Simpler without a simplest: Ockham’s Razor implies epistemic dilemmas
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William of Ockham wrote, ‘It is futile to do with more things that which can be done with fewer.’ But what if each option uses less than its predecessor but no option uses the least? A scale perfectly balanced between a pair of kilogram weights can be tipped by adding half a kilogram to one side, or a quarter of a kilogram, or an eighth of a kilogram, or... For any choice, there is an option that gets the job done with less.

Relative futility does not entail absolute futility. The job can get done – but only if we use superfluous means. Is this a refutation of Ockham’s Razor or just a close shave?

1. Infinitely divisible matter

The atom (in the mereological sense of an object without proper parts) can explain much. This explanatory power increases if we relax constraints on the atom’s behaviour. For instance, Hud Hudson (2005: 113–116) considers suspending the rule that nothing can be in two places at the same time. Now fewer atoms are needed to compose an object. How few? Only one atom is needed. So parsimony favours this alternative over all others. Indeed, one atom is enough to constitute all the objects in the universe. Hudson’s atomic monism comports wonderfully with Ockham’s alternative formulation of his principle: ‘Plurality ought never to be posited without necessity.’

But what if Hud Hudson were working with gunk? Each part of gunk has proper parts, so it is infinitely divisible. How much multi-located gunk should Hudson postulate? However much he postulates, he should have postulated less!

Other gunky scenarios invite the same inescapable excess – and not just for ‘things’. Alfred North Whitehead believed each region of space has proper subregions. But then how much space should Whitehead postulate? For any
amount of space he postulates, he should have postulated less. Simplicity compels him to endlessly shrink the scale of space.

What goes for space goes for time. Many properties that scientists wish to minimize (effort, deformation, intentionality) come in continuous degrees. When the menu is asymptotic, one always pays too much.

2. The ghost of Weierstrass

The frugal may seek relief by stipulating a simplest alternative. Harold Jeffreys (1962: 47) inaugurated a tradition of mathematicizing parsimony. He structures alternatives so that there will always be a simplest.

There is potential for abuse. In the 19th century, Karl Weierstrass demanded existence proofs of minima and maxima. Mathematical possibility is wider than physical possibility. So when geometers formalize, they have a strengthened disposition to assume the existence of minima and maxima. To curb this presumptiveness, Weierstrass gave memorable illustrations of optimizing problems with false existential presuppositions. Suppose a pilot needs to fly from a point directly above A to point B. Which is the shortest path?

![Diagram](image-url)

As the candidate points of descent lose altitude their paths to B shorten. But there is no shortest path.

Weierstrass’ colleagues conjured minima into existence. What is the minimum area for a triangle with a given perimeter? Answer: A straight line segment conceived as a triangle with zero altitude!

Karl Weierstrass frowned on such can-do sophistry. We should instead acknowledge that some problems have no solutions. Had Weierstrass reviewed Peter Lipton’s *Inference to the Best Explanation*, he would have asked: What if the explanations get lovelier and lovelier without ever culminating in a loveliest explanation? Weierstrass would have asked reflective equilibrium methodologists to substantiate their assumption that there is a best fit between principle and intuition.
Weierstrass’ ghost could wander far back in time – at least to Aristotle: ‘Nature operates in the shortest way possible’ (Physics, Book V) and ‘The more limited, if adequate, is always preferable’ (Physics, Book I, Chapter VI).

The attraction to simplicity is as universal as the attraction to moral universalizability. Just as there are many formulations of ‘the golden rule’ across disparate cultures, there are many formulations of parsimony. In India, the grammarian Panini (ca. 5th c. BCE) made parsimony an important desideratum in linguistics. Grammarians were said to celebrate the excision of a syllable (in the statement of a morphological rule) in the way ordinary people rejoice over the birth of a son. The grammarians are thought to have influenced metaphysicians. By the 3rd c. CE Buddhists were citing a principle of ‘lightness’ to justify their eliminativism about the self and later, to trim away matter.

3. Practical reasoning

The ghost of Weierstrass would have less cause to haunt value theorists. George Schlesinger (1964) tried to dissolve the problem of evil by denying that there is a best of all possible worlds.

Perhaps Schlesinger was influenced by Herbert Simon’s (1956) thesis that rational agents are satisficers rather than optimizers. Given limited knowledge, calculative ability and time, the best strategy may be to stop looking for the best and settle for an option that is good enough. The same strategy is triggered if there is no best option to discover. God was only obliged to choose a world that was good enough. Anything above that is a gift.

Like Herbert Simon, Michael Slote is principally interested in accommodating the bounded rationality of ordinary people (not God or angels or ideal agents). Slote’s project is to extend satisficing to ethics, doing justice to moral nuances through superior psychological realism. Nevertheless, Slote seizes an a priori opportunity to challenge maximizers. He imagines moral choices in which there is no maximum. For instance, if the utilitarian gets to freely stipulate how many utiles he will bestow, then he cannot optimize. The utilitarian cannot do the best he can because whatever he does, he could have done better. Yet the utilitarian must choose.

The choice is not arbitrary. The specifier of utiles is obliged to choose an alternative that is good enough. A supererogatory choice above the minimum can still be ranked as better than another supererogatory choice.

4. Generalizing to methodology

Methodology is practical reasoning about theoretical reasoning. Just as Slote took a step back from Herbert Simon’s focus on prudence, a student of Professor Slote’s might take a further step back and apply satisficing to methodology.
When faced with ever simpler alternatives, the satisficer is obliged to choose an alternative that is simple enough. Anything beyond that is above and beyond the call of duty. Consequently, the satisficer is permitted (and often obliged) to accept superfluous entities.

The satisficer’s rejection of Ockham’s Razor would carry over to finite choices. If hypothesis Zigzag is simple enough then the satisficer may acknowledge that hypothesis Zig is simplest and yet stick with Zigzag.

This liberty conflicts with the principle that belief must be proportional to the evidence. If one were free to add Zag to a hypothesis that already explains the data, one would be entitled to believe in something without evidence.

5. Saving the Razor

Ockham would have saved his Razor by characterizing the problematic scenarios as rational dilemmas. A rational dilemma is a scenario such that reason forbids each alternative and also forbids not choosing. Irrationality is inevitable. In an epistemic dilemma, the rationality in question is theoretical rather than practical.

As a proponent of the divine command theory of morality and a believer in God’s omnipotence, Ockham believed that God could create moral dilemmas. Epistemic dilemmas just alter the deontic modality.

Moral dilemmas lead to absurdity given that ‘ought’ implies ‘can’ and given that obligations collect over conjunction. Accordingly, each of these principles has been challenged in the 20th century revival of moral dilemmas. A debate over epistemic dilemmas would echo this dialectic.

Slote assumes that the satisficer has the advantage of avoiding rational dilemmas. But maximizers argue that satisficing generates its own rational dilemmas (Sorensen 2006). Suppose you have an infinite past and have always had a spare dollar in your pocket. If you had deposited the dollar in the Bank of Infinite Antiquity, then you would have earned interest. You regret the omission. But if you had deposited the dollar the day before, you would have still been guilty of procrastination. On no day would your timing have been good enough. Satisficing demands the impossible.

If epistemic dilemmas are inevitable, then the solution is not to discard Ockham’s Razor and go fuzzy. We should instead emulate Karl Weierstrass’ resignation to unsolvable problems.¹

¹ Thanks to the Ockham Barber Shop Quartet: Alan Baker, Hud Hudson, Mark Siderits and Michael Slote.
Why explanation and thus coherence cannot be reduced to probability

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Some philosophers, most notably Hempel (1965) and Salmon (1970), have tried to reduce explanation to probability by proposing analyses of explanation in probabilistic terms. Hempel claims, roughly, that a hypothesis H explains a datum D if and only if the conditional probability \( P(D|H) \) is close to 1. It is well known that such an account fails in cases where H is irrelevant for D. Even though it is highly likely that Tom will not become pregnant, given that he regularly takes his wife’s birth control pills, the latter does not explain the former. Neither does an idea work which is in the proximity of Salmon’s, namely, that H explains D if and only if \( P(D|H) > P(D) \). Suppose Susan swallows a pound of arsenic in order to commit suicide. Shortly after, however, she dies because she is run over by a bus. The probability of dying, given that one ingests a pound of arsenic, is usually higher than the prior probability of dying. Nonetheless, it is not the arsenic but the collision with the bus which explains Susan’s death.

The aforementioned objections are directed against specific probabilistic models of explanation, and do not prove that no other probabilistic model will do any better. There is, however, a quite simple impossibility proof, i.e. a proof to the effect that no purely probabilistic theory will ever be able to adequately capture explanation. The short version of this proof is that ‘explanation’ is a hyperintensional notion whereas ‘probability’ is merely intensional. This is to say, whereas logically equivalent propositions do not always have the same explanatory force, they have to be treated as equal with respect