**Swerving and Deserving:**

**Miscellaneous Essays on Ethics, Belief and Causality**

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10. **Introduction**

Intelligent people who have read some “analytic” philosophy may rightly have the impression that it is a kind of vague, postcard chess, in which each player posts standard moves or invents novel moves, to which other players may respond in kind, and often a player makes only a single move, ever, and nobody wins. It can be interesting, as almost anything can be to someone or other, but like real chess it is of little consequence except to the players. With a few exceptions, professional philosophy, and professional ethics in particular, makes little impact on the world. Let’s play.

1. **Methods of Ethics**

By and large, philosophical ethics, and meta-ethics—so far as there is a distinction—has attempted to provide reasoned vindications of moral sentiments of the 18th century Enlightenment, modified by the post 18th century sensibility that there is no difference in moral standing between members of different ethnic groups or sexes, although debts for the villainy of ancestors vary by group. A vindication presumes alternatives that may not make the cut. For Anglo American philosophers these include totalitarianism in all its state and religious forms, and moral anarchy. The Enlightenment was a scientific age and the first flourishing of a democratic impulse in two millennia. It should be no surprise then that many latter day ethicists take voting and science, as they conceive or misconceive it, as their nominal models of method, whether in framing a moral theory or in making moral judgements. What these thinkers do is often quite different from what they say they do.

In Kant’s view moral principles are a priori, just as are the principles of Newtonian science. A different commitment to the a priori, sometimes glossed as “intuition,” governs 20th century ethics. While proposals are often framed as though they were psychological hypotheses, they are almost never carried out as such, and the burgeoning subject of “experimental ethics,” long thought an oxymoron, rarely tests them. Occasionally, a modern ethicist—Frances Kamm is an example—is candid about what she claims she is doing, but the apparently intended scope of her conclusions broadens beyond the boundaries she announces.

What Frances Kamm says she is doing is a bit of empirical auto-psychology:

*[moral] responses come from and reveal some underlying psychologically real structure, a structure that was always (unconsciously) part of the thought processes of some people. Such people embody the reasoning and principles (which may be thought of as an internal program) that generate these responses. The point is to make the reasons and principles explicit.*

There are historical anticipations of this sort of thing. David Hume called his introspective reports “experiments.” In *The Interpretation of Dreams*, Sigmund Freud reports his own dreams and then explains what they mean. He, too, calls these "experiments," on which he builds a theory of the processes that generate dreams, just as Kamm would build a theory of what generates moral assessments. Kamm’s assumption is that our—or at least those of “some people”-- moral responses are caused by processes within us that can be described as reasoning with principles; the moral philosopher is like a linguist who tries to find a sketch of the algorithms of language syntax, semantics, and conversation from her own behavior. That is a heroic assumption. We might very well be neural networks all the way up, so that our moral judgements cannot be faithfully described as instances of implicit rule following that could even in principle be made explicit. But at least Kamm gave us an empirical target, herself presumably as a representative of “some people.” Taking her judgements of cases as autobiography, there can be nothing to complain about as to how she judged acts as permissible or impermissible, right or wrong—they are what they are, even if her theory turns out to be a false description of how she came to her moral decisions. But understood just as she says, the theory need have no descriptive or normative bearing on any of the rest of us outside the ill-specified “some.” I expect she sought more than that.

Thomas Scanlon says he is doing something like mathematics, but for morals, which he takes to be the maxims to which reasonable people in a “good condition” for judging would agree among those alternatives offered sincerely by others in the world who are likewise reasonable and sincere. He claims the investigation of what these maxims would be is like mathematics in that the process, and the truth or falsity of its conclusions, are unaffected by other inquiries, whether psychology, history, neuroscience or anthropology.

If Scanlon were empirically serious, the effort would be more social psychology than mathematics. It would provide a “reasonableness” test and seek out those who pass it who sincerely wish to come to agreement on moral principles with all others who are reasonable and want to do the same. Comfortably and soberly gathered together, they would settle on a set of shared principles, or maxims, or not. Of course the reasonableness test would be in some respects arbitrary, and different tests and assessments of sincerity might give different results, but at least it would be a clear and candid process compared to Scanlon’s phrase. I suspect Scanlon would think such an enterprise silly. Instead, he gives a variety of cases, announces how reasonable people would judge them, and adduces a voting theory of moral decision making. The sincere, reasonable people are reduced to Scanlon and the reader, and they are atoms who cannot negotiate with one another.

John Rawls views moral theories as empirical theories, very much like scientific theories. The data they are to account for are moral judgements, or judgements of principles of political and social institutions--principles of “justice.” Whose judgements? Rawls proposed two methods, one possibly feasible, one not, neither actually carried out. As with Scanlon, what he actually did is quite different from what he claimed he was or should be doing.

Rawls’ first method proposes a body of judges who will assess a large collection of particular actions as permissible or not. Philosophical theorists will then propose generalizations-principles—to separate the permissible from the impermissible. Where some implications of a theory are presumptively unacceptable, the moralists will either tinker with the theory or give up one of more of their presumptions—“intuitions”-- about cases, a process Rawls called “reflective equilibrium.” Rawls spent much of his essay on the appropriate characteristics for judges, almost none of it on how to find an adequate theory. In keeping with the philosophical arrogance of his time, he rejected that idea that some algorithm might do so, on the grounds that algorithms for finding correct theories are impossible.

Among the algorithms that Rawls did not know of but ruled impossible in the future, e.g.., now, there are a number of excellent procedures for generating classifiers that could be applied to a labeling of descriptions of actions and circumstances as permissible or not. For sufficiently large samples issuing from the judges, these algorithms might be excellent predictors of judgements from descriptions of new cases so long as the judges actually had moral principles that did not change in the process. Even when the judges did so change, there are algorithms that can detect the change from the data the judges produce. Rawls does not make clear what kind of theory he wants. Some of the best classification algorithms, support vector machines for example, will isolate a set of features or their combinations that predict permissibility. Others, neural net or “deep learning” algorithms, will adjust themselves to predict permissibility but will not isolate a set of measured features of the situations or combinations of features that are necessary and sufficient for predictive accuracy. As for qualified judges, Rawls might have sought them among his acquaintances.

An ethical theorist might want more than prediction; rules might be wanted, or predictions for permissibility upon perturbation of situations. There are out of fashion algorithms that try to classify by producing a set of conditional rules for classification. They are out of fashion because they were not very accurate. They might nonetheless be accurate in Rawls’ imagined application, but given the history that seems unlikely. Algorithms are available now that would predict permissibility if features of the descriptions of situations were altered by some intervention that changed one or more features.

Algorithmic versions of Rawls' experiment could be done. The hard part is creating a large and diverse body of cases, both easy and difficult, and a suitable set of judges uninvested consciously in one or another philosophical theories—e.g., people who have not read Rawls or Singer--each of whom creates a data base of assessments. Psychologists and philosophers are good at creating puzzling cases. Such experiments might also address side issues, for example whether there are moral features that are judged to promote permissibility (or impermissibility) no matter the context. It has been argued that if there were no such features, moral principles could not be learned. Such investigations might help determine whether such isolated, morally unambiguous features are necessary to learn consensual moral judgements. (I guess: not.) There are experiments comparing people’s judgements on variations of trolley problems, and limited experiments training neural nets, but to my knowledge, in the tens of thousands of pages devoted to commenting on Rawls’, none have carried out the experiment he proposed.

Rawl’s major work, *A Theory of Justice*, also conceives moral theory as scientific theory, but this time in a framework that does not lend itself so obviously to experiment. The aim is to find the principles regulating political and social institutions that would be agreed to by people “behind a veil of ignorance.” What that means is unclear, but it includes at least that those behind the veil would not know their position in the actual world, or in any hypothetical world that might instantiate the principles to which they agree. What else they do not know is unclear. A lot of history would be relevant, and a lot of human psychology, matters well known and important to the framers of the United States constitution, who were of course not innocent of the place they might occupy in the institutions of government that might result.

So conceived, Rawls’ book might better have been a dialogue. In fact, it is a long argument to readers that, if they set aside their respective political, economic and religious circumstances, they would agree to principles Rawls develops. However convincing (it is hard to separate one’s agreement with Rawls’ conclusions from the force of his arguments) this is not fertile territory for an experiment.

Rawls and Scanlon call their theories “contractarian”—morals by agreement. As such they are voting theories. The guiding moral maxims are those shared by a community, what the members would vote for, more than a consensus but less than perfect unity, a coherence. There is no good or right or wrong except what the community agrees to, and what it agrees to is what covers the great majority of whatever moral intuitions are shared by the great majority of the members of the community. Within the community, moral life succeeds because of the trust that others share that agreement.

Recently, a similar view has been advocated about science by Norma Oreskes. She says the claim the scientific community has to our trust is the coherence of opinion of its members. Not evidence, not method, agreement. A bare fact of anthropology is that around the world morals are more by disagreement than by agreement, and there are more anti-evolutionists that biologists. The question, for Scanlon and Rawls and Oreskes is one none of them address. There are many coherent communities, the anti-evolutionists (who are the plurality of humans), the Roman Catholics, the Mormons, the Sunnis, the Shias, the Southern Baptists. The anti-evolutionists disagree with the scientists; the Roman Catholics disagree with the Sunnis and Shias and scientists, and the Sunnis and the Shias reciprocate the disagreements. The Southern Baptists only agree with the anti-evolutionists. They are all coherent enough, they differ in sizes. In truth their agreements in morals and matters of fact overlap in complex ways. Which, if any, is most worthy of our trust, and why? To which, if any, should we give our allegiance in moral agreement or empirical belief? Or, in ethics, is there a better way?

There is a technical method of difference in ethics advocated by Phillipa Foote and used by others. It is little essentially the method proposed by Francis Bacon for scientific inquiry. The idea is this: collect description descriptions of circumstances and acts that are similar but which “intuition”—at least that of the ethicist—judges one of the acts to be permissible and the other not, find a “morally salient” feature or features on which the acts or situations differ. With that difference and its contribution to moral assessment articulated, the relevance of the features to moral assessment is sustained. Without it, not. It is a perfectly sensible but insufficient strategy of argument. Whatever the differential feature may be, it has to be clear enough that it can be applied by others agreeably to new cases, and so far as it can be so applied it should not produce absurd results if the hypothetical circumstances for which it was proposed are perturbed. As those who read on will I hope see, this is a difficult requirement to meet, at least if your "intuitions" are anything like mine.

1. **Trolley Follies**

**Permissibility and Causality**

An axiom of ethics holds that one is morally responsible for morally impermissible acts one does freely. While sometimes framed generally and abstractly—for example, in terms of positive rights to be aided and negative rights not to be interfered with--when difficult cases were considered Philippa Foot and Frances Kamm tied moral permissibility to particular causal features of acts and the processes that ensue from them. These linkages turned on the *kind* of causal connection between an act and its valued (or disvalued) effects. This essay is about Kamm.

Kamm’s theory, her Principle of Permissible Harm (PPH), has a general form that exploits a connection between causal counterfactuals and impermissibility.

**The Principle of Permissible Harm**

Kamm’s principle is this: An act that leads to a good effect but also has a bad effect is permissible if the bad outcome is an effect of the good effect, but is not permissible if the bad outcome is a stage in the causal chain from good outcome to worse effect, or is the effect of such a stage. She calls this the Principle of Permissible Harm, PPH.

﻿“Actions are *permissible* if greater good or a component of it (or means having these as a noncausal flip side) leads to lesser harm even directly. ﻿Actions are *impermissible* if mere means that produce greater good … cause lesser harm at least directly, and actions are i*mpermissible* if mere means cause lesser harms (such as toppling people in front of a trolley) that are mere means to producing greater goods.”[[1]](#footnote-1)

She intends that a bad event, a harm must not be an intermediate event on a causal chain from an act to a good outcome, but the harm must also not be a causal consequence of an intermediate event on that chain that is not also an effect of the good outcome. And what is a “non causal flip side”? Kamm’s example is that the survival of five people bound to a track towards which a trolley is rolling is not an *effect* of stopping the trolley, it is a “non-causal flip side.” That is, she denies that preventing a potential event is a cause of the failure of that event to occur. More generally, she seems to doubt that non-happenings, absences, can be causes or effects—the absence of the trolley continuing down the track is not a cause of the absence of the death of the five people bound to the track. This seems a minor matter, but Kamm is not consistent in her usage and this leads to complexities later.

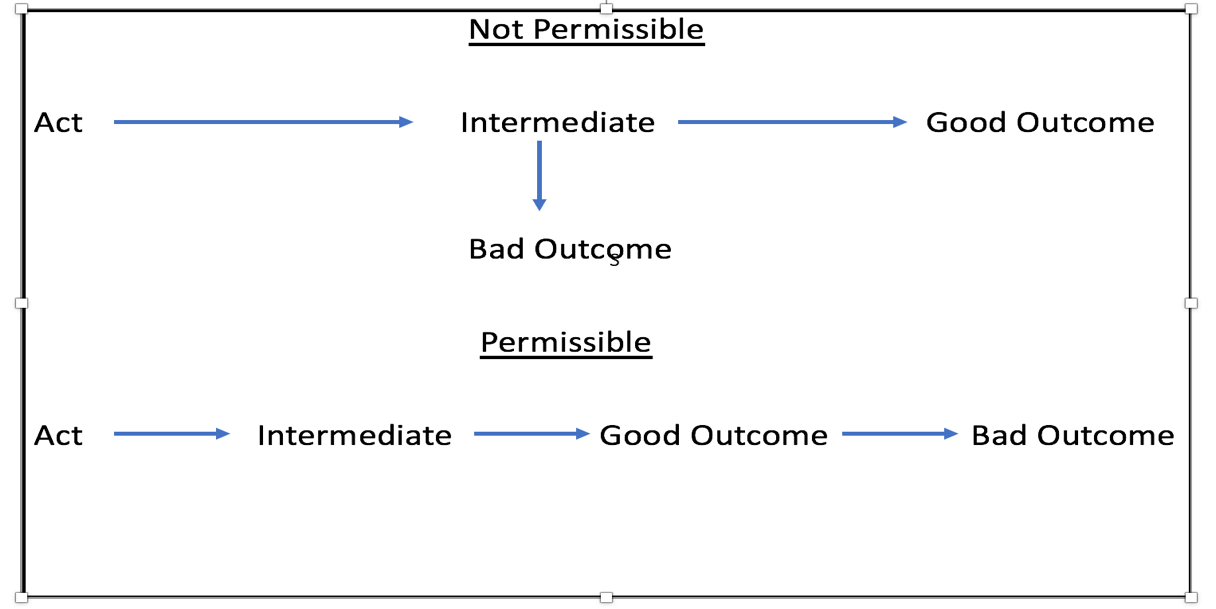


Figure 1: Kamm’s Principle of Permissible Harm

Thomas Hurka made two apparently telling objections to Kamm’s Principle. The first is that the Principle, as she intended it, entails intuitively unacceptable consequences. For example, bombing a munitions factory (in a just war) is impermissible if the explosion disintegrates civilians, but if civilians are killed only by fragments of the factory flying off from the explosion, the bombing is permissible. The second objection is that there is no explanation of the principle, no evident moral connection between these different ways of killing and moral permissibility. Kamm’s defense to the first objection was that she thought of similar examples first, and she was very much opposed to war crimes. Neither seems relevant. Her response to Hurka’s second objection is more interesting because it has a clear (up to clarity of “causes” and “good” and “harm”) formal structure.

To the second objection, developed in terms of a related case in which, before hitting people tied to the track, the trolley is stopped by a bomb some fragment of which kills a bystander, her response was that ﻿the “harm to the bystander…has no useful role in stopping the trolley.”[[2]](#footnote-2) No doubt in the case imagined, but what is the general idea? I take it she means that the harm to the bystander was not a means to the explosion of the trolley which “produces the greater good,” i.e., saves more people. Note that “produces” and “roles” are manifestly causal expressions here. That aside, the key question is what is a “useful role” of an event in bringing about another event. Kamm’s ethics necessarily engages issues of “actual causation.”

The literature on actual causation addresses the following problem There are given discrete possible events, each of which can occur or not occur. Essentially, events are variables with two possible values: happens; does not happen. There are given potential direct causal relations, or laws, specifying some of these variables as *potentially* direct effects of other variables. The values (happens; does not happen) of all of the potential direct causes of a variable determine its values uniquely via these laws. ­­ Specific values consistent with the laws are assigned to all variables: for every event variable, it is given whether it occurs or does not occur. The problem is to give a definite principle that decides in all such cases whether any arbitrary happening or non-happening (the value of a variable) is or is not a cause of any other happening or non-happening—and of course agrees with intuitions, which in difficult cases vary among intuiters.

Almost all theories of actual causation exploit counterfactual relations subject to a “no-backtracking rule”: Counterfactuals of events are treated like exogenous interventions (or as David Lewis would put it, “little miracles”) that break the causal relation between an event and its causes but do not alter that the causes occur. If cause C and its effect E obtain, then if E were not to obtain it does not follow that C would not obtain. No-backtracking is motivated by the following consideration. Suppose to the contrary causal backtracking is allowed and suppose C, E and B all happen and C causes E and B and there are no other direct or indirect causal connections between E and B. Then if B were not to happen, by backtracking, C would not happen and so E would not happen. B would thus seem to be an indirect cause of E, which is entirely wrong.

No-backtracking fits nicely with part of Kamm’s Principle. Suppose a bad side-effect B of a causal sequence leading from an act A to some good outcome E is an event that is an effect of some other event intermediate in a causal sequence between A and E. By no-backtracking, if B were not to happen, A and E still would. That is a sense in which side-effects have “no useful role” in bringing about E from A: if the bad side effect had not happened, the act and its good effect would still have happened by the same causal pathway from A to E. But the same no-backtracking interpretation of “no useful role” does not help to distinguish the permissible from the impermissible. The bad outcome in the lower diagram in figure 1—the bad effect of the good outcome--likewise plays “no useful role” in bringing about the good outcome, and for the same reason.

The bad outcome in each of the two diagrams is caused by the act and does not cause the good outcome. In neither diagram is the bad outcome a “mere means” to the good event. Instead, in both cases the bad outcome is an effect of a means –the steps in the causal chain, or part of it--from the act to the good outcome and beyond.

Hurka’s question lingers about Kamm’s PPM: why should the differences in causal structures in figure 1 mark a difference in moral permissibility? Kamm’s response is no more than a repetition of her principle in another instance, which I will pass on.

Recall that she claims the bystander dying from a fragment from the exploding trolley has “no useful role” in obtaining the good outcome—stopping the trolley. It is not a means to anything good. Side-effects, however predictable, are not means. Her insistence that a harm is permissible if it is caused by a greater good, and otherwise not, cannot be defended by a moral prohibition on doing lesser harms to bring about greater goods. She has no other argument.

Dispense with the trolleys and explosives and such. Suppose two cases. In one case , via an intermediate, I, act X causes a good G which then causes a lesser harm H. In the other, act X’ causes the intermediate I which causes both G and H. Or suppose by different mechanisms one and the same act X'' causes G and also causes H. There are no other morally relevant differences between the cases, and the effects of the actions are known to the actor. Would you say X is permissible and X’ and X" are not? And if so, why? As Kamm frames it, the whole elaborate Trolley Problem mystery comes down to these questions.

There is a version of Kamm’s account, one I doubt she would have approved. While causal counterfactuals do not backtrack, *impermissibility does backtrack over causal ancestry*. Events have multiple causes, some of whch are relatively unchanging (like the oxygen in a room) and customarily relegated to context. Suppose in context C event A is sufficient for E to occur but C alone is not. If doing E directly would be impermissible, then if A causes E in this way, doing A is *pro tanto* impermissible. The Modified Principle of Permissible Harm, as I will call it, is this: *if doing E would be impermissible, then doing A is pro tanto impermissible unless on every actual causal pathway from A to E there is an event whose goodness outweighs the badness of E.*

In concert with Kamm’s uncertainty over whether preventions and absences are causes, there are at least two readings of this proposed Modified principle, one in which the events on the “actual pathway” must all be happenings and another in which some such events can be not- happenings. I prefer the broader reading, allowing not-happpenings as causes and effects. It is bad to push a fragile person hard enough to cause them to fall. But if such a push were necessary to save them from being struck by a train? That is a bad outcome (the person falls) preceded by a good not-happening (the person is not hit by the train) preceded by a bad action (pushing someone). If not-happenings were not allowed in the calculus, the push would be impermissible according to the Modified Principle.

The Modified Principle, and so far as I understand it, Kamm's moral framework, would not allow hurting someone's feelings even if that were a necessary first step in a process to save all life on the planet. And so I reject it. But there is a banal point to the Principle, and banality after all is the price of success in philosophy. The Modified Principle of Permissible Harm might be seen as a constraint on consequentialist moral theories: the moral valence of consequences depends on the harms and benefits of events in their causal ancestries. Of course there are complications I will not go into, for example how multiple good events on the same actual pathway that are individually less weighty than the bad outcome might be aggregated to compare to one or multiple bad outcome, and similarly when an act has multiple good and bad outcomes. Something stronger can be imagined if one is permitted to add up the goods and bads of events along all pathways from A to E. How to measure that is a problem for all consequentialist moral theories.

1. **Swerving and Deserving**

Confronted with Judith Thomson’s famous violin player example, Philippa Foot contrived an escape. She laid great moral weight on whether a process has been initiated, or merely continued, or diverted. She distinguished between a process that has been stopped, after which a new process is begun, and a process that has been stopped, after which the same process is continued. She claimed the moral importance of the distinction is that whoever knowingly initiates a process bears presumptive responsibility for its outcome, but stopping and then starting can be continuing the original process, not initiating a new one, and neither need diverting a process to a different outcome be a distinct process. Interrupters and diverters bear no responsibility for the outcome of a process that continues after their interruption.

The metaphysical bite on morality is this: Foot held that, other things equal, it is morally worse to kill more people than fewer, but it is impermissible to initiate a process that one knows will kill the innocent, although it is permissible to allow such a process to continue if one has not initiated it. “Negative rights to non-interference,” e.g., with living, trump “positive rights to goods and services,” e.g., with means to live. Thus she would exonerate disconnecting the blood donor from the otherwise dying violinist, the pilot who directs his falling plane to a less populated area, and the switchman who diverts the rushing trolley to a less populated track. They have not initiated processes, and so they have not violated negative rights to non-interference, which she held to be morally key. Leaving a man to die by the roadside in order to save five others is permissible if the leaver did not initiate the dying, but running over him to rescue the five is not. That would have initiated a process.

Foot’s arguments for her conclusions are puzzling. The puzzles can perhaps be overcome by a host of ad hoc assumptions, losing plausibility with every addition. I start with the familiar trolley.

**Foot on the Trolley**

Five people are tied to a track down which a trolley is rushing. Other things equal, the trolley will kill them all. There is an intersecting track on which a single person is tied. A switchman knows all this and can divert the trolley. The switchman diverts the trolley. Foot says the switchman does not bear moral responsibility for killing the single person because diverting a process is not initiating it. Reflect on that.

What if the sidetrack had the five tied down, and the maintrack had but one. Switching the track would still not be initiating a process. Would that excuse the switchman from killing the five, or would the numbers count? Is not initiating a get out of jail free card? The best I can do on Foote’s behalf is something like this:

*An act causing a harm is permissible if: a greater harm would be caused by any of the possible alternative acts, and the act is not the initiation of a process.*

Taking this principle as an obligation rather than a morally neutralizing principle, we obtain consequentialism with a codicil about initiating processes.

If the switchman stopped the trolley, saving five, but sent a new trolley down the track with one person bound to it, that would presumably be initiating a new process, for the outcome of which the switchman would be morally responsible. What if the switchman set a new trolley at the track intersection so that it is bumped by the first trolley, stopping the first trolley, but the collision sets the new trolley is on a course to roll over the single person tied to the sidetrack? Presumably, that is not permissible because the switchman initiated the process, or did he?

“Initiating” is tough. Suppose that after the “diversion” the trolley runs over the single person and then the switchman turns it back to the track holding the five. Even on Foot’s grounds, the switchman is morally responsible for killing the five. But is the second of the two switches, but not the first, an initiation? Suppose so. Then we can imagine a whole sequence of diversions, away, towards and away, etc., from the five. So what is the principle here? An even number of diversions is an initiation, but an odd number is not? Are all of them diversions? This appears to be morality by numerology.

Foot is not concerned with praise or merit. One wonders nonetheless. about the flip side of Foot’s principle. What if the trolley is loaded with supplies that could feed a starving group living beside the side-track, but which, undiverted, will go over a cliff destroying the supplies? Suppose the switchman knows this. Does the switchman deserve no moral credit for diverting the trolley to feed the hungry rather than letting the supplies go to a bad end? Is the diverter who initiating nothing praiseworthy for the diversion? One would think. But then is the initiator who sent the trolley full of supplies towards the cliff also praiseworthy when the trolley is diverted to feed the starving because he initiated the process? Should we say to him: Whatever your intent, you did a good thing? Or should we say: you did a bad thing, but someone else turned (literally!) what you did into a good thing?

**What is a Process?**

Judith Thomson imagined someone hooked to a violinist interminably for the violinist’s life support. Thomson argued that it is morally permissible for the someone to disconnect herself, killing the violinist. Foot’s problem is to explain why this is permissible killing. Foot’s answer is that, in disconnecting, the someone is not initiating a new process but only allowing a process to continue, one the disconnectee did not initiate but which will kill the violinist. So initiations are tied to distinguishing potential processes. Consider some cases:

**The Electrocution (a version of the stopped trolley).** A, who is innocent of any crime, is about to be electrocuted. C has set up the electrocution and started the current. B knows this and pulls a switch stopping the current. After a short while B throws the switch again, current returns and A dies. Same process or a different one? Is B morally responsible for killing innocent A? Suppose B's first action only stops the current for a minute after which it resumes and kills A. After the minute, is the current flow the same process as the one C initiated or a different process. You can of course imagine a trolley variant.

**The Electrocution, b.** The source of current when B throws the direct current switch is different from the source of alternating current C used.

**Three Little Pigs.** The wolf is at the open door of the first little pig. The second little pig closes the door shutting out the wolf. The third little pig opens it again. The wolf enters and eats the first little pig. Did the third little pig initiate a new process or not?

**AIDS**  A is infected with a self-replicating machine, the HIV virus. B gives A drugs to halt replication of the virus. B stops the medicine and subsequently A dies. The virus particles in A’s body at the time of death are all distinct from the virus particles in A’s body when B stopped the medicine. Same process as if B had never intervened, or not?

**Time Delay Bomb.** A bomb has a timer set to go often in ten minutes. Person B stops the bomb for 10 seconds, resetting it to go off just when it would have without the stoppage. The bomb goes off at the time it was originally set to go off. Same process or not?

And so on. We are asking when realizations of two potential processes involving different potential facts would be the same. The answers are not clear. Identity of physical constituents will not suffice if you think Electrocution or AIDs each involve a single process. Except in the time bomb case, there is no (trans possible world!) identity of any events in the interrupted and non-interrupted cases after the interruptions.

If we are tempted to say the process that kills the violinist is one and the same before and after the disconnection, I can think of two reasons. One is that there is an underlying causal process (the disease development) that is one and the same in the violinist before and after the disconnection. But that merely reduces the issue to another just like it: when is the interrupted underlying causal process one and the same before and after disruption? The other is that in the violinist it is the same *kind* of process before and after and in the same body. We have a phrase for that, the same “disease process.”

We can distinguish processes up to beginning and end, and space-time differences, and up to differences of non-relational properties of events in the processes, but that’s about all. Spatotemporal continuity is not necessary according to Foot’s treatment of the violin player problem, where a process stops and another (or the same!) begins later, and similarity of property kinds is plainly not sufficient. If someone had been cured of HIV and then reinfected, we would not think the virus replication after reinfection was the same process as before the cure; we would think it only a process of the same kind.

Perhaps Foot would draw the identity criteria for processes still more narrowly, so that a suffcient condition for two (potential) processes to be the same is that they are initiated by the same human act of intervention. But that would make her argument twice flatly circular: identifying same or different processes by initiation and identifying initiation or not by same or different processes. Moreover, it would require a implausible individuation of actions, contrary to ordinary usage. Flipping a switch can turn on a light *and* lock the door,

Perhaps unintentionally, Foot has proposed a mereological problem: what are the identity criteria for processes? The problem is not entirely new. It arises for example in criticisms of appeals to computational or cognitive processes in the philosophical literature on psychology,[[3]](#footnote-3) We have only vague criteria for the mereology of potential processes having to do with similarities in proximate stages and space-time relations. If Foot thought that moral assessments can turn on finer criteria for identifying processes, they need to have been given. Without them, her moral distinctions on killing versus dying are so much ad hocery.

1. **Wild about Harry**

Many latter day philosophers want to save morality from two things: Newtonian science and Neuroscience. Newtonian science is said to be deterministic (even though Newtonian theory is not): whatever happens is compelled to happen by things that happen before. Moral responsibility for an act presumes that the actor could have acted otherwise, or so we usually say. Except in matters of negligence, moral responsibility also requires a degree of intention. Given what happened long before the act, the actor could not, according to Newton science, have acted otherwise, and according to Neuroscience, could not have intended otherwise. Past matters out of his control determine what one intends to do and what one does. Hence no one is morally responsible for anything. Increasingly, neuroscientists are building the case that the molecules of our nervous systems, not our souls or our thoughts or our deliberations, are what fundamentally determine what we think and feel and do. The states of our molecules are in turn compelled by their physical interactions with one another and by energies delivered to our sensors: eyes, ears, nose, tongue, muscles and skin. We could not desire or do otherwise than what our molecules compel moments as and before we decide or move. These are the premises of “the problem of free will.”

Already at the beginning of the 20th century William James, who was at once a philosopher, a psychologist, and a physiologist, saw what was coming from neuroscientific discoveries. James’ solution was that he was happier believing that he and others have free will, and so he did. Consistency be damned. Thus the philosophers’ problem of compatibilism: how to make room for moral responsibility in an imaginary, deterministic, Newtonian world or in an actual one where the course of our lives is cast by molecular interactions. And how to do it in a better way than James did.

Our world is not Newtonian at bottom, but it seems so at the top, in our everyday lives where morality matters. So for the sake of play, let us assume determinism, even for human thought and felling and action. The openings for saving moral responsibility then come to fiddling with answers to these questions: What is done in an act for which the actor is responsible? What does it mean that the actor “could have acted otherwise”? And is the possibility of doing otherwise necessary for responsibility?

“Acts” is vague. It is better to focus on “does,” meaning what an agent brings about, causes, for that is for what he is, or is not, morally responsible. One is not morally responsible for moving one’s arms and hands, for that movement has in itself no moral qualities. But one can be responsible for what moving one’s hands and arms brings about in a particular circumstance, e.g., someone dying from a bullet fired from a pistol held in a hand with a trigger pulled by a finger.

Harry Frankfurt argued that moral responsibility for doing something does not require the possibility of not doing that thing, and so fails the argument from determinism to the universal absence of moral responsibility, since the argument requires that no one is morally responsible for what he does if he could not have done otherwise. (Philosophers loved the effort. Frankfurt’s article has more than 2000 citations.) His best example, which he attributes to Robert Nozick, is this: Jack makes a decision to shoot Sam and does so. Black lurks. If Jack had not decided to shoot Sam, Black would have (never mind how) manipulated Jack’s brain to change Jack’s decision, so that Jack would then have shot Black. Jack, it seems, could not have done other than shoot Sam. But because Jack did in fact decide of himself—without Black’s actual intervention--to shoot Sam, and did so, Jack is morally responsible for shooting Sam. Hence, the possibility of doing otherwise is not *necessary* for moral responsibility for what is done. Frankfurt has other examples, necessary to fill out a philosophical essay, but the Black/Jack/Sam backup is the one he thinks least contestable.

On its face, Frankfurt’s example begs the question. Frankfurt acknowledges that the role of Black, determining, if Black acts, what Jack intends and does, can be played by “natural forces involving no will or design at all.”[[4]](#footnote-4) But if we suppose such natural forces determining Jack’s intentions prior to and atthe moment were to play the role of Black, then Jack’s intentions are only cogs in Nature’s machine. If the powers of Nature act on Jack’s intentions at that moment, on the Newtonian science presumption they act at all moments before and after the moment Frankfurt envisions for Black’s intervention. Jack could not have done otherwise, but also he could not at any moment have had an intention to shoot, or not, that was not determined by Nature. Why then, on the Newtonian hypothesis, is Jack more morally responsible for Sam’s death than, say, a meteorite would be morally responsible for landing on Sam’s head? That is exactly the problem of free will.

Frankfurt wrote in another footnote: “any plausible view of decision or of action will allow that reaching a decision and performing an action both involve earlier and later phases, with causal relations between them, and such that the earlier phases are not themselves part of the decision or of the action. The example does not require that these earlier phases be deterministically related to still earlier events.” But if it is supposed that Jack’s decision is not determined by “earlier events”, then Frankfurt denies the deterministic premise of the whole argument, and if, on the other hand, Jack’s decision is so influenced, and those earlier phases are determined by Nature’s laws and earlier states, then Frankfurt must assume that Jack is morally responsible for acting from intentions he could not have not had. Cutting through it, Frankfurt’s position is James’ position, but without the candor.

1. **Reparations and Counterfactuals**

 “Reparations—by which I mean the full acceptance of our collective biography and its consequences—is the price we must pay to see ourselves squarely.”

--Tai Naisi Coates

A reparation can be a payment of some kind in compensation for harms done, or a return of holdings transferred unjustly. Reparations for historically unjust takings or damages come in ­­the large and the small. Objects in British museums originally taken from other lands are returned. Reparations between nations have been going on at least since the Napoleonic wars. Sometimes they last a long while: German payments for reparations for World War I lasted into the 1950s. Internal reparations have an American history. Sioux tribes were paid for the taking of their lands in violation of a treaty made a hundred years previously; Japanese, mostly American citizens, moved to concentration camps in the United States during World War II, were paid $20,000 in partial compensation for the harm done to them in contravention of the constitution.

There are large issues of reparations still pending. African Americans, some of them, including Coates and Randall Robinson[[5]](#footnote-5), want reparations for slavery; American Indians, some of them, want reparations for the European taking of North America; Palestineans want the return of the former holdings of their parents or grandparents. The word “justice” has been appropriated by philosophers to mean almost any moral relations they endorse, but its common meaning is about equitable, fair, compensation for injuries done to one party by another. In such cases, where the injury is ancestral, how can we begin to understand, even to think coherently about, where justice lies?

Coates recites some of the evils of Jim Crow for African Americans, but the case of American Indians is arguably worse. There is little question that on average American Indians, especially those living on reservations, do not fare well in health, income, longevity or other social measures, compared to their non-native neighbors. For example, unemployment among adults living on the Blackfoot reservation in Montana is close to 70%. Poverty rates for off-reservation Indians run to 26% and half again that on the reservation. Similar but less dramatic discrepancies hold between African Americans and the rest of the U.S. populations.

These discrepancies emerged respectively from the Indian Wars, slavery and the many versions of Jim Crow. For slavery, Jim Crow, the genocide upon American natives, who among the living owes what to whom among the living is made morally complex by the passing of generations, the vast immigration to America—for almost one quarter of Americans both parents were born elsewhere—then mixing of peoples’ descent, and the innovations and productions in the interim between then and now. The slaveowners are thankfully dead, as are the Indian fighters. There are living politicians and voters who endorsed and implemented Jim Crow, and some who would still do so far as they are able. There are the injustices to particular persons by particular persons that can still be identified and ought to be condemned and where possible prosecuted, civilly or criminally. Butthat leaves everything and everyone else.

The very idea of a harm implies a contrast—people are worse off because of some cause than they would have been without that cause. The difficulty is to assess the relevant contrast: how would someone, or some class of people, have been without that cause? What would have happened to them if that cause had not happened? There are silly arguments that almost none of the African Americans now alive would be alive if slavery had not happened, so nothing is owed them. That is not the point; the concern is with a collection of people, living now, who have, as Coates says, an historical biography. To assess the harm to people existing now of something done to their ancestors, requires comparing how a class of people “like” those living now—and here the “like” is by genetics--would have fared now if whatever had been done to the ancestors of members of the actual living class had not been done. But there are many ways not to do something. Something else would have been done, or happened, and a great many something elses are possible. To assess the harm of actual events in the past to those living now is to choose one of these alternatives that did not happen in the past and to trace the differential consequences for the present. It is an exercise in counterfactual history. It is not merely a comparison of how well off one class of people is with respect to another class of people; it is a question of causality, evil doing, and the inheritance of responsibility.

Consider the Indians, the American ones. Perhaps we should try to compare the aggregate conditions of native Americans now with the conditions they would have had as a group if the Europeans had never invaded. The America of 2019 is not the America of 1719, or 1819, or 1865. Social changes aside, there are roads, electricity, computers, the web, trucks and cars and planes and railroads, industries, huge farms, wells and reservoirs, oil and gas and pipelines, medicines, vaccines, cheap food, and more than can be listed, almost all produced by non-natives. The benefits consequent from conquest are not near to evenly distributed, but they are distributed. Reservation citizens live on average a decade longer than the anthropologists’ estimates of the life expectancy of hunter-gatherers. The Indian Health Service says the life expectancy of a new baby born on a reservation today is still better, but five and a half years less than the rest of the American population. But such improvements in comparison to the state of American Indians before the European invasion ignore the possible opportunity profits. What would native Americans have developed in three hundred years to benefit their living descendants if the Europeans had traded and informed but not invaded?

And by now, off the reservation, who is and who is not a native American, and why? I have three grandchildren who are legal members of the old Cherokee Nation. And yet, the female among them satisfies the criteria for membership in the Daughters of the American Revolution. My get are Indians, but the Trail of Tears cost them nothing I can identify.

The case of African Americans is similar, but of course different. African American slaves lost their bodies, their children and their lives; after abolition many of them lost their lands. As a group their children and grandchildren and great grandchildren suffered awful, immoral inequities. And as with native Americans, many, descendants of African slaves in the United States have significant European ancestry. In my city, Pittsburgh, the European allele proportion among self-identifying African Americans has been estimated at 22%[[6]](#footnote-6). There is some reciprocation, about 12% of the self-described white people of South Carolina and Louisiana carry African genes likely mostly inherited from slaves.[[7]](#footnote-7) But racial disadvantages do not track relative proportions of gene sources; they better track appearance and complex circumstances of slave and post-slave era ancestry.

In judging the harms to African Americans consequent from slavery and Jim Crow, we need a contrast: how would they as a class have been now if history had been otherwise? Opportunity costs for descendants of slaves are almost impossible to estimate, because there was not just one episode of injustice but a whole series of them. A comparison case (what conditions would people like them live in now if their ancestors had not been enslaved, discriminated against (when?), or compensated earlier (when?)?) is ambiguous. One might estimate opportunity costs by the woeful conditions now in Liberia, founded by American freedmen and women in the 19th century, or one might estimate by the current state of the complement class of Americans of purely European descent, or by value of the properties of the slave owners. What is Monticello worth now?

But suppose all of these problems could somehow be solved, all these accountings of comparative disadvantages and memberships done and settled for groups that have been historically wronged. What moral significance would that have for who owes what to whom now? It seems there is a causal principle involved. If person A wrongs person B, and in consequence person C benefits from A’s action, then in many cases we think C has gained the benefits through immoral, unjust processes, even though C did not harm B. The simple cases are obvious: A robs B and gives half the proceeds to C. C owes B whatever he received from A. But our present cases are much more complex. A harmed the ancestors of B directly, not B. In doing so A benefitted the ancestors of C directly, which eventually benefitted C and also B, but C much more than B. What, if anything, does C now owe to B?

There are several ways of looking at this. One is Adamite morals, which seem to be shared by Coates. Adam did an original sin and all of his descendants are morally culpable for it. In the contemporary world the parallel version is that Europeans enslaved Africans, practiced Jim Crow, and devastated Indians, and current Americans who are neither of native nor African descent inherit the moral blame. The living Americans had no control, could not prevent or mitigate the actions of people who lived before they were born, but they are held responsible anyway. They have what Thomas Nagel calls moral luck, bad moral luck.

Luck, however, might seem to provide a different moral framing. Some of us are born beautiful, some plain, some ugly. Some of us are born brilliant, others dull-witted. Some of us have extraordinary memories, most of us have ordinary ones. Some of us are born athletic, others clumsy. Some of us are reared in rich environments with devoted, caring parents. Some of us are reared in harsh or cruel environments surrounded by neglect. Some are born black, some white. That is luck, good or bad. We grade people by manifest qualities caused by these underlying genetic and environmental conditions: we are attracted to attractive people, we put athletic people first on the team, we defer in certain kinds of judgements to those we think smarter than us, we avoid marrying the ugly, the poor and the stupid if better candidates are available, but except in special cases we do not hold others *responsible* for the conditions of heredity and the environment in which they are reared and that are the causes of their virtues or want of them. No living very smart people are responsible for the comparative dullness of most of their neighbors, nor are their neighbors, and no beautiful people are responsible for the fact that most of their neighbors are plainer, nor are the plain for the beautiful.

One may take the view that, similarly, African Americans and American Indians, on average, are simply born and reared less fortunately than Americans of European descent. A comparative few living European Americans may be in part significant causes of the social aspects of that misfortune, but most are not. No one born white is responsible for the fact that someone else is born black, any more than that new person is male or female. It is just, as we say, luck. Douglas Stalker emphasizes that what is meant by “luck” is vastly unclear. Getting hit by a meteorite is bad luck, being in the wrong place at the wrong time through no fault of your own or anyone else’s. And that is perhaps as close as we can come to a gloss on luck. But is it just bad luck if your great great great grandparents were enslaved, your grandparents were denied jobs, and your parents could only afford to live in a neighborhood with terrible schools? We say Trump was lucky to be born to a real estate multi-millionaire—he didn’t earn his inheritance. Conversely, is a black child born in Mississippi to a poor family just unlucky? In an obvious sense, not. There could have been different institutions, a tax system that does not allow inheritance, a national school system with equal resources for all, and so on. But given the institutions, it seems being born into one condition rather than another is a matter of luck, and yet not a lottery, not chances, nothing with probabilities for the conditions in which anyone of us was born. But luck will not do.

The case of the inheritor of ill-gotten goods is enough to show that one need not be responsible for someone’s hardship—their bad luck if you like--in order to owe them something to ameliorate it. But what if the robber’s child had invested part of the gains ill-gotten by his father in industry, technology and public goods that benefited the child of the robbed? What if the investments benefited the child of the robbed more than if the robbery had not happened? Would the child of the robber still owe some compensation to the child of the robbed? The child of the robber did no apparent harm to the child of the robbed or his parent. No rights were violated by the child of the robber and utility was improved, even for the less advantaged. And yet even in this scenario, which is not the actual one, in an obvious non-material way the child of the robbed was harmed: he lost the power he would have had to risk as he might have chosen the inheritance he would have had absent the robbery. For his better or worse, he was entitled to that power.

Now replace the children of the robbed with their descendants, several generations on, with repeated robberies in between. We can suppose we know what the child of the robbed lost to the child of the robber, and what the alternative consequences for the child of the robbed would have been if the robbery had not happened. We can even extend our imagination for generations. That is the pleasure and the deception of imagination. But generations later, the counterfactuals are so ambiguous, their respective consequences so intricate, emmeshed and unknowable, the mixtures of peoples so complex, that just reparations are beyond human capacity to know. Taxing the innocent in recompense for the harms done to by others, or taxing them out of proportion to their benefits from harms to others they did not do, is also unjust. So is giving compensation to those who, like my grandchildren, despite having ancestors who were harmed, are not themselves harmed in consequence of that history. In our ignorance, any step we make to compensate for the evils done by some of our ancestors will almost surely be unjust to a great many.

The institution of nations invites collective guilt that practice has taught wise nations to resist. The Poles were governed by a dictatorship that incurred a huge foreign debt, about half of which was justifiably forgiven by western banks after the dictatorship was overthrown. The citizens of Poland had no say in contracting the debt. After the awful consequences of an impoverished Germany paying reparations after World War I, western powers learned not to force them again after World War II on Germany or Japan—and in Germany rather the contrary thanks to George Marshall’s plan. But what do we say about citizens of a continuous, quasi-democratic government that ancestrally has done evil to one group to the benefit of others?

It is bad luck to be among a group that collectively has done some evil one opposed or had nothing to do with. Those who opposed the Kaiser’s war, and those who were born after it was over, still carried the burden of paying taxes for World War I reparations. A large fraction of Americans were not born or were children or were not Americans when Japanese in America were put in concentration camps, but they nonetheless paid taxes for the reparations. Others, publicly the governor of Colorado at the time, and privately many others like my father, were appalled at the internments but helpless to stop them. Is there any tenable just moral framing of reparations to Japanese Americans, reparations that at least had the advantage that compensation could be paid directly to those who were harmed? Is there any tenable moral framing in which Americans who had no hand in slavery or in Jim Crow or the genocide of American Indians, indeed who abominate all of these, owe reparations to African Americans or to American Indians?

Perhaps there is this. Citizens have an interest in promoting harmony within their society, reducing rancor and resentment and envy. The historical biography of the United States has left all three in abundance. Reparations would reduce them. That is a causal conjecture. I do not know what resentment and rancor and envy reparations to American Indians and Africans would produce among the rest of the population, possibly for reasons considered above, or how much it would be reduced among those receiving it. No one does, but I would guess a lot in the first disjunct, and depending on the size of the reparations, not much in the second.

There is a romantic view of The Nation that holds that its citizens are responsible for whatever has been done in its name. But why, by what moral insight? It cannot be plausibly claimed that Americans who do not want to share moral responsibility for its history are free to join some other country. Practicalities aside, I cannot think of a nation on this Earth for whose history I would want to bear moral responsibility, save possibly Costa Rica, and there is not room there for many of us. Nor is it good precedent. The victors in World War II did not hold the German people, or the Japanese people, or the Italian people, responsible for the horrors that were done by their nations in their lifetimes. The Polish people were not held responsible for much of the debt incurred by their nominally communist rulers, and that seems right because they had no power to control what that government did. But neither do living Americans have the power to control what their ancestors did.

Coates offers vivid and compelling descriptions of the damages of slavery and, especially, Jim Crow, but his answer about responsibility and debt is a thoughtless slogan—we are all who are not African American are responsible and owe a debt because of our “collective biography.” The most direct sense I can make of that is purely evil. The real historical examples of people held responsible for the actions or alleged actions of their ancestors are all horrible. Millions of Jews killed in pogroms and by the Third Reich, justified by the alleged role of their ancestors in the crucifixion of Jesus. The practice of Inquisitors of holding people responsible for the heresies of their parents or grandparents. That the harms of the Indian Wars, slavery and Jim Crow were real, not imagined, does not justify claims of original sin, or group responsibility, or the condemnation of descendants, the kind of terrorist moral vision God imposed on the descendants of Adam and Eve.

Which leaves unresolved what the fortunate owe to the unfortunate, not because of any violation the fortunate or their ancestors have done, but simply because of the bare facts of differences of well-being, of opportunities to political positions, to education, to employment and respect. That is an important question, but it is not a matter of reparations.

1. **Moral Voting**

The Jehovah’s Witness sect, now with over 8 million adherents, was created in Pittsburgh, so it is no surprise that witnesses occasionally appear on my doorstep. They come with sincere proposals for morals, among them that abortion and homosexuality are immoral, and with a sincere general proposal, which is to conform my behavior to the developing ordinances of their cult, and with the hope that I will find their proposals reasonable. I in turn try to engage them with different proposals that I sincerely hold and think they should also upon consideration, for example that everyone should have the greatest liberty compatible with a like liberty for others. They show no interest in my proposals, in fact they seem perplexed. The duller of them linger for a while to argue with me; the brighter leave immediately. Which brings me to Thomas Scanlon’s account of the proper method in ethics.

Metaethics is about what ethical claims mean, how they can be “justified,” and how ethical reasoning ought to be conducted. Thomas Scanlon’s writing on metaethics has become a verbal icon for the enterprise. Scanlon has two books elaborating his views, *What We Owe to Each Other* and *Being Realistic about Reasons.*I n *What We Owe to Each Other*. Scanlon’s stalking horse is utilitarianism. The many variants of utilitarianism share this much: they are voting theories, and so is Scanlon’s alternative, absent some key features. In utilitarianism, every sentient creature, or at least every human, has a stock of interests. Properly scaled, those are voting stocks. Anyone’s action predictably affects some of the interests, or the well-being, of some creatures. An action is permissible only if, among the alternative available actions, it maximizes some aggregate of the interests of all who may be affected by any of the available actions, so far as the actor can estimate. That is the utilitarian schematic for how the affected stocks are to be weighed in moral assessment of action. The specifics are contentious. How are pains and pleasures and sorrows and joys to be compared across persons, let alone persons and other animals, so that they can be aggregated? That issue aside, suppose we have a number for each human state of well or mal being that takes account the diverse interests of each human being. Should one try to maximize the total, the average, the median well-being over all persons? Minimize the variance? Maximize something under a constraint (e.g., a bound on the variance, or the Difference Principle)? Count only changes to an individual’s interests that are above a certain threshold? Order interests by type, higher type trumping lower, as one might read Mill to propose? The utilitarian literature from Bentham on has this virtue: it takes these questions seriously and offers answers, not the same answers, of course. These are philosophers after all.

Scanlon’s is a different voting theory. For any action one might do, the deliberator and others may have reasons, conscious or not, why it should or should not be done. The best of those reasons is decisive. Reasons are not to be aggregated; the best reason wins, no matter how few people have it. Which reasons count? Scanlon offers only this in general: We should seek to act only in accord with principles that other people could not reasonably reject if they too sought principles others could not reasonably reject. A reason has moral bearing only if it is an application of such a principle.

One catch to Scanlon’s general schema for moral principles is “reasonably,” which in this context is particularly flabby. We have pretty clear notions of reasonable views in mathematics, less definite notions in science, but in ethics “unreasonable” is more a slur than a methodological complaint. Does Scanlon imagine a negotiation about which principles meet his criteria, or a social survey to find nearly universal principles (they would be few to none), or does he imagine any principles that someone sincerely thinks others ought to share? In the latter case, utilitarian principles are among the contenders. If by the proper weighting of principles and reasons utilitarian principles and reasons are those that would be agreed to, then Scanlon is committed to utilitarianism, one step back.

So what then are the principles of ordering of reasons or principles, weighting the votes, and why? Scanlon does not say, only, examples aside, that the best reason wins, winner take all.. The basic elements of the theory are unspecified: by what clear principles are reasons to be weighed, and why, what counts as a reason, how are reasons individuated? If your action will impoverish me and cause me an illness besides, is that one reason or two? Scanlon doesn’t say, but in his voting scheme it matters Almost all you might want in a theory is unspecified. One would not want election rules so vaguely posted. The book has any number of appeals to quotidian examples where one would not consider global consequences, or global good, or aggregate harms and benefits. There are variations on old saws: If a broadcasting engineer is painfully and continuously injured by continuing shock during the broadcast of a sports game—say Argentina versus Germany in the World Cup--and the only way to stop his agony is to interrupt the electric current that is necessary to broadcast the game, shouldn’t that be done—aren’t the enormous sum of annoyances to the passions of millions of soccer fans outweighed by the one engineer’s acute pain? But what would be said in this kind of case by versions of utilitarianism in which what counts has thresholds, or versions in which there are layers of goods and bads that trump others? Should we not consider the number of people who might be killed in mad rages and riots were the television to go off in the midst of the game? In any case these examples can be bought cheap by either side. Being murdered is worse than not having children. If you met a person with a remarkably infectious, uncurable disease that renders all who catch it permanently sterile but is otherwise asymptomatic, and you could not isolate him before he spread it to the entire human population, would you kill him if you could? Perhaps the sincere, reasonable people would agree to a maxim that would forbid any such killing. I kind of doubt it.

Consider another side of the “best reason wins” voting rule. The president of a bank, say Wells Fargo just for plausibility, has software installed in the banks 70 million customer accounts. When activated, the software withdraws a penny a month from each account, for one year. The president reasons as follows: each customer has a trivial reason for me not to activate the software: it will cost the customer 12 cents. I have a much stronger reason to activate the software: it will make me $8,400,000 in a year. So I should activate the software. Perhaps there Is a maxim that no one should steal a penny from anyone. 18th century England sent thousands to desolate Australia for less.

If the aim is to articulate standards for correct norms, why trifle with mundane examples, unless one is doing moral sociology from an armchair? That question takes us to Scanlon’s more recent book, a defense of putting weight on such examples, and, more broadly, a defense of metaethics as a serious enterprise. Scanlon does not fill all the gaps his first book left, but he addresses two major ones. The claims of *Being Realistic about Reasons* come down to these: there are true normative principles that are not just about the best means to ends, and there is a method for discovering them. What is the argument? Scanlon claims that there are various “domains” of inquiry. Each domain has its own standards for seeking the truth in its domain. Mathematics has its methods, empirical science has its methods, and, lo, the framework of moral matters has its own. One domain may not contradict, or, presumably, undermine, the methods and conclusions of another. They are separate empires, contractually at peace. This last I call Scanlon’s Rule. He offers implausible parallels between set theory (Scanlon was a logician in his youth) and normative reasoning. Just as set theorists may debate and disagree about, say, Zorn’s Lemma, so metaethicists may debate and disagree fine points of how to form correct normative principles.

Can one seriously think that the reasoning in metaethics has the rigor of mathematics? I can’t. Scanlon’s thesis is that they share the same style, the same form viewed with sufficient abstraction. So, with sufficient abstraction, do science and Cargo Cults. The intellectual legitimacy of metaethics needs a better bolster. The crucial point is Scanlon’s Rule. Scanlon’s Rule is pure defense, a paper wall to keep out critics. Mathematics and logic may be immune to contradiction from physics (although Hilary Putnam once thought otherwise, and presumably Mill would have allowed the possibility, and certainly the status of geometry has been altered by physics—and the status of metaethics is what is at stake here), but ethics is not immune to contradiction from other “domains.” Is religion a domain? Theological reasoning is more like metaethics than is set theory, and theology most definitely intrudes on ethics and on metaethics. Empirical science may not directly contradict ethical or meta-ethical claims, but it can surely undermine them. Once upon a time it was widely thought that there are particularly evil people, sorcerers and witches, who had made contracts with the most evil entity, Satan, and should be killed. (Is “do what the Bible says” an ethical or a metaethical claim?—Dunno.) Science has convinced the civilized that there are no witches and no sorcerers and no Satan. Once upon a time, it was thought that living beings have a superphysical constitution, that their chemicals are not the ordinary, “inorganic” stuff, and that living beings possess an unphysical “vital force” that guides evolution. Science has convinced us (Tom Nagel perhaps aside) otherwise. Science bids fair to do the same with the Will, and Autonomy, and Agency, and as, and if that more fully comes about, the idea of true, moral principles will go the way of true principles of witchcraft.

So what about the methods of ethics? Scanlon’s is “reflective equilibrium,” I think first proposed in Rawl’s essay “Outline of a decision procedure for ethics.” Rawls imagined a panel of moral experts (much of his essay is about the qualifications for membership) who report on the moral statuses of sundry actions. The ethical theorist takes their pronouncements as data—putative moral facts—and attempts to form a general theory that accounts for them. Rawls allowed that on reflection one might reject a few of the experts’ decisions if accounting for them required excessive complexity in the theory, arbitrary exceptions and so on. The procedure came to be called “reflective equilibrium.” That is Scanlon’s method, with the panel of experts replaced by one’s own judgements and the judgements of those whose ethical perspicuity one respects. His explanation of the reliability of its data sounds very much like Descartes “clear and distinct ideas”: “In order for something to count as a considered judgment… It is necessary also that it should be something that seems to me to be clearly true when I am thinking about the matter under good conditions for arriving at judgments of the kind in question.” [[8]](#footnote-8)

I have no doubt that some very thoughtful people, no doubt Scanlon himself, form their moral principles in this way. I even think it’s a good way. But I have no doubt, either, that in many other “domains” something similar is often followed. It is general and vague enough to characterize both the process of Islamic jurisprudence and the quasi-Bayesian process often at work in science in which data are thought to come with probabilities of error and the sufficiently low posterior of a datum conditional on a hypothesis of sufficiently high probability is reason to reject the datum, or even to reject an entire set of measurements. But these examples are exactly the problem. In Bayesian statistics (and in some “rules of detachment”) one can prove that under specified, general assumptions, application of Bayes rule converges to the truth. One can do the same for modifications, perhaps even considered variants of the one I suggest off-hand above. In statistical estimation and machine learning (the latter of which Rawls, in keeping with the opinion of his time, announced was impossible) proofs are given that under very general assumptions search methods converge on the truth, and methods are provided for testing the assumptions. Nothing like that can be done for Islamic jurisprudence, and nothing like that can be done for Rawl’s decision procedure for ethics or Scanlon’s variant. That one can apply a vaguely specified procedure in a domain is no argument, no evidence, that the procedure finds the truth in that domain, or that there is any truth there to be found. The least attention to the world shows that the range of considered moral judgements is incompatible with any unified theory of morality. Scanlon will have to discard many of the moral judgements and principles of most people in the world. He should, but he should not claim that in doing so he is exercising a method for finding truth or agreement. Scanlon has only two responses. Those who want to (and do) burn mosques, or crucify Christians, or behead Jewish journalists, or do other atrocities are not in “good conditions” for such judgements; and that ethics and metaethics have their own standards for concluding what is true--outside standards and alien practices, however common, are irrelevant.

There is plenty of work for metaethics to do: systematizing vague strategies of inference—Nozick’s efforts were a good start[i]--finding and recognizing contradictions, figuring out how principles apply in morally difficult cases, contrasting misweighings of moral importance, finding agreements and disagreements in clarified moral perspectives, tempering ethical demands to human capacities, discovering how morality in its many variants came about, and so on, all without Scanlon’s truth claims. Scanlon’s redoubt is a parochial fortress, impenetrable to the forces of science or to the objections of the world outside its domains. .

[i] Nozick, Robert, "Moral Complications and Moral Structures" (1968). Natural Law Forum.Paper 137. http://scholarship.law.nd.edu/nd\_naturallaw\_forum/137

1. **Miracles: Taking Hume Seriously**

Contemporary secular philosophical commentaries take Hume’s problem of testimony to miracles as a mannequin to dress with theories of inductive inference. I will take Hume seriously in his own costume. For good reasons, among them the conviction of Thomas Woolston for blasphemy, Hume chose his words and his arguments carefully to defend against charges of Christian blasphemy and even atheism, so carefully that at points his intent in his essay on miracles from the *Enquiry* can be puzzling. In another work previous to the *Enquiry*, his *Letter from a Gentleman to a Friend in Edinburgh* addressing charges of atheism drawn from his *Treatise,* Hume’s defenses are plainly disingenuous. Hume addressed no New Testament testimonies, but his intent that his arguments apply to them is plain . In light of this context, I assess Hume’s tacit argument against New Testament miracles, considering what he could have known of the Gospels, and I defend his method against modern Bayesian criticisms.

1. **The Puzzling Paragraph**

Hume assailed religious conceits from at least three angles. He wrote a secular history of religions, arguing that monotheism descended from polytheism; he wrote more than one essay against miracles; and he wrote a dialogue critically examining the theological fashion of his day, Natural Religion. His chapter on miracles in the *Enquiry Concerning Human Understanding* aimed to close one path to rational conviction in religious claims. After arguments in the *Enquir*y that reports of miracles can (almost) never provide sufficient grounds for believing they occurred, there is a puzzling climax :

“So that, upon the whole, we may conclude, that the Christian Religion not only was at first attended with miracles, but even at this day cannot be believed by any reasonable person without one. Mere reason is insufficient to convince us of its veracity: And whoever is moved by Faith to assent to it, is conscious of a continued miracle in his own person, which subverts all the principles of his understanding, and gives him a determination to believe what is most contrary to custom and experience.”[[9]](#footnote-9)

Ignored in many commentaries on Hume,[[10]](#footnote-10) is the paragraph meant literally, facetiously, ironically, as a subtle insult to Christians, or despite its wording merely another affirmation of Hume’s wide theoretical skepticism? What does it say about Hume’s attitude toward Christian belief, or about what he wanted readers to think of his attitude?

Read literally, the passage says that miracles happened in the time of Christ, that they are the only reason to believe in the Christian story, but, in spite of having no rational grounds to believe in the testimonies to those miracles, many do so, and the determination to have and maintain Christian beliefs is a miracle in itself. On that reading, Hume could be preaching to a modern religious assembly.[[11]](#footnote-11) The paragraph is a warrant against charges of blasphemy.

I think most modern readers of Hume will, read “attended by miracles” as “attended by reports of miracles” or something like that, and take the last sentence to be a philosophical irony. But the last sentence can be read quite seriously as artful contempt. Hume had argued in the essay that there are (almost) never grounds for believing testimonies to miracles, but he did not argue that one cannot *experience* a miracle—in the case at hand, the miracle of one’s own faith. It follows from Hume’s arguments in the chapter on miracles that others have no rational grounds for believing those who testify to their own faith. On this reading, Hume is implying that everyone, even those who believe in Christianity, have no reason to believe the profession of others to believe in Christianity.

I think Hume meant his concluding paragraph to be equivocal, at once a palliative for his Christian critics and an expression of his disdain. I have no proof, scarcely an argument, but the paragraph at least prompts a wider look at Hume’s essay on miracles in the context of his time and ours. I begin with an episode that predates the *Enquiry*, but which is revealing both about Hume’s disposition towards the religious and his ability and willingness to dissemble.

1. **The *Letter from a Gentleman to his Friend in Edinburgh***

Hume’s contention in 1744-1745 for the chair of Moral Philosophy at the University of Edinburgh occasioned an exchange. Hume had by the time published only *A* *Treatise* *of Human Nature* under his own name. Opposition to his candidacy turned on religious implications of the *Treatise*. An anonymous opponent circulated an attack which reached Hume, who responded in a letter repeating the attack and its “Sum of Charges,” which were:

“From the preceeding Specimen it will appear, that the Author maintains,

1. Universal Scepticism. See his Assertions, *p.* 458,— 470. where he doubts of every Thing (his own Existence excepted) and maintains the Folly of pretending to believe any Thing with Certainty.

2. Principles leading to downright Atheism, by denying the Doctrine of Causes and Effects, *p.* 321, 138, 298, 300, 301, 303, 430, 434, 284. where he maintains, that the Necessity of a Cause to every Beginning of Existence is not founded on any Arguments demonstrative or intuitive.

3. Errors concerning the very Being and Existence of a God. For Instance, Marginal Note, *p.* 172. as to that Proposition, *God is*, he says (or indeed as to any other Thing which regards Existence) The Idea of Existence is no distinct Idea which we unite with that of the Object, and which is capable of forming a compound Idea by Union.

4. Errors concerning God's being the first Cause, and prime Mover of the Universe: For as to this Principle, That the Deity first created Matter, and gave it its original Impulse, and likewise supports its Existence, he says, This Opinion is certainly very curious, but it will appear superfluous to examine it in this Place, *&c*. *p.* 280.

5. He is chargable with denying the Immateriality of the Soul, and the Consequences flowing from this Denial, *p.* 431, 418, 419, 423.

6. With sapping the Foundations of Morality, by denying the natural and essential Difference betwixt Right and Wrong, Good and Evil, Justice and Injustice; making the Difference only artificial, and to arise from human Conventions and Compacts”,

Hume’s defense in his *Letter from a Gentleman* is that his views have long and legitimate historical ancestries, and that he is disputing arguments, not conclusions. But he never quite denies the conclusions alleged in several of the “Charges.“ In a striking example, he argues that his rejection of the first cause argument for the existence of God (charges 2 and 4) does not imply atheism because:

“.. even the metaphysical Arguments for a Deity are not affected by a Denial of the Proposition above-mentioned. It is only Dr. *Clark*'s Argument which can be supposed to be any way concerned. Many other Arguments of the same Kind still remain; *Des Cartes*'s for Instance, which has always been esteemed as solid and convincing as the other.”

Hume thus saves a pretense to theism by citing arguments to which he gave no credence at all, and in the same words opaquely condemns them as arguments “as solid and convincing as the other.” What other? The very first cause argument he had already destroyed? Hume may have been a bit plump, but his quill pen could dance.

1. **Miracles and The Resurrection**

The 18th century had no shortage of miracle claims. In France, the Jansenist sect defended itself against conventional Catholicism with multiple claims to miracles, most famously the miraculous healing of Pascal’s niece, Margarite Périer, with a holy thorn. In Britain, John Wesley, the founder of Methodism, claimed sundry miraculous healings. And, of course, there were the enduring Biblical claims to miracles.

Hume’s argument against giving credence to miracle reports is of two kinds, the credulous character of people generally and particularly of those who report miracles, and the improbability of miracles when assessed against the regularity of our experience. Hume condensed the second argument in a challenge: which would be more miraculous, that a putative law of nature was violated or that alleged witnesses misinform us?

To take an example to which Hume alludes, Methuselah is reported to have lived 969 years. We can in principle count the number of people known to have lived more than 900 years (0), and the number who are known to have lived fewer (millions); we can count the number of people of whom it is claimed lived more than 900 years (1). We have then a putative law of nature—humans live less than 900 years—with millions of cases, and a putative counterexample. Hume would claim that the weight of evidence for the law outweighs the weight of evidence provided by the Hebrew testament report. Nowadays, Hume’s procedure is called “outlier rejection.” But he thought no elaborate counting is really necessary for the miracles of the Old Testament:

“Here then we are first to consider a book, presented to us by a

barbarous and ignorant people, written in an age when they were still

more barbarous, and in all probability long after the facts which it relates, corroborated by no concurring testimony, and resembling those

fabulous accounts, which every nation gives of its origin. Upon reading

this book, we find it full of prodigies and miracles. It gives an account

of a state of the world and of human nature entirely different from the

present: Of our fall from that state: Of the age of man, extended to near

a thousand years: Of the destruction of the world by a deluge: Of the

arbitrary choice of one people, as the favourites of heaven; and that

people the countrymen of the author: Of their deliverance from bondage

by prodigies the most astonishing imaginable: I desire anyone to lay his

hand upon his heart, and after a serious consideration declare, whether

he thinks that the falsehood of such a book, supported by such a testimony, would be more extraordinary and miraculous than all the miracles it relates; which is, however, necessary to make it be received, according to the measures of probability above established.”[[12]](#footnote-12)

These are miracles of the Pentateuch, the Books of Moses. None of the miracles Hume dismisses are explicitly from the New Testament. The miracle most important to Christians, the resurrection of Jesus, is implicitly addressed but nowhere named in Hume’s essay. The Hebrew Bible was Hume’s fair game, but the Christian part of the Christian Bible only by insinuation. This omission, Hume’s disingenuous response to the Sum of Charges, and the ambiguous last paragraph of his essay on miracles, together argue that Hume’s quill pen wore slippers for dancing around the question of the Resurrection. The dissembling was enough to have kept Hume out of the lawcourts, but not enough to allow him to gain the sinecures he sought.

Hume’s real target was the *if* clause in the claim of William Sherlock, the Dean of St. Paul’s Cathedral, who wrote in 1709 that:

“If we allow the Resurrection of our Saviour to be an unquestionable Miracle, that is, what is above the Power of any natural Cause, and must be attributed to the immediate Power of God; it gives us the same sort of Evidence for the divine Authority of our Saviour, and the Truth of all his Promises, which we have for the Being of God by mere natural Reason.”[[13]](#footnote-13)

But Hume would not explicitly take on the Resurrection. The obvious reason is that reputation for at least a minimal Christian orthodoxy mattered for positions Hume sought, and perhaps for many of his social relations. There were other serious considerations. Hume lived in a time woven through with superstition aided by the force of government. While the King James Bible was common in Hume’s day, less than two centuries before Hume’s birth William Tyndale was burned at the stake for translating the New Testament (and just a bit of the Old) into English. John Locke, Hume’s philosophical parent, had urged tolerance of the narrowest kind, which likely would have excluded Hume.[[14]](#footnote-14) Britain conducted its last hanging for blasphemy 16 years before Hume was born, and Hume could not be sure it would be the last. Hume had only to look to France and Switzerland to see the hazards for his sometime friend, Rousseau. British law still bore heavily on non-comformists, Catholics, and Jews. But perhaps the most vivid caution was the case of Thomas Woolston. Woolston wrote a series of essays between 1727 and 1729, *Discourses on the Miracles of Our Saviour*, in the spirit of Hume’s argument against the stories in the Pentateuch. Woolston’s last discourse was an attack on the truth of the Resurrection. Woolston was tried for blasphemy, convicted, and died in prison. Thomas Sherlock, William’s son, kept the episode vivid to memory for much of Hume’s lifetime through repeated editions of his *The Tryal of the Witnesses*, a defense of Woolston’ s conviction. In 1729 he replied to Woolston in a short book defending orthodoxy. Writing of the famous Indian Prince, he says:

“I allow further, that the Gentleman has rightly stated the difficulty upon the foot of common prejudice; and that it arises from hence, that such cases appear to be contrary to the course of nature. But I desire to consider what this course of nature is. Every man, from the lowest countryman to the highest philosopher frames to himself from his experience and observation, a notion of a course of nature; and is ready to say of everything reported to him that contradicts his experience, that it is contrary to nature. But will the Gentleman say, that everything is impossible or even improbable, that contradicts the notion which men frame to themselves of the course of nature? I think he will not say it. And if he will, he must say that water can never freeze; for it is absolutely inconsistent with the notion which men have of the course of nature, who live in the warm climates. And hence it appears, that when men talk of the course of nature, they really talk of their own prejudices and imaginations; and that sense and reason are not so much concerned in the case as the Gentleman imagines. For I ask, Is it from the evidence of sense, or the evidence of reason that people of warm climates think it contrary to nature, that water should grow solid, and become ice? As for sense, they see indeed that water with them is always liquid; but none of their senses tell them that it can never grow solid. As for reason, it can never so inform them; for right reason can never contradict the truth of things. Our senses then inform us rightly what the usual course of things is; but when we conclude that things cannot be otherwise, we outrun the information of our senses, and the conclusion stands upon prejudice, and not upon reason. And yet such conclusions form what is generally called the course of nature. And when men upon proper evidence and informations admit things contrary to this presupposed course of nature, they do not, as the Gentleman expresses it, quit their own sense and reason; but, in truth, they quit their own mistakes and prejudices.”[[15]](#footnote-15)

Sherlock appealed to cases where the evidence is inadequate and inferences from it false, such as the Indian Prince who does not believe testimonies of snow and ice. His reasoning seems to have been that every generalization about nature is uncertain, therefore the evidence of laws of nature are of no weight against the reports of Christian miracles. It is perhaps no accident that in the *Enquiry* Hume resurrects the Indian Prince and concludes that the Prince’s skepticism was just. Hume’s probability argument seems directed exactly against Sherlock, but Hume does not explicitly so direct it.[[16]](#footnote-16) Sherlock’s book was and remained popular; it’s 11th edition appeared in 1743, only five years before the *Enquiry* was published, and more editions followed. Sherlock’s book and Woolston’s fate could very well have been in mind when Hume composed the miracles chapter of the *Enquiry*.

Against any charge of atheism, or failure of his Christian belief, Hume had a defense. His arguments were against arguments, not faith, and not against *his own* faith. As he wrote in his reply to the Sum of Charges:

“And can one do a more essential Service to Piety, than by showing them that this boasted Reason of theirs, so far from accounting for the great Mysteries of the Trinity and Incarnation, is not able fully to satisfy itself with regard to its own Operations, and must in some Measure fall into a Kind of implicite Faith, even in the most obvious and familiar Principles?”

Alas, Hume’s last paragraph in Miracles implies that his critics had no reason to credit *his* faith. And they did not. No one was fooled.. As Warburton observed at the time: ‘We see what the man would be at, thro’ all his disguises. And, no doubt, he would be much mortified, if we did not.”[[17]](#footnote-17)

This leaves several questions: The obvious: what would Hume have said about Christian miracles if he dared? How good were his arguments and his “method”? And most important, what should *we* think of miracles, and why?

1. **Hume on the Gospels**

In New Testament accounts, Jesus healed lepers, paralytics, the blind, the deaf, the mute, and restored missing body parts. He exorcised multiple demons from multiple people, and he raised at least three people from the dead. In addition, he calmed storms, walked on water, turned water into wine, and fed multitudes with loaves and fishes. And after all that, he was crucified and came back to life.

Hume tells us by imagination and parallels what he would have thought of the testimony to New Testament miracles. For Jesus’ restoration of an ear he substituted Jansenist reports of the restoration of a limb. For the Resurrection, he substituted imagined reports of the resurrection of the Queen of England. He makes explicit that he intends his arguments to stand against belief in any and all historical miracles.

In candor, Hume would surely have given the New Testament miracle reports some of the same assessment he gave to the Old Testament, perhaps elaborated with appeal to counts and coincidences. Storms, after all, do subside. He would have brought his counting argument directly to bear: count those who have not been able to walk on water against the report of Jesus doing so, count the corpses in cemeteries against the reports of the Resurrection.[[18]](#footnote-18)

1. **Bayesian Arguments and the Gospels**

Hume offered an associationist psychological account of inductive inference, but in the essay on miracles Hume used a normative method, one modern philosophical commentators have largely dismissed or ignored. Instead, the problem of witnesses to miracles is recently treated as no more than clay for theories of rational inference, especially Bayesian inference. I can only conjecture, per impossible, what Hume would have replied.

A Bayesian set-up goes like this[[19]](#footnote-19): There are two variables, one for the miracle, M, with either happened (1) or did not (0), and one for the testimony, T, which is either that the miracle happened (1) or did not (0). The Bayesian has “credences” over joint values of M and T. Of interest is the comparison of Cr(M = 1) with Cr(M = 1 | T = 1). Cr(M = 1) is assumed small but not 0 and Cr(T = 1| M = 0) >> .Cr(M = 1). Using Bayes Rule, the posterior ratio is

Cr(|M = 1 | t = 1) = Cr(M = 1) Cr(T = 1 | M = 1) ~ Cr(M = 1) Cr(T = 1 | M = 1)

Cr(M = 0 | t = 1) Cr(M = 0) Cr(T= 1 | M = 0) Cr(T= 1 | M = 0)

Which must be smaller than the ratio of the prior credence of a particular miracle happening to the credence that the witness testified to the miracle when it did not happen. Hence since witnesses to a miracle are much more likely to give false positives than miracles are to occur, the improvement in the credence in a miracle is very small.

The idea of the argument was disputed by Babbage who observed that the probability of a miracle can be driven arbitrarily high by multiple witnesses whose testimonies are jointly independent both conditional on the miracle happening and conditional on it not happening. Each additional testimony gives credence in the miracle a small reinforcement, and the reinforcements add because of independence.

I think the Bayesian criticism of Hume are wrong, not because of the mathematics, which is ably developed elsewhere, but because the set-up is wrong in two respects.

First, Bayesian commenters object to taking the content of the miracle testified to as evidence against the truth of the testimony because it would be “double counting.” Hume thought otherwise, and he was right; your prior judgment of the reliability of a person as a witness is rightly altered by what is testified to.

Suppose one day an acquaintance you regard as honest and reliable told you in all sincerity that he saw Donald Trump eating alone in a diner in Pittsburgh. You would doubt him because the event is so unlikely. On reflection, you might begin to question your friend’ s reliability as a reporter. Suppose the next day he told you, again in all sincerity, that he saw Queen Elizabeth drinking alone in a dive bar in Cleveland. Now you would not only doubt the event he testified to, you would *really* doubt his reliability. And so on. It is the same with conspiracy theories. The theorist posits one unlikely event and you may doubt him, but if he goes on to posit another and another, you conclude he is a confabulist. The more the worse. So it is with miracles: each new report from a source decrements the credibility of its predecessors and the credibility of the reporter.

A second difficulty with the Bayesian critique, often noted, is the assumption that the credences given to testimonies are independent conditional on the miracle, and likewise, conditional on the absence of the miracle. For those dependencies, we have the same kinds of informal evidence Hume invokes; people talk, they report things second and third and fourth hand; gossip spreads.[[20]](#footnote-20) There is no difficulty in formalizing a Bayes model in which someone’s testimony to each miracle increases the credence that he will testify to the next even if the next does not actually happen. In principle, it is not impossible to formulate models in which each testimony by a person to a miracle reduces the credence in his positive testimony to any other.[[21]](#footnote-21) This consideration does not address the case of multiple witnesses to the same miracle. But insofar as the reliabilities of testimonials to miracles are about the same, perhaps a similar picture can be pursued, replacing multiple witnesses to a single miracle with multiple miracles observed by a single witness, and appropriately adjusting the joint and marginal probabilities of the multiple miracles.

Apply these observations on Hume’s behalf to the New Testament miracles. There are 37 in the Gospels. John reports 8; Matthew 22; Mark 20; Luke 21. Modern scholarship takes the intersections of miracle reports to be a key to sequencing of authorship and even to the existence at the time of writing of a lost list, Q, of the sayings of Jesus. [[22]](#footnote-22) Hume could rightly have argued in the alternative: either the gospels are not really multiple testimonies, or they are testimonies by four people to multiple improbable miracles.

1. **Hume’s Method**

Hume styled miracles as events produced by a supernatural agency that contravene natural law. Since a natural law is by definition without exception, Hume has been chided on the grounds that, by his very definition of miracles, they are necessarily impossible. To the contrary, were they to occur, miracles would be those rare, astounding and perhaps singular events, absent which a putative natural law would be exceptionless.

Hume proposed that we assess miracles claims by counting against them the like cases in which nothing miraculous was observed. Millions swim or sink in water; for no one except Jesus has it been claimed that he walked on the stuff. Hume, who apparently did not understand probabilities as ratios[[23]](#footnote-23), would have us subtract the one case of the testimony from the many negative observations, with the result that the probability is very much against the truth of the testimony.

If we substitute ratios for Hume’s addition and subtraction, Hume’s method is something like Hans Reichenbach’s straight rule of induction: infer that the probability of a kind of occurrence is the relative frequency of that occurrence among appropriately like cases. But Hume’s straight rule is tempered by assessments of the reliability of the data, notably the trustworthiness of the witnesses. Hume’s straight rule is unlike Reichenbach’s in another respect. Despite his warnings about the risks of “maxims” Hume would have us detach a conclusion from the probabilities: *don’t believe the testimonies to miracles.* Upon imagined reports of the resurrection of the Queen, Hume says he would not have the slightest inclination to believe in the event. And detaching conclusions is the soul of science. We reject and forget, we conclude and we keep. Our chemistry textbooks do not retain probabilities for the five elements, Earth, Air, Fire, Water, Aether, or for phlogiston. That the rest mass of hydrogen is less than the rest mass of oxygen is reported as a fact, not a hypothesis with a probability.

John Earman[[24]](#footnote-24) agrees with me that a modern construal of Hume’s method is Reichenbach’s straight rule of inductive inference. Earman thinks Hume’s method, the straight rule, and the argument for dismissing miracles that Hume obtains from it, is an “abject failure.” Earman substitutes Bayesian analyses. Hume was both a theoretical philosopher and a practical one. Discounting the improvements in assessing probabilities accrued in the three centuries since Hume wrote, I think Hume’s methodological advice, however incomplete, is good and feasible for scientific practice.

The straight rule is what we use in estimating means or averages. It is Bernoulli’s rule, the basis of the law of large numbers, and what we use in estimating probabilities from independently, identically distributed cases (or in the subjective Bayesian rubric, from cases in which the degree of belief is the same under any reordering of the sequence of cases) in the absence of other information deemed relevant. When cases vary in their reliability, as from different instruments, we weigh them differently, as would Hume. In practice, the straight rule is what we use as a first pass even when we have no assurance that the cases are identically or independently distributed.

Reichenbach understood the straight rule as the ur-method of inference, and proposed vaguely that we amalgamate the results of multiple applications to form generalizations that we use roughly as prior probabilities in novel problems. No doubt we do that in many circumstances when the data are uncertain in dimensions we do not control and cannot investigate. Hume would have no objection; he essentially did the same thing.

In the case of any particular miracle, say Jesus walking on water, we have a single case, with no specific knowledge as to how many witnesses there were or whether they influenced one another, or whether there were witnesses who instead saw Jesus swimming. It is impossible to warrant any informative causal model of the particular, singular event merely from reports of it. Absent some way to provide warranted prior probabilities. quantitative Bayesianizing would merely be quantifying opinion. Insofar as he thought as a Bayesian might recommend, Hume was an *empirical* Bayesian: he was all about how to establish prior probabilities both for the miracle and for the reliability of its reporters. He would say take due regard to the reliabilities of those who report miracles, put the reports in the reference class of people in water over their heads, count, and form your prior probabilities that way.

Notwithstanding, Hume’s method has problems. It is one thing to argue against testimonies to each particular miracle, another to argue against all of the miracles of Jesus, or for disbelief in all testimonies to all miracles. That requires a kind of meta-induction, and the reference class gets messier. Worse, merely by generating more claims to diverse miracles, the number of miracle claims can grow without bound and the empirical prior probability for the truth of testimony to any particular miracle might increase apace. Hume had the wrong sample space.

1. **Miracles in Our Time**

Our time is not so very different from Hume’s. In 2017, the actor Stephen Fry was investigated in Ireland for blasphemy. His alleged crime was to give on television the argument from evil. In the United States, a recent governor took part in an exorcism. Article 188 of Austrian law reads (in English)[[25]](#footnote-25):

‘Whoever, in circumstances where his or her behaviour is likely to arouse justified indignation, publicly disparages or insults a person who, or an object which, is an object of veneration of a church or religious community established within the country, or a dogma, a lawful custom or a lawful institution of such a church or religious community, shall be liable to up to six months’ imprisonment or a day-fine for a period of up to 360 days.”

The law was enforced in 2018 and a conviction for insulting Islam upheld by the European Court of Justice. In the United States, television channels are spotted with faith healers’ assurances of profits and miracles for the desperate and credulous in return for donations—the same assurances given by the Apostles. A poll in 2013 found more than 70% of Americans believe in miracles. The Holy See continues to recognize miracles in allotting sainthoods. The Holy See endorses appearances of the Virgin Mary at Guadalupe, Saint-Etienne-le-Laus, Paris (Rue du Bac, Miraculous Medal), La Salette, Lourdes, Fatima, Portugal, Pontmain, Beauraing, and Banneux, but there is no guide to how to see one. Apparently, southern Europe is the preferred geographical region, Guadalupe excepted. The same is true of the medical miracles investigated by the Congregation for the Causes of Saints, which supervises an elaborately bureaucratic procedure for assessing claims to miracles. Medical miracles require endorsement by a 2/3 majority of a medical board, whose membership of Catholic physicians varies.[[26]](#footnote-26) The requirement is that they can establish that a phenomenon occurred, e.g., a healing or recovery, for which they can find no natural explanation. Repeatability is not required. Two-thirds of humanity professes to believe in some miracle or other, whether Jesus’ resurrection or Muhammed’s conversations with an angel. Fifty nations, including the United Kingdom and most of Europe, retain laws against blasphemy. Even China has blasphemy laws; harmonious society and free thinking do not comport well. In many countries today, a contemporary Hume would be stoned or hanged for a candid public statement of his arguments. What should we think of all of this, and why?

1. **Hume Now!**

The resurrection of Jesus, or Muhammed’s conversations with an angel, come to us only from religious texts written millennia ago. In contrast, other miracles are subject to contemporary investigation. Where a putative miraculous event is repeatable or a forecast, it can be investigated. In our time we have had the advantage of the investigation of a great many contemporary claims to miracles. Dozens of those who have claimed foresight from miraculous information from God, or who have divined a secret message from the Bible, have announced dates for the end of the world, dates now past. To test whether statues of Ganesh miraculously give milk, researchers established the capillary action of the statue when milk is poured into its base.[[27]](#footnote-27) To test someone purporting to be a reincarnated Irish woman and purportedly speaking a language she never heard in this life, an able linguist tested her and found she was speaking made-up words with made-up syntax in an Irishishy voice.[[28]](#footnote-28) The communications from God to the German televangelist Peter Popoff were shown (by James Randi and his collaborators) to be radio messages sent from Popoff’s wife. Randi offered a prize, eventually a million dollars, to anyone who could demonstrate an event so lacking in a natural explanation that Randi could not reproduce it. Few applied, none succeeded.

Although I wager most of the modern philosophical critics of Hume’s argument against belief in miracles do not credence the Christian accounts[[29]](#footnote-29), these secular essays do not often address how the authors would assess the ancient and the modern testimonies to miracles, and by what method.[[30]](#footnote-30) For me, the investigated cases of miracles are the right reference class. We have plenty of modern examples of miraculous performances, healings, and reincarnations shown to be false or fraudulent, and none that have survived scientific investigation. A nip and tuck straightening out Hume’s straight rule is grounds for assigning probabilities to miracle testimonies from the past and those to come. Addition and subtraction suffice. Detaching the conclusion, as I do, requires no miracle.

My thanks to Douglas Stalker, who is illuminating and fun to talk with about this and anything.

Hume, *Enquiry,* para 101.

1. **Recipes**

*Generally speaking, the errors in religion are dangerous; those in philosophy only ridiculous.*

*--A Treatise of Human Nature,* Part 4, Section 7[[31]](#footnote-31)

Hume’s *Dialogues Concerning Natural Religion* is one of the few philosophical works ever written that is fun to read. The *Dialogues* are funny, and Hume surely meant them to be: he spent 25 years perfecting the jokes. Part of the fun is us. If you have ever been 12 years old and outside with a buddy or two at night, looking at the stars, you have probably enacted a pre-adolescent version of the *Dialogues*. *What if the stars are eyes peering down at us*? Or, if you were so lucky that one of your companions was e.e. cummings, *what if the moon’s a balloon*? Hume reminds us of the good times.

The humor in the *Dialogues* is of two sorts. One is the tangles and contradictions and boxes the characters are put into. Hume was no dramatist, and, wanting characterization, some imagination is required to see the humor in the logical knots. The other, which requires no imagination, is the hatful of silly proposals and scenarios that issue from Cleanthes and Philo: the world is a machine; no, it’s an animal; no, it’s a plant; no, it’s a spider; God is a Big Human; no, he’s an unchanging blob; no, he’s a bunch of guys; no, he’s an incompetent child; no, he’s a dying old man. Imagine a voice in the sky understood in every language, and imagine self-reproducing books. This is all a lot of fun. Spiderman as the genesis of the world is still a good ploy.

The *Dialogues* confutes claims that the empirical world provides evidence of any kind of god Hume’s Christian neighbors could abide. It does so by showing that the reasonings from Natural Religon, and by implication their unnamed advocates, are simply ridiculous and have equally ridiculous alternatives. It was Hume’s habit to make a serious argument whose very words mocked and ridiculed. In a *Letter from a Gentleman to a Friend in Edinburgh*, Hume replied to an anonymous critic who claimed a whole list of immoral and atheist implications of Hume’s *Treatise of Human Nature*. In one particular, the implications of Hume’s account of causality for the “cosmological argument,” one of Thomas Aquinas’ sedatives for anxious Christians:: everything has a cause; nothing causes itself; an infinite sequence of prior causes is impossible; a circle of causes is impossible because causation is transitive; so there must be a first cause; call it “God.” Of course, the *Treatise* also implies that a lot of other arguments for the existence of God are wrong-headed, among them those second-hand *a priori* arguments found in Descartes’ *Meditations on the First Philosophy*. So what was Hume’s reply to the charge that his criticism of the cosmological argument implies atheism? This:

“.. even the metaphysical Arguments for a Deity are not affected by a Denial of the Proposition above-mentioned. It is only Dr. *Clark*'s Argument which can be supposed to be any way concerned. Many other Arguments of the same Kind still remain; *Des Cartes*'s for Instance, which has always been esteemed as solid and convincing as the other.”

*Mad Hatter*: I say arguments A, B and C for the existence of God are no good.

*Queen of Hearts*: So you are an atheist! Denying argument C entails that you are an atheist!

*Mad Hatter*: Not in the least. Arguments A and B imply the existence of a God, and they are just as good as C.

After arguments that testimonies to miracles could (almost) never provide sufficient grounds for believing they occurred, the last paragraph of Hume’s chapter on miracles in his *Enquiry* presents this puzzling climax:

“So that, upon the whole, we may conclude, that the Christian Religion not only was at first attended with miracles, but even at this day cannot be believed by any reasonable person without one. Mere reason is insufficient to convince us of its veracity: And whoever is moved by Faith to assent to it, is conscious of a continued miracle in his own person, which subverts all the principles of his understanding, and gives him a determination to believe what is most contrary to custom and experience.”[[32]](#footnote-32)

Ignored in commentaries on Hume,[[33]](#footnote-33) what does this paragraph say about Christian belief? I think many modern readers of Hume will read “attended by miracles” as “attended by reports of miracles” or something like that, and take the last sentence to be a lame philosophical joke. No, Hume was careful with his words. Read literally, the passage says that miracles happened in the time of Jesus, that they are the only reason to believe in the Christian story, but there is no reason to believe they occurred, and the determination to believe in them and to have and maintain Christian beliefs is a miracle in itself. On that reading, Hume could be preaching to a modern religious assembly.[[34]](#footnote-34) But he is doing something very different in the same words. The last sentence in the passage is another instance of Hume’s artful ridicule. Hume had argued in the essay that there are (almost) never grounds for believing testimonies to miracles, but he did not argue that no one can *experience* a miracle—in the case at hand, the miracle of one’s own faith. It follows from Hume’s arguments in the chapter on miracles that others have no rational grounds for believing those who testify to their own miraculous faith. Hume implies that no one, not even those who believe in Christianity, has reason to believe the profession of others to believe in Christianity. Rationally, everyone should think they live in a world populated only by heretics, liars and unbelievers, except possibly themselves. Christian solipsism.

Of course, Hume’s last paragraph in Miracles implies that his critics had no reason to credit *his* faith. And they did not. As Warburton observed at the time: ‘We see what the man would be at, thro’ all his disguises. And, no doubt, he would be much mortified, if we did not.”[[35]](#footnote-35)

Hume had mocked more subtly before, but in the *Dialogues*, completed near the end of his life, he cut loose, he let ‘em have it. Whoever they were, and there were plenty of them, they had it coming. In the penultimate section of the *Dialogues*, Philo gives the most candid, trenchant and forceful denunciation of religion and religious belief to be found in the philosophical canon, calling faith by its true name, “superstition.” But in the conclusion, having produced difficulty after difficulty with arguments for natural religion, Philo—often thought to speak Hume’s own views—announces he believes that design is manifest in the universe, and has a designer. That conclusion has led to suggestions that in matters of theology, Hume was a *faux* skeptic, even a closet Christian. I think this is quite wrong. For good reasons[[36]](#footnote-36), Hume customarily offered a twist towards religious and social acceptability in the midst, or at the end, of a demonstration of his infidelity. He omitted draft material on miracles from the *Treatise*, and we have seen to charges of atheism he gave a response Humpty Dumpty would envy, and we have noted the conclusion to his essay on miracles, disguised as piety.

Although Hume was an historian who undoubtedly knew of many authors of arguments from Nature for Christianity or for Deism, he names none of them in the *Dialogues* except Clarke and Leibniz. The work is not a history; it is not the development of a theory; it is not the public version of Hume’s own vacillations over metaphysical arguments. For Hume, philosophical theology was worthy of comedy,[[37]](#footnote-37) fun with fools, but the *Dialogues* is aimed at something much more important.

Comedies can be instructive, and Hume’s seems meant to be. Jantsen[[38]](#footnote-38) has criticized the *Dialogues* for their neglect of any number of variations on the argument from design, and even charges Hume with inventing the appeal to analogy to establish the intentional design of the universe. For example, Jantzen cites Richard Bentley, the first Locke Lecturer, who gave the pseudo physical argument that, starting from a chaotic distribution of particles throughout the universe, the present disposition of the planets and stars could never have evolved from known physical forces.[[39]](#footnote-39) The *Dialogues* recounts no such argument, but Hume would have had no difficulty showing it rested on sheer speculation, to which he could have readily provided counter speculations. How could Bentley know the initial state of the universe, including not just the locations of “particles” but their several quantities of matter and momenta? How could he know that all the laws of physics have been discovered, or that the laws of the early universe are the same as those now? Hume could have resurrected Margaret Cavendish’s delightful hypothesis of intelligent, communicating atoms. And so on. What Hume could have done, any full-witted reader of the *Dialogues* could do as well. The cornucopia of speculations and objections in the *Dialogues* are a model, not a survey. The *Dialogues* is a recipe book for defeating arguments from nature for religious superstitions.

The Dialogues has two principal strategies for disputing Natural Religion. One is to explain the appearance of design by all sorts of alternative extra-natural causes, the web spinning spiders and such, all unwelcome to Christians. The other is to let Nature be full of whatever intimations of design are said to be found, and stop there. Philo asks Cleanthes why the search for moving powers of the universe should not stop with the “familiar” material world:

“If the material world rests ·causally· on a mental world that is similar to it, this mental world must rest on some other; and so on without end. It would be better, therefore, never to look beyond the present material world. By supposing it to

contain within itself the causes of its order, we are really taking it to be God; and the sooner we arrive at that divine being, the better. When you go one step beyond the system of the familiar world, you only stir people up into asking

questions that can’t possibly be answered.”(p. 22).

The main epistemological question repeatedly posed the *Dialogues* is this: what warrant is there for inferences that escape the gravity of a body of evidence, whatever that body may be? Hume’s answer is *none*. His strategy has three parts. First, that the body of evidence is commonsense observations of our patterned, structured world. Second, this principle: If A is an explanation of phenomena and B is an explanation of the same phenomena, and B contradicts A, then the phenomena do not warrant belief in A or in B. And third, demonstrations of how easy it is to give alternative explanations that contradict conventional theist inferences from features of the empirical world. To the argument that reducing explanations to two, A and B, at least gives some reason to believe A, Hume’s implicit reply is that the number of equally good alternative explanations is limited only by human imagination: the world is generated from a tree; the world is the web of a spider; the world is…

In the century after Hume, in the 20th, and in ours, solutions have been proposed to Humean global underdetermination in religion and science. Collected under the title of “inference to the best explanation” they include “consilience,” “coherence,” “simplicity.” Philosophical theologians have gripped them as a man falling to Earth might grip a parachute [[40]](#footnote-40) I think Hume would rightly have none of it, both on grounds of vagueness of the virtues, and, so far as the world is concerned, arbitrariness. A single architect of the universe may be administratively efficient, but is it any *simpler* than a team of architects?

We have nowadays the skeptical solemnities of Dawkins and Dennett and Harris and such, but none so insightfully funny as Hume, none so useful for destroying nonsense and imposing humility as Hume. Hume was a skeptic for all seasons. If the theory of evolution should ever falter, disarming the arguments of our contemporary atheists, we would still have the *Dialogues*, and that is enough, perhaps too much.

Are Hume’s recipes just as good for burning science to ridiculous toast? Most obviously, science posits unobserved processes of unobserved entities with unobserved properties and relations. Are they in the same epistemological bag as Christianity and other superstitions? Less obviously, conspiracy theories are something like natural superstitions. Do the strategies of the *Dialogues*  work in reverse, undermining conventional, non-conspiratorial accounts of events such as the destruction of the World Trade Center towers or the emergence and spread of AIDS?

For science, Newton had an answer, at least by example. Newton argued for universal gravitation first by positing three very general principles, the 1st, 2nd and 3rd laws of motion. They relate forces to “quantities of matter” motions, velocities and accelerations. Newton had no independent way of measuring forces, no “force-ometer.” The first and second laws were essentially codifications of ideas that were “in the air.” Newton justified them by appeal to a variety of examples. Galileo’s experiments argue that acceleration of freely falling bodies is the same, no matter the weight of the body, for all bodies. Newton argued the same using pendulums. Assuming that acceleration requires a cause and that the only acting cause of the accelerations of falling bodies is the Earth, and that cause produces the same acceleration even as the “quantity of matter” varies, that cause should vary with the “quantity of matter.” The force of gravity on a body should therefore equal the acceleration of a body multiplied by the “quantity of matter” in the body, so that acceleration is the value of force applied to a body divided by its quantity of matter, or as we would say, the mass. The third law was evidenced by everyday experience (e.g., stand in a cart and push another cart), by elastic collisions in which the total momentum of colliding balls is the same before and after collision, as in Newton’s cradled steel balls, said to favor the desks of executives, and like phenomena[[41]](#footnote-41). The basic strategy was to make one assumption—accelerations but not velocities require causes—common enough in the physics of his time, and appeal to a variety of empirical cases to obtain the second and third laws, and from them instances of reciprocal gravitation, which he universalized by what he called “general induction from the phenomena.” And from the inverse square law of universal gravitation, endless examples follow, the orbits of new planets, new satellites, the motions of the tides, the oblateness of the Earth, and much more.

Another example, with a similar strategy. The weights of atoms and combinations of atoms (molecules, in our terminology) was a fundamental issue in early and mid 19th century chemistry, tied up logically with determination of the molecular formulas of compounds. The inability of chemists to provide molecular formulas based on a principled measure of atomic weights was one of the most persuasive arguments against the atomic theory. Gay-Lussac had established the “law of combining volumes” for reacting gases at the same temperature:At constant temperature and pressure, the ratio between the volumes of the reactant gases and the volume of the gaseous product can be expressed in simple whole numbers**.** Thus, one volume of nitrogen and 3 volumes of hydrogen combine to make 2 volumes of ammonia. This, and the law of simple definite proportions (by weight) for chemical reactions was nicely explained by the atomic theory in combination with Avogadro’s law for gasses: in our terms, at the same temperature, pressure and volume, all gasses contain the same number of molecules.

Methods for measuring the density of gasses at common volumes, pressure, and temperature developed in the 19th century. Stanislav Cannizzaro did an historical survey of the vapor density data, and using Avogadro’s hypothesis showed that the vapor densitiy of each compound substance equals the sum of simple fractional multiples of the vapor densities of their elemental components. Using ½ of the vapor density of hydrogen as a standard estimate of the atomic weight of hydrogen, he calculated the relative atomic weights of (almost) all of the elements that could be realized at the time as gasses at standard temperature, pressure and volume. It may be observed that when elements enter into multiple compounds, available vapor densities permit multiple tests of Cannizzaro’s assignments of relative atomic weights.

We see in Cannizzaro’s method much the same strategy that Newton used for universal gravitation. Make a weak assumption warranted by contemporary scientific explanations, combine it with a lot of empirical data, and infer unobserved features of the world.

Computerized methods for discovering causal relations provide a third, more contemporary illustration of the same strategy. Consider a *very* simplified version of inferences to a causal relation between two variables, or to the absence of a causal relation. A sample may be randomly divided into a group that receives one treatment, T = 1, and a group that receives another, T = 2. The outcomes of the experiment are O(T = 1) and O(T = 2). We test statistically whether the probability distributions of O(T = 1) and O(T = 2) are the same or not. If our test decides they are not the same, we infer that T causes O. Probabalistic dependence of the value of O on the value of T implies causal connection, or contrapositively, no causal connection implies independence. If O(T = 1) and O(T = 2) have the same distribution, we infer that T does not cause O. Independence implies no causal connection. Generalizations of these relationships to multiple variables are known as the Causal Markov and Faithfulness conditions, respectively. Using these generalizations of experimental inference standards, Spirtes, et al.[[42]](#footnote-42) proved that without the advantage of experimental controls, causal connections and their directions can sometimes be discovered, and it can sometimes be discovered that two variables share an unobserved common cause, and it can sometimes be discovered that they do not. The method has yield independently confirmed predictions in space science, genetics, neuropsychology and elsewhere.

These examples among many others (I have chosen them only because of their familiarity—to me), including Darwin’s arguments in *The Origin of Species,* show a very different kind of theory construction than the wanton inference from complexity and regularity in the universe to the existence of a designing deity. But they do not provide a neat criterion for separating science that goes beyond experience from natural religion that also attempts an escape. The most famous methodology containing an attempt at such a criterion, Popper’s, is in fact a tool for pseudo-scientists. Popper held that the distinguishing mark of real science is that it provides falsifiable theories. The method of science is to conjecture “bold,” i.e., falsifiable theories, try to falsify them, and when that succeeds, replace the original theory with another “bold” theory. The critical thing is that Popper provides no guide as to what parts of a body of claims should be changed when some observation or experiment contradicts it. Likewise, he provides no guidance for the succeeding theory, other than that it be bold.

Conspiracy theories are bold. That the U.S. government planned the collapse of the Twin Towers, or the CIA arranged the assassination of Kennedy, are bold theories if anything is. They make claims that, if we knew enough, could be falsified, and that is all Popper requires. The method of some conspiracy theorists is straightforwardly Popperian. Some feature or features in a complex conventional report of events are challenged on grounds of plausibility or found to be indisputably in error. Presto, reject the conventional report altogether and substitute a bold alternative conspiracy theory. A similar thing often happens with natural religionists whenever some scientists suggest some reformulation of the theory of evolution is required.

The *Dialogues* left problems neither philosophy nor statistics has since solved. I have described only two of them: Find a feature or function of data, theory and their logical or mathematical relations to one another that separates those pairings of theory and data that are scientific from those that are pseudo-scientific, and find similarly objective features that localize credit and blame within a theory when something in the data goes right, or wrong. For the most part, philosophy of science has ducked such problems, and where it has not, no satisfactory results have been obtained. I suspect Hume would not be displeased.

1. *The Trolley Problem Mysteries*, Kindle edition, 65-66. The idea has other less precise formulations in her earlier works. E.g., “Harming Some to Save Others” *Philosophical Studies*, 57, No. 3 (Nov., 1989), pp. 227-260 [↑](#footnote-ref-1)
2. ﻿Kamm, F.M. *The Trolley Problem Mysteries* (The Berkeley Tanner Lectures) (p. 65-66). Oxford University Press. Kindle Edition. [↑](#footnote-ref-2)
3. Glymour, C. (2010). Review of Edouard Machery, Doing without Concepts. *British Journal for the Philosophy of Science,* Oxford University Press, New York. [↑](#footnote-ref-3)
4. Footnote, p. 836. [↑](#footnote-ref-4)
5. After publishing volumes denouncing U.S. racism, Robinson moved to St. Kitts. At this writing, Robinson is a visiting scholar at Penn State University. [↑](#footnote-ref-5)
6. Parra, E. J., Marcini, A., Akey, J., Martinson, J., Batzer, M. A., Cooper, R., ... & Shriver, M. D. (1998). Estimating African American admixture proportions by use of population-specific alleles. *The American Journal of Human Genetics*, *63*(6), 1839-1851. [↑](#footnote-ref-6)
7. Bryc, K., Durand, E. Y., Macpherson, J. M., Reich, D., & Mountain, J. L. (2015). The genetic ancestry of african americans, latinos, and european Americans across the United States. *The American Journal of Human Genetics*, *96*(1), 37-53. [↑](#footnote-ref-7)
8. Scanlon, T. M. (2014-01-06). Being Realistic about Reasons (p. 82). Oxford University Press, USA. Kindle Edition. (Italics are Scanlon’s) [↑](#footnote-ref-8)
9. Hume, *Enquiry,* para 101. [↑](#footnote-ref-9)
10. I have found only an unilluminating popular essay by Julian Baggiini in *The Guardian*, February 16, 2009. [↑](#footnote-ref-10)
11. See for example Gordon B. Hinckley, “The Miracle of Faith,” <https://www.lds.org/general-conference/2001/04/the-miracle-of-faith?lang=eng>. Hinkley was the President of the Church of Jesus Christ of the Laterday Saints, i.e., The Mormons. [↑](#footnote-ref-11)
12. Hume, *Enqury*, para. 100. [↑](#footnote-ref-12)
13. Sherlock, A Discourse concerning the Happiness of Good Men, part one. London: W. Rogers, 1704, 360. [↑](#footnote-ref-13)
14. See Locke, Letter on Toleration, 1689. https://www.constitution.org/jl/tolerati.htm [↑](#footnote-ref-14)
15. http://www.gutenberg.org/cache/epub/5608/pg5608.html [↑](#footnote-ref-15)
16. Several scholars agree that Hume probably had read Sherlock. See Colin Brown, *Miracles and the Critical Mind* (Exeter: Paternoster/Grand Rapids: William B. Eerdmans Publishing Co., 1984);  Edward Carpenter, *Thomas Sherlock 1678-1761* (London: SPCK, 1936); William Lane Craig, *The Historical Argument for the Resurrection of Jesus During the Deist Controversy* (Lewiston & Queenston: Edwin Mellen Press, 1985). [↑](#footnote-ref-16)
17. W. Warburton and R. Hurd, *Remarks on Mr. David Hume’s essay on the natural history of religion,* London, 1757, 44. [↑](#footnote-ref-17)
18. George Mavrodes (“David Hume and the Probability of Miracles” *International Journal for the Philosophy of Religion* 43, 1998, 167-182) argues that Hume’s counting overlooks the possibility that many such miraculous events have occurred unreported. Hume would, I think, have been dismissive: resurrections observed would surely have been astonishing and reported, and many of the reports would have survived. And the mere hypothesis of unobserved miracles can scarcely count as evidence. [↑](#footnote-ref-18)
19. Following Ahmed, “Hume and the Independent Witness” *Mind* 2015 [↑](#footnote-ref-19)
20. Ahmed, *op cit.*, has argued that there are possible conditions where it is known that reports are actually independent but it is reasonable to have credences in the testimonies that are conditionally dependent. [↑](#footnote-ref-20)
21. Although care must be taken in assigning probabilities to cyclic models to obtain a coherent joint distribution. [↑](#footnote-ref-21)
22. The best logical argument for ordering the synoptic gospels of Matthew, Mark and Luke places Matthew first, and implies that none of the gospels was composed before 70 A.D. See William R. Farmer, *The Synoptic Problem*, Mercer University Press, 1981. For a discussion of the historical dispute, see David Akenson, *Surpassing Wonder*. The priority of Mark is preferred by many scholars, including Akenson with caveats, and the Catholic Church (because it places authorship closer to the life of Jesus). Accounting for the correspondence in sayings of Jesus common to Luke and Matthew but not in Mark has led to the Q hypothesis, for which there is no other evidence. [↑](#footnote-ref-22)
23. Although De Moivre’s *The Doctrine of Chances* was available, Hume does not mention De Moivre, and I very much doubt that Hume read the book. [↑](#footnote-ref-23)
24. *Hume’s Abject Failure* [↑](#footnote-ref-24)
25. http://policehumanrightsresources.org/wp-content/uploads/2016/08/Criminal-Code-Austria-1998.pdf [↑](#footnote-ref-25)
26. Regulations of the Medical Consultation of the Congregation for the Causes of Saints, 23.09.2016

    http://press.vatican.va/content/salastampa/it/bollettino/pubblico/2016/09/23/0666/01504.html [↑](#footnote-ref-26)
27. Burns, John F. (1995-10-10). ["India's 'Guru Busters' Debunk All That's Mystical"](https://www.nytimes.com/1995/10/10/world/india-s-guru-busters-debunk-all-that-s-mystical.html). *The New York Times*. [ISSN](https://en.wikipedia.org/wiki/International_Standard_Serial_Number) [0362-4331](https://www.worldcat.org/issn/0362-4331) [↑](#footnote-ref-27)
28. See S. Thomason, “Past tongues remembered?: *The Skeptical Inquirer* 11:367-75. Summer, 1987. [↑](#footnote-ref-28)
29. Of course, there are exceptions, for example Kenneth Merrill, who had theological training, and Richard Swinbourne. [↑](#footnote-ref-29)
30. John Earman is an exception. He indicates he would apply a Bayesian argument, with very low priors for miracles. [↑](#footnote-ref-30)
31. My thanks to Douglas Stalker, who is illuminating and fun to talk with about this and anything. [↑](#footnote-ref-31)
32. Hume, *Enquiry,* para 101. [↑](#footnote-ref-32)
33. I have found only an unilluminating popular essay by Julian Baggiini in *The Guardian*, February 16, 2009. [↑](#footnote-ref-33)
34. See for example Gordon B. Hinckley, “The Miracle of Faith,” <https://www.lds.org/general-conference/2001/04/the-miracle-of-faith?lang=eng>. Hinkley was the President of the Church of Jesus Christ of the Laterday Saints, i.e., The Mormons. [↑](#footnote-ref-34)
35. W. Warburton and R. Hurd, *Remarks on Mr. David Hume’s essay on the natural history of religion,* London, 1757, 44. [↑](#footnote-ref-35)
36. Hume lived in a time woven through with superstition aided by the force of government. While the King James Bible was common in Hume’s day, less than two centuries before Hume’s birth William Tyndale was burned at the stake for translating the New Testament (and just a bit of the Old) into English. John Locke, Hume’s philosophical parent, had urged tolerance of the narrowest kind, which likely would have excluded Hume. Britain conducted its last hanging for blasphemy 16 years before Hume was born, and Hume could not be sure it would be the last. Hume had only to look to France and Switzerland to see the hazards for his sometime friend, Rousseau. British law still bore heavily on non-comformists, Catholics, and Jews. But perhaps the most vivid caution was the case of Thomas Woolston. Woolston wrote a series of essays between 1727 and 1729, *Discourses on the Miracles of Our Saviour*, in the spirit of Hume’s argument against the stories in the Pentateuch. Woolston’s last discourse was an attack on the truth of the Resurrection. Woolston was tried for blasphemy, convicted, and died in prison. Thomas Sherlock, William’s son, kept the episode live to memory for much of Hume’s lifetime through repeated editions of his *The Tryal of the Witnesses*, a defense of Woolston’ s conviction. It is notable that in the *Enquiry*, Hume ridicules the stories of the Pentatuch, and writes that he would not believe reports of the resurrection of Queen Elizabeth, but carefully avoids mentioning the resurrection of Jesus. [↑](#footnote-ref-36)
37. At least one writer sort of agrees. See Richard White “Hume’s Dialogues and the Comedy of Religion” *Hume Studies* Volume XIV, Number 2 (November, 1988) 390- 407. Also, the rather vacuous, W. B. Carnochan, “The Comic Plot of Hume's "Dialogues" *Modern Philology*, Vol. 85, No. 4, *From Restoration to Revision: Essays in Honor of Gwin J. Kolb and Edward W. Rosenheim* (May, 1988), pp. 514-522 [↑](#footnote-ref-37)
38. Jantzen, Benjamin C. *An introduction to design arguments*. Cambridge University Press, 2014. [↑](#footnote-ref-38)
39. Bentley could have known no such thing. Newton could not prove the stability of the solar system, could not solve gravitational problems of three or more bodies, or explain the darkness of the night sky, a paradox for Newtonian theory commonly attributed to Olber, a 19th century astronomer, but articulated by Halley and others in the 17th century, See [Edward Robert Harrison](https://en.wikipedia.org/wiki/Edward_Robert_Harrison) (1987) *Darkness at Night: A Riddle of the Universe*, Harvard University Press. [↑](#footnote-ref-39)
40. Notably, Richard Swinbourne “The Existence of God,” whose strategy is to refute Hume’s arguments by ignoring them. http://users.ox.ac.uk/~orie0087/pdf\_files/General%20untechnical%20papers/The%20Existence%20of%20God.pdf. For a rebuttal, see D. Fawkes and T. Smyth, 1996, “Simplicity and Theology.” *Religious Studies* 32259 – 270.

    [↑](#footnote-ref-40)
41. Margula R. Perl (1966). “Newton's Justification of the Laws of Motion.” *Journal of the History of Ideas*, Vol. 27, No. 4 (Oct. - Dec., 1966), pp. 585-592. Unfortunately, to appearances the third law was also contradicted by every collision of snowballs, of skeins of yarn, of rag dolls, of boots, of cats, indeed of all things soft. [↑](#footnote-ref-41)
42. P. Spirtes, et al. (2000). *Causation Prediction and Search*. MIT Press. [↑](#footnote-ref-42)