Religious Belief, Miracles, and David Hume

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Introduction

- Hume's discussion of miracles in *Enquiry* 10 is extremely famous, and notorious!
- Recently it has sparked much debate, and even abuse, e.g. from John Earman:
  - "a confection of rhetoric and *schein Geld*" (2000:73)
  - "tame and derivative and something of a muddle" (2002: 93)
  - "a shambles from which little emerges intact, save for posturing and pompous solemnity" (2002: 108)
- I aim to defend Hume against all this …

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Miracles and Religious Belief

- The main question is not *whether a religious believer could have reason to believe in miracles*, but *whether miracle reports could give a reason for religious belief.*
- However Hume's discussion concerns in general the assessment of testimony for supposed events of "improbable" kinds.
- So it is relevant to all "paranormal" reports, e.g. testimony for astrology or homeopathy.

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A Successful Cure?

- Fred is concerned about a genetic disease that becomes apparent only in old age, and afflicts one in a million of the population.
- He therefore takes a test, which has a 99.9% chance of correctly reporting one's genetic disease state. It comes out positive! ☹
- But the disease isn't always virulent, and may be treatable. A friend persuades him to visit a homeopath, whom he consults for the next few years. It seems to work …

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Why Pick on Homeopathy?

- Homeopathy was invented by Samuel Hahnemann in 1796, in ignorance of the causes of disease (e.g. microbes). Diseases he categorised by symptoms, not causes.
- The theory of homeopathy can work only if the water in which the "active" substance was diluted can continue to "remember" it, even when no "active" molecules remain.
- So homeopathy is implausible. But why should it feature in a discussion of *miracles?*

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Miracle, or Just Improbable?

- Suppose that *M* is some "improbable" event (e.g. a beheaded man being put together two days later and coming back to life). Is Hume sceptical about:
  (a) Any good evidence *that M occurred at all*?
  (b) Any good evidence *that M occurred and was a "miraculous" occurrence*?
- Many commentators think Hume focused on (b). I think his target was (a).

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A Seriously Misleading "Deductive" Parody of Hume's Argument

- "A miracle is a violation of the laws of nature; and … a firm and unalterable experience has established these laws … There must, therefore, be a uniform experience against every miraculous event, otherwise the event would not merit that appellation. … there is here a direct and full *proof*, from the nature of the fact, against the existence of any miracle." (10.12)

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Not a Logical Contradiction …

- The parody makes it appear that Hume is ruling out miracles *by definition:* the very notion of a violation of a uniform "law of nature" is supposed to be contradictory.
- But this *cannot* be what Hume is doing, given the context of the argument. The entire discussion is framed in terms of *probability*.
- Note that Hume's term "proof" is defined – explicitly – as a strong *probable* argument.

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A Less Misleading Parody

- A miracle, by definition, is a "violation of a law of nature", so highly improbable.
- Hence if *M* is an alleged miracle, the evidence from experience against *M*'s having occurred must be as strong as any evidence can be.
- But human testimony is never that strong: we know people can lie or make mistakes.
- Therefore testimonial evidence for *M* can never be strong enough to outweigh its intrinsic improbability.

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The Context of Hume's Argument

- Hume's discussion in *Enquiry* 10 applies the analysis of probability in *Enquiry* 6, showing how, *in general*, his inductive method is to be applied to competing "probabilities".
- His central idea is that all "probable" evidence – including testimonial evidence – is *inductive*: founded on experience, and proportional to the strength (e.g. the amount and consistency) of that experience.

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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 found to have been … variable" (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 …" (10.4)

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Testimony as Inductive

- "To apply these principles to a particular instance … there is no species of reasoning more common … 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." (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.
- And experience tells us that testimony tends to be more or less reliable, depending on its nature and other circumstances.
- Hume's approach to probability can be seen as taking further the ideas in Locke's *Essay* IV xvi 9, but more consistently …

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The Lockean Exception

- Locke had treated miracles as an exceptional case (*Essay* IV xvi 13):

    "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."

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The Independence Assumption

- Hume seems to be assuming that different "kinds" of testimony (specified in terms of the character and number of the witnesses, the consistency, and manner of delivery etc.) carry a different typical probability of truth and falsehood *independently of the event reported*.
- Call this *the Independence Assumption*.

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"Hume's Maxim"

- "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." (10.13)

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Hume's Inductive Approach

- 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." (10.7-8)

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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;
  – People have a love of wonder and a tendency to lie or deceive themselves in religious matters;
  – There are lots of religions claiming different miracles against each other.

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Earman's (Mis)interpretation

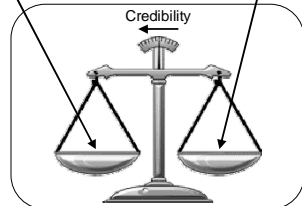Probability that the event <u>happened</u>, given the testimony

Probability that the event <u>didn't happen</u>, given the testimony

Credibility
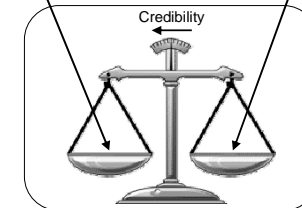
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In favour of the testimony
Consistency of the testimony
Character of the witnesses
Number of the witnesses
Manner of delivery

Against the testimony
Unusualness of the event

Credibility

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The Case of Miracles

- The crucial issue (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".

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Earman's Interpretation Refuted

- Earman must be wrong, because neither side of Hume's scale represents an *overall* probability judgement.
- The overall judgement instead comes from a weighing-up between
    the unlikelihood that testimony of this kind, considered apart and in itself, should be false
  and
    the unlikelihood of the reported event.

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The Diagnostic Example

- Fred is concerned about a genetic disease that becomes apparent only in old age, and afflicts one in a million of the population.
- He therefore takes 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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Earman and the Diagnostic Test

- Probability of disease = 1 in 1,000,000
- Probability of false test = 1 in 1,000
- Hume asks:
  - "Would the falsehood of the test be more surprising than your having the disease?"
- Earman would have Hume asking:
  - "Having had a positive test, are you more likely to have the disease than not to have it?"

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Vindicating Hume Mathematically

- We have seen that the overall judgement instead comes from a weighing-up between

  the unlikelihood that testimony of this kind, considered apart and in itself, should be false

  and

  the unlikelihood of the reported event.

- If we presuppose the independence assumption discussed earlier, then this enables us to treat the issue mathematically:

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Is the Independence Assumption Defensible?

- The Independence Assumption is dubious in many cases, e.g. reports of lotteries:
  - "The winning number was 297."
  - "The winning number was not 374."

  It's far more likely that a sincere witness will get the positive claim wrong than the negative claim (because it has far more ways to *be* wrong).

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Does Hume Himself Believe the Independence Assumption?

- In *Enquiry* 10 Part 2, Hume suggests that *sensational* testimony is especially suspect:

  "The passion of *surprize* 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."

32   *Enquiry 10.16*

	Testimony true probability $1-f$	**Testimony false** probability f
Miracle occurs probability m	*witness asserts M occurred* $m(1-f)$	*witness denies M occurred* mf
Miracle does not occur probability $1-m$	*witness denies M occurred* $(1-m)(1-f)$	*witness asserts M occurred* $f(1-m)$

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Deriving Hume's Maxim

- A report that *M* occurred is more likely to be a "true positive" than a "false positive" if and only if:

$$f(1 - m) < m(1 - f)$$
$$\therefore \quad f - mf < m - mf$$
$$\therefore \quad f < m$$

- i.e. The falsehood of the testimony, considered apart and in itself, is more miraculous (less probable) than the event reported, considered independently of the testimony. This is, more or less exactly, Hume's Maxim!

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The Doubtfulness of Religiously Motivated Testimony.

- When the sensation is *religious*:

  "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 …"

33   *Enquiry 10.17*

Is the Independence Assumption *Ad Hominum*?

- Those who argued in favour of belief in miracles *themselves* appealed to the Independence Assumption:

  "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."

34   Richard Price (1768), *Dissertation IV*

	Testimony is true	**Testimony is false**
Hume's Route to His Result?		
Nature is "false"	*M occurred*	
Nature is "true"		*M did not occur*

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Bayes' Theorem

- Hume's result anticipates *Bayes Theorem*: the probability of hypothesis *H* given evidence *E* is proportional to the *initial probability* of *H* (so the more improbable *H* is to start with, the more impressive the evidence *E* has to be to make it credible):

$$\Pr(H \text{ given } E) = \frac{\Pr(H) \times \Pr(E \text{ given } H)}{\Pr(E)}$$

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Hume's Strategy?

- Start from the Independence Assumption (along with advocates of miracles such as Joseph Butler and Richard Price).
- On that basis, Section 10 Part 1 proves a theoretical condition on credibility.
- Then Section 10 Part 2 makes the case that the Independence Assumption is, if anything, generous to the believer, since there are factors about religious enthusiasm etc. which make reports of miracles *less* reliable than others.

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Conclusions

- Earman's interpretation of Hume is certainly incorrect, as are his main criticisms. Likewise the popular "deductive" parody of Hume.
- Good sense can be made of Hume's argument, and his main point is absolutely right: *we should take account of prior probabilities*.
- On an Assumption of Independence, Hume's maxim can be justified by Bayesian reasoning.
- But the Assumption is questionable, so there's much more to be said and debated here …

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