13)

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Hume's Anti-Lockean Maxim



- Hume argues to the contrary, that conformity to experience (whether of the reliability of testimony, or the nature of the events reported) is our only rational criterion for judging whether testimony is credible, even in the case of supposedly divine miracles.

- Since miracles are radically at odds with experience, he advocates, as we shall see, a “general maxim”:

“That no testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous, than the fact, which it endeavours to establish ...” (E 10.13)

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Hume on Induction and Probability

- Hume's discussion in *Enquiry* 10 applies his theory of factual inference from *Enquiry* 4-6 (20Q, §§1-2).
- He insists our only basis for such inference is *experience*, since “*a priori*, any thing may appear able to produce any thing” (E 12.29, cf. E 4.18).
- In founding our expectations on experience, we have no option but to take for granted (since we can't prove) that “the future will resemble the past” (E 4.21).
- All “probable” evidence – including testimonial evidence – is therefore *inductive*: founded on experience, and proportional to the strength (e.g. the amount and consistency) of that experience.

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Proofs and Probabilities

“Mr. Locke divides all arguments into demonstrative and probable. In this view, we must say, that it is only probable all men must die, or that the sun will rise to-morrow. But to conform our language more to common use, we ought to divide arguments into *demonstrations*, *proofs*, and *probabilities*. By proofs meaning such arguments from experience as leave no room for doubt or opposition.” (E 6.0 n.)

- But things aren't quite so simple, as we shall see ...

“The proof against a miracle, as it is founded on invariable experience, is of that *species* or *kind* of proof, which is full and certain when taken alone, because it implies no doubt, as is the case with all probabilities, but there are degrees of this species, and when a weaker proof is opposed to a stronger, it is overcome.” (Letter to Hugh Blair, 1761)

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“A wise man ...”

“Though experience be our only guide in reasoning concerning matters of fact; ... this guide is not infallible ... Some events [are universally] conjoined together: Others are found to have been more variable” (E 10.3)

“A wise man, therefore, proportions his belief to the evidence. [After uniform experience] he expects the event with ... assurance, and regards his past experience as a full *proof* of the future existence of that event. In other cases, he proceeds with more caution: He weighs the opposite experiments ...” (E 10.4)

For detailed discussion of Hume's distinction between proof and (mere) probability, see 20Q, §§2 and 6.

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Testimony as Inductive

- “To apply these principles to a particular instance ... there is no species of reasoning more common, more useful, and even necessary to human life, than that which is derived from the testimony of men, and the reports of eye-witnesses ... It will be sufficient to observe, that our assurance in any argument of this kind is derived from no other principle, than our observation of the veracity of human testimony, and of the usual conformity of facts to the reports of witnesses.” (E 10.5)

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Denying any Privilege to Testimony

- Hume says we should treat evidence from testimony in much the same way as any other “probability”: on its inductive merits (for discussion of this claim, see 20Q, §4).
- And experience tells us that testimony tends to be more or less reliable, depending on its nature and other circumstances.
- As noted earlier, Hume's approach can be seen as taking further the ideas in Locke's *Essay* (IV xvi 6-9), but making no exception for miracles.

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The Factors to be Weighed

- Our confidence in testimony must be founded on experience ...
- ... and we find that various circumstances make a difference to its reliability, e.g.
 - the opposition of contrary testimony;
 - the character or number of the witnesses;
 - the manner of their delivering their testimony.
- Another factor we ought to consider is
 - the unusualness of the reported event.

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“This contrariety of evidence ... may be derived from several different causes; from the opposition of contrary testimony; from the character or number of the witnesses; from the manner of [delivery] ... There are many other particulars of the same kind, which may diminish or destroy the force of ... human testimony. Suppose, for instance, that the fact, which the testimony endeavours to establish, partakes of the extraordinary and the marvellous; in that case, the evidence, resulting from the testimony, admits of a diminution ... in proportion as the fact is more or less unusual.” (E 10.7-8)

- The positive and negative factors are weighed against each other to yield a verdict (20Q, §5).

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Miracles: “Proof against Proof”

- The crucial issue (E 10.11) arises when:
 - “the fact [affirmed] ... is really miraculous”
 but:
 - “the testimony, considered apart and in itself, amounts to an entire proof”.
- We have “proof against proof” – one on *each* side of the scale – “of which the strongest must prevail, but still with a diminution of its force, in proportion to that of its antagonist”.

Red highlighted phrases here and Slides 21-2 emphasise how Hume’s criterion depends on a comparison between two separate factors.

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In favour of the testimony

Consistency of the testimony
Character of the witnesses
Number of the witnesses
Manner of delivery

Against the testimony

Unusualness of the event



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Hume’s Paragraph 12

“A miracle is a violation of the laws of nature; and as 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 from experience can possibly be imagined. Why is it more than probable, that all men must die; that lead cannot, of itself, remain suspended in the air; that fire consumes wood, and is extinguished by water; unless it be, that these events are found agreeable to the laws of nature, and there is required a violation of these laws, or in other words, a miracle to prevent them? ...”

Hume does not spell out his notion of a “law of nature”. It clearly cannot mean simply a *de facto* universal regularity (else miracles would be self-contradictory, which Hume evidently does not intend). Attempting to clarify the notion further would introduce complexities which can be ignored here – for brief discussion, see 20Q §10-11.

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“... Nothing is esteemed a miracle, if it ever happen in the common course of nature. ... 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. [Endnote K]” (E 10.12)

[K] “... A miracle may be accurately defined, *a transgression of a law of nature by a particular volition of the Deity, or by the interposition of some invisible agent*. ...”

Again, “uniform experience” cannot mean “exceptionless experience of all mankind”, else this would rule out *a priori* any truthful report of a miracle. More plausible is to interpret it in terms of the judge’s own experience (potentially extended by trusted reports – 20Q §4).

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2. Hume's Verdict on Miraculous Testimony



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Hume's Maxim on Miracles

"The plain consequence is (and it is a general maxim worthy of our attention), 'That no testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous, than the fact, which it endeavours to establish: And even in that case there is a mutual destruction of arguments, and the superior only gives us an assurance suitable to that degree of force, which remains, after deducting the inferior.' ..."

(E 10.13)

"testimony ... of such a kind" clearly alludes back to "the testimony, considered apart and in itself".

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"... When any one tells me, that he saw a dead man restored to life, I immediately consider with myself, whether it be more probable, that this person should either deceive or be deceived, or that the fact, which he relates, should really have happened. I weigh the one miracle against the other; and according to the superiority, which I discover, I pronounce my decision, and always reject the greater miracle. If the falsehood of his 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." (E 10.13)

Here "the greater miracle" seems to be equated with the event which is less "probable" on the basis of experience. The underlined passages suggest Hume views his criterion as a *necessary and sufficient* condition for credibility. For more on these points, see 20Q §7.

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"Prior" and "Posterior" Probabilities

- These quotations confirm repeatedly what 10.6-7 already strongly suggested, that Hume considers *the overall credibility* to result from a *contest of strength between two distinct "arguments" or "probabilities"*.

"Prior" Argument, Proof, or Probability in Favour of the Testimony

"Posterior" Credibility

"Prior" Argument, Proof, or Probability Against the Miracle



Obviously, "prior" and "posterior" are not here understood in the way of Bayes' theorem (1763)

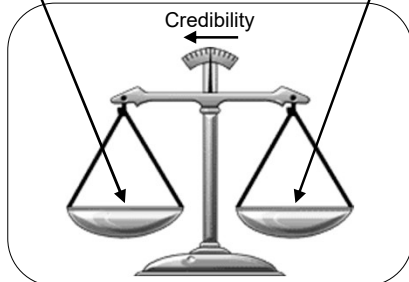
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The Earman/Hájek Misinterpretation

"Posterior" probability that the event happened, given the testimony

"Posterior" probability that the event didn't happen, given the testimony



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The Independence Assumption

- Hume's separation between the "prior" probabilities on each side seems to assume that different "kinds" of testimony "considered apart and in themselves" (specified in terms of the character and number of the witnesses, their consistency, manner of delivery etc.) carry a different typical probability of truth and falsehood (and can be judged as qualifying as a "proof", or not) *independently of the event reported*.
- Call this *the Independence Assumption* (20 Q §8).
 - But we'll see that Hume's Maxim, and his discussions in *Enquiry* 10 Part 2, suggest that this Assumption can at most involve some sort of *prima facie* probability, which gets weighed in the balance against other evidence.

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Hume's Route to his Maxim?

	Testimony is true	Testimony is false
Nature is "false"	<i>true report that M occurred</i> M occurred	
Nature is "true"		<i>false report that M occurred</i> M did not occur

A "false positive" will be less likely than a "true positive" only if the falsehood of that kind of testimony is even less probable than that kind of event (i.e. Nature's falsehood).

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A Promising Example for Hume

- I am concerned about a genetic disease that becomes apparent only in old age, and afflicts one in a million of the population.
- I therefore take a test, which has a 99.9% chance of correctly reporting one's genetic disease state. It comes out positive! ☹️
- Hume asks:
"Would the falsehood of the test be more surprising than your having the disease?"

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Probability and the Diagnostic Test

- Probability of the disease = 1 in 1,000,000
- Probability of false test = 0.1% (1 in 1,000)
- Take 1,000,000,000 people of whom:
 - 1,000 have the disease
 - 99.9% of them test positive: 999 true positives
 - 999,999,000 do not have the disease
 - 0.01% of them test positive: 999,999 false positives
- Probability I have it is 999,999:999 = 1,001:1 (i.e. 1 in 1,002 or a bit less than 0.1%).

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Enquiry Section 10 Part 2

- Hume's Maxim does not rule out the very possibility of testimony establishing a miracle, but the hurdle is very high!
- In Part 2, he points out reasons why religious testimony is particularly unlikely to do the job:
 - It tends to be transmitted from remote places and uncritical, unscientific witnesses (10.15, 20-23);
 - People have a love of wonder and a tendency to lie or deceive themselves in religious matters (10.16-19);
 - There are lots of religions claiming different miracles against each other (10.24 ff.).

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3. Against Hume's Maxim



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Counterexamples to Hume's Maxim

- Suppose I meet a man at Oxford, who says "My name is 'Amyas Merivale'". Should I believe him?
 - People give false names more than, say, 1 time in 150,000 (the approximate population of Oxford).
 - The initial probability that some random person's name is "Amyas Merivale" is much smaller than 1/150,000 – without special evidence for this, it seems very unlikely that any inhabitant of Oxford actually has this name.
- Suppose a newspaper – which typically gets such things wrong 1% of the time – reports that Smith's ticket 271828 won (out of a million tickets). 1% is much greater than 1 in a million, but we would still believe it.

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- These sorts of examples were pointed out by George Campbell (1762, pp. 30-2) and Richard Price (1767-8, pp. 407-9) – but they didn't explain exactly *where* Hume's argument goes wrong, and he ignored this criticism.
- It fails because the probability of a false report of *that specific event* (e.g. someone falsely telling me that their name is "Amyas Merivale") cannot be calculated correctly from any *general probability of error* based on the kind of testimony (e.g. someone telling me their name falsely).
- This is because false testimony can be false in many different ways, and to assess whether any specific report is false, we need to know the probability of its being reported falsely *in this specific way*.
 - It is unlikely that a randomly chosen person would tell me truly that their name is "Amyas Merivale". But it's far more unlikely that they would tell me falsely that their name is "Amyas Merivale"!

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Campbell's Comet Example

- Imagine a newspaper report on 15 March 2013: "Tonight, a comet will be visible in a clear sky near the stars γ -Pegasi and χ -Pegasi."
- The "initial probability" of such a comet sighting is *tiny*, certainly less than 1 in a trillion.
- The probability of error in a typical newspaper report is much greater, perhaps around 1 in a 1000.
- Yet we are *right to believe the report!*
 - We should ask: what is the probability that the newspaper would make *that very report* ("near the stars γ -Pegasi and χ -Pegasi" etc.) *falsely*?
 - The probability of such falsehood is *even tinier* than the probability of the event reported! So we believe the report.

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A Serious Fallacy

"Ticket 271828 won"
(in a lottery of a million tickets)

Newspaper gets it right
probability 99%

Newspaper gets it wrong
probability 1%

Ticket 271828 did indeed win
probability 0.0001%

Newspaper correctly reports win of 271828
prob. 0.000099%

Some other ticket actually won
probability 99.9999%

Newspaper falsely reports win of 271828
prob. 0.999999%

This would make it more than 10,000:1 that the report is false!

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A Corrected Calculation

- A newspaper – which gets such things wrong 1% of the time – reports that ticket 271828 won a lottery of a million tickets.
- Initial probability of a true report that ticket 271828 won:
 - Prob. that 271828 won = 0.000001
 - Prob. that newspaper reported the result correctly = 0.99
 - \therefore Prob. that 271828 won and was correctly reported = 0.00000099
- Initial probability of a false report that ticket 271828 won:
 - Prob. that 271828 did not win = 0.999999
 - Prob. that newspaper reported the result falsely = 0.01
 - \therefore Prob. that 271828 was falsely reported as winning, given that it did not win and the report was false = 1/999999
 - \therefore Prob. that 271828 was falsely reported as winning = 0.00000001

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This makes it 99:1 that the report is true!

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A Tempting Defence of Hume

- It is striking that the correct calculation of this example yields the same answer for the overall probability of the 271828 report (i.e. 99%) as would be reached if we just took the general probability of newspaper correctness.
- So it might reasonably be wondered whether this would-be counterexample can be defeated on the basis that all tickets are in the same position, and since it's certain that *some* ticket will win, we can simply ignore the probability of any *specific* ticket winning, and just go with the *overall* probability of truth in the newspaper report. That, after all, gives the right answer here!
- But it's not clear that this approach fits with Hume's text, nor that it can be generalised beyond cases that involve lots of equiprobable outcomes. Soon, we'll see a case that *requires* more sophisticated handling.

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4. Hume, Price, Independence, and an Alternative Humean Maxim



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Price's Erroneous Solution

- Richard Price urged various counterexamples (including lotteries) against Hume, but drew the wrong moral from them, in favour of a strong Principle of Independence:
- "suppose ... there are no motives to deceive ... Now, I say that such testimony would communicate its own probability to *every* event reported by it of which sense is *equally* a judge, whether the odds against that event ... [are] more or less. ...
- If in any case it cannot be supposed that a witness is deceived, his report will give an event that precise degree of probability which there is of his not intending to deceive, be the event what it will."
- (Price 1768, pp. 414-6)

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The ABCD Lucky Draw ...

- Every day a "lucky draw" takes place, with four possible outcomes A, B, C, and D:
 - A is by far the most likely outcome;
 - B is 100 times less likely;
 - C is 100 times less likely again;
 - D is 100 times less likely again.
- So out of every 1,010,101 draws, we would expect A 1,000,000 times, B 10,000 times, C 100 times and D only once.

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... And An Unreliable Newspaper

- Suppose the clerk who records the result for the newspaper gets it right 97% of the time, but otherwise goes wrong randomly (with an equal 1% probability of misreporting each of the three wrong outcomes:

Result	Total	"A"	"B"	"C"	"D"
A	100,000,000	97,000,000	1,000,000	1,000,000	1,000,000
B	1,000,000	10,000	970,000	10,000	10,000
C	10,000	100	100	9,700	100
D	100	1	1	1	97
(all)	101,010,100	97,010,101	1,970,101	1,019,701	1,010,197

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- In this scenario, out of every 101,010,100 draws, we can expect *reported* results as follows:

Report	Total	True	False	True%
"A"	97,010,101	97,000,000	10,101	99.99%
"B"	1,970,101	970,000	1,000,101	49.24%
"C"	1,019,701	9,700	1,010,001	0.95%
"D"	1,010,197	97	1,010,100	< 0.01%
(all)	101,010,100	97,979,797	3,030,303	3%

- Note (for future reference): this means that an A report is extremely credible (99.99% likely to be true); while a B report is very nearly 50% credible.

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Implications for Hume, Price, and the Independence Assumption

- Hume is *right* (and Price mistaken), in that a report of the "miraculous" D is for that reason vastly less credible than reports of the more ordinary A and B, even when the testimony is of the very same "kind".
- This also potentially casts doubt on Hume's own talk of the force of the testimony "considered apart and in itself", and hence on the Independence Assumption from which he seems to start. If the credibility of the same kind of testimony can vary hugely depending on what it reports, what sense can we make of the force of the testimony "considered apart and in itself"?

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From Inverse to Direct Probability

- In the Lucky Draw example (and perhaps others), it is tempting to respond by changing focus from the *epistemic* probability of testimony (where we are reasoning "inversely" from the observed testimony back to its source), to consider instead the *direct* probability that true – as opposed to false – testimony *would be generated*.
- Then we do have a consistent probability of true and false testimony, *irrespective of the event that actually took place* (i.e. 97% probability of truth; 3% of falsehood). Could this provide an appropriate probability to feed into Hume's Maxim?

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Checking the Figures

- Putting this into Hume's Maxim would suggest we shouldn't believe a B report (say) unless B's prior probability is at least 3% (which is the probability that false testimony will be *generated*).
- But in our example, B's prior probability is just under 1% (very close to 1/101), yet as we noted earlier, testimony for B is very nearly credible:

Report	Total	True	False	True%
"B"	1,970,101	970,000	1,000,101	49.24%

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The Threefold Error

- The prior probability of D is just below 0.0001%, and a D report becomes nearly credible if the misreporting rate falls to 0.0003% – again a threefold error – why?

Report	Total	True	False	True%
"D"	201.0097	99.9997	101.01	49.7487%

- What matters is not *the probability of misreporting in general* (which can happen in three different ways), but specifically, *the probability of a misreporting of D*.
- It all depends on whether a false D-report is more, or less likely, than a true D-report.

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A Revised Humean Maxim

- We must give up reference to any abstract "probability of the falsehood of the testimony *considered apart and in itself*": probability will always be relative to what is reported.
- So the Independence Assumption must go, but we can formulate a Revised Maxim (20Q, §19):

No testimony is sufficient to establish a miracle *M*, unless the testimony is of such a kind, that the occurrence of a false *M* report of that kind (*given that M does not in fact occur*) would be even less probable than *M* itself.

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From General Epistemology to Specific Cognitive Psychology

- The Revised Maxim says that a report of *M* is credible only if the occurrence of such an *M*-report in the absence of *M* would be even less probable ("more miraculous") than *M* itself.
 - The Revised Maxim is correct and provable, as long as the non-reporting of miracle *M* would not itself be equally improbable ("miraculous").
- This shifts attention to the question of how likely it is that miracle reports would arise from natural causes: hence to *human cognitive pathology*, as discussed in *Enquiry* 10 part 2 (see 20Q §13):

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"The passion of *surprise* and *wonder*, arising from miracles, being an agreeable emotion, gives a sensible tendency towards the belief of those events, from which it is derived. And [people] love to partake of the satisfaction at second-hand [by reporting miracles] ... and delight in exciting the admiration of others."

E 10.16

"But if the spirit of religion join itself to the love of wonder, there is an end of common sense; and human testimony, in these circumstances, loses all pretensions to authority. A religionist may be an enthusiast, and imagine he sees what has no reality: He may know his narrative to be false, and yet persevere in it, with the best intentions in the world, for the sake of promoting so holy a cause ..."

E 10.17

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Proof of the Revised Maxim

- Let $\Pr(M) = m$ $\therefore \Pr(\neg M) = 1-m$
 $\Pr(M \text{ reported} \mid M) = T$
 $\Pr(M \text{ reported} \mid \neg M) = F$
- Assume $T < (1-m)$ (because non-report would not itself be a miracle)
 $\therefore T \times F < (1-m) \times F$
- $\Pr(M \ \& \ M \text{ reported}) = m \times T$ (true positive)
 $\Pr(\neg M \ \& \ M \text{ reported}) = (1-m) \times F$ (false positive)
- *M* report is credible iff
 $(1-m) \times F < m \times T$ (i.e. false positive is less probable than true positive)
 $\therefore T \times F < (1-m) \times F < m \times T$
 $\therefore T \times F < m \times T$
 $\therefore F < m$ (dividing by *T* each side)

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Weighing Up Hume on Miracles

A Speculation

- As noted, counterexamples to Hume's Maxim were pointed out by Campbell (1762) and Price (1767).
- But Hume seems not to have appreciated the force of their objections: why not?
- I speculate that Hume mis-remembered his own Maxim, thinking that it was not threatened by the Campbell/Price counterexamples. Perhaps he confused it with the Revised Humean Maxim?
 - Alternatively, perhaps Hume himself lost track of the "prior"/"posterior" probability distinction, and drifted towards understanding his Maxim as trivially true and hence absurd to deny (as in Earman's reading).

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5. Miracles, Improbabilities, and Laws of Nature



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Miracles as Specially Doubtful

- So far, we've been considering Hume's Maxim – as his argument for it strongly suggests – as intended to be based on *general principles of inductive probability*, with a miracle as just an *extreme case of an inductively improbable event*.
- But many interpreters instead understand Hume's argument as deriving from *principles that are quite specific to such "miraculous" cases*.
 - Don Garrett thinks it relies on the special principle that "proofs entirely obviate, or 'annihilate', considerations of probability" (2002, p. 324 n. 25), so a probability weighed against a proof apparently counts as nothing.

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Begging the Question

- Likewise, Dorothy Coleman (1988, p. 334) defends Hume against lottery examples by claiming that since they are non-miraculous, they pose no objection to his key conclusions about supposed miracles.
- But this seems seriously problematic. If Hume purports to rule out miracles (i.e. violations of "laws of nature" that are supported by "proofs") by appeal to *special principles that can't be defended in non-miraculous cases* (i.e. where mere "probabilities" are involved), then he's clearly begging the question in claiming that such principles apply against miracles! The onus is on him to *show* that miracles can be excluded, rather than postulating special principles to do the job.

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A Principle Without an Argument

- Anyone who accepts the principle that "*proof obviates probability*" (Garrett), or that we should always accept any number of marvels in preference to any miracle – might indeed have to agree that human testimony can never establish a miracle.
- But Hume has given no substantial *argument* to support any such principle, so his miracle-believing opponent can simply deny it!
 - And it's not *obviously* correct: extensive probable evidence (e.g. multiple independent witnesses) can rightly force us to accept that things we thought impossible have actually happened.

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Intrusion into Inductive Normality

- Distinguish:
 - The "ordinary" situation, with the world operating by its normal ways of working, so we can apply everyday inductive reasoning about what is [im]probable, and assess witness reports accordingly (e.g. the dead stay dead, so a resurrection report is almost certainly false). Here the Theist can happily agree with Hume!
 - An "extraordinary" situation in which the world's normal ways of working have been suspended or overridden by the action of some "invisible intelligent agent". Here we obviously cannot trust induction in the same way. And it's hard to see how inductive inference drawn purely from the "ordinary" situation can provide any basis for assessing the probability of an "extraordinary" intrusion.

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Weighing Up Hume on Miracles

Miracles as “Off the Scale”

- Both Hume and the Theist consider miracles as “Off the Scale” of ordinary probability, but differently:
 - Hume wants to treat them as extreme improbabilities that are “off the scale” in much the same as infinity is off the scale of ordinary numbers: so huge that any infinity will overwhelm any mere finite quantity.
 - The Theist wants to claim that “all ordinary bets are off” when God chooses to intervene – at that point, mundane induction just ceases to apply, and [at least some] *events have to be interpreted differently, in terms of their conformity with a Divine Plan.*

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Mackie’s Specious Conflation

- Mackie neatly expresses Hume’s logic, but in a way that exposes the conflation on which it’s based:
 - “Where there is some plausible testimony about ... what would appear to be a miracle, those who accept this as a miracle have the double burden of showing both that the event took place and that it violated the laws of nature. But it will be very hard to sustain this double burden. For whatever tends to show that it would have been a violation of natural law tends for that very reason to make it most unlikely that it actually happened.” (1981, p. 26 n.)
- The theist, however, has no dispute with the natural law! What’s disputed is whether the holding of a natural law in the “normal” situation really does make *violations* of such normality so unlikely. Where is the argument for that?

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Hume Tries to Justify Conflation

“Though the Being to whom the miracle is ascribed, be ... Almighty, it does not, upon that account, become a whit more probable; since it is impossible for us to know the attributes or actions of such a Being, otherwise than from the experience which we have of his productions, in the usual course of nature. This still reduces us to past observation, and obliges us to compare the instances of the violation of truth in the testimony of men, with those of the violation of the laws of nature by miracles, in order to judge which of them is most likely and probable.” (E 10.38)

- But this is too glib. *Some patterns of events might particularly invite (or even demand) explanation in terms of purposive activity by “invisible agents”, rather than the operation of “blind” natural laws.*

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“Of Miracles”: Concluding Remarks

- Despite its imperfections, “Of Miracles” remains very philosophically stimulating. Our discussion suggests three particular morals (20Q: §20):
 - First, that it is vital to take prior probabilities into account (as in the diagnostic example). This involves avoidance of the “base rate fallacy” made famous by Amos Tversky and Daniel Kahneman. In short, it means that quite generally, we cannot legitimately assess the credibility of testimony without factoring in the prior probability of what is reported.
 - So we have to take account of the “base rate” – the general frequency of that type of occurrence.

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Alleged Interference with Normality

- Secondly, when considering testimony for alleged divine action, we cannot straightforwardly extrapolate from mundane experience, because normality is supposed to have been disrupted by divine interference.
- Some phenomena (e.g. stars spelling out religious messages, or meteorites targeting evildoers), if accepted, would seem far more amenable to explanation by divine action than in terms of “laws of nature”.
- Scepticism about any miracle report is best justified not in terms of the statistical improbability of *the particular reported event* (as Hume suggests), but rather, *the complete absence of any compelling evidence for any such events that demand supernatural explanation.*

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A Legacy in Cognitive Psychology

- Thirdly, discussion of religious epistemology cannot be divorced from the sorts of consideration of cognitive psychology that Hume discusses in the second part of his essay (e.g. human foibles such as tendency to religious belief and love of the unusual).
 - It is striking that Hume said much more on cognitive psychology in *Treatise* Book 1 Part 3, where the discussion on miracles was originally planned to be.
- For work combining Humean themes with Cognitive Science of Religion (in a conciliatory spirit), see Branden Thornhill-Miller and Peter Millican, “The Common-Core/Diversity Dilemma”, *European Journal for Philosophy of Religion* 2015, pp. 1-49.

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