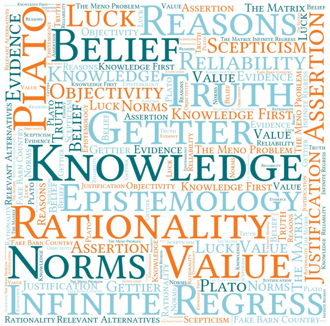

Knowledge, Reason & Belief

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6. Finishing Pascal
+ Mid-subject discussion

LA TROBE UNIVERSITY

Introduction

Last week

- Final comments on the value of knowledge:
  - More on Williamson on the Secondary Value problem (knowledge as valuable because stable) and criticisms thereof
  - A possible social spin on Williamson's suggestion
- Pascal's suggestion that practical considerations can mandate holding beliefs that 'go beyond' the evidence:
  - Brief presentation of decision theory, incl. risk vs uncertainty
  - Pascal's first argument, from weak dominance
    - Weak dominance isn't sufficient to mandate wagering for God (cases in which E entails $\Pr(\neg G) = 1$)
    - It *also* may not be sufficient to simply further require that E not entail $\Pr(\neg G) = 1$ (cases in which E says *nothing* about $\Pr(\neg G)$)

This week

- Pascal's second argument, from 'expectation' and criticisms thereof
- A remark about the weirdness of Pascalian decision problems
- Mid-subject discussion

Pascal (ctd)

The Argument from Expectation

- Pascal is presumably aware that weak dominance is perhaps an unreasonably strong assumption: acting religiously surely comes at *some kind* of comparative cost (fasting, etc.)
- He offers a second argument that doesn't require $b \geq d$
- The relevant passage:

> '*There an infinity of an infinitely happy life to gain, a chance of gain against a finite number of chances of loss*, and *what you stake is finite*. It is all divided; wherever the infinite is and there is not an infinity of chances of loss against that of gain, there is no time to hesitate, you must give all…'

The Argument from Expectation (ctd)

	G	$\neg G$
W_G	a	b
$W_{\neg G}$	c	d

- Here, Pascal explicitly claims that our evidence entails that $\Pr(G) > 0$ (decision under *risk* rather than uncertainty)
- Pascal's new claim about payoffs:
  - $a = \infty$ ('There an infinity of an infinitely happy life to gain')
  - b, c, d finite ('what you stake is finite')
- This does *not* entail weak dominance: it allows $d > b$

Comparing the Expected Values

- If we indeed assume that this is a decision under risk, we want to compare EV's
- Two facts about ∞:
  - $r \times \infty = \infty$, for any positive r, finite or infinite
  - $\infty + r = \infty$, for any finite r, positive or negative
- This gives us

$$\mathrm{EV}(W_G) = \infty \times \Pr(G) + b \times \Pr(\neg G) = \infty \quad > \quad \mathrm{EV}(W_{\neg G}) = c \times \Pr(G) + d \times \Pr(\neg G)$$

- Note: If we *didn't* assume that this is a decision under risk and endorsed Maximin, the argument would again fail

The problem of mixed strategies

- As Duff (1986) has pointed out, there is a problem here
- A mixed strategy is an act that randomises between a set of alternative acts (e.g. wagering for God if the coin lands heads and against if lands tails)
- Its EV is a probability-weighted sum of the EV's of the component acts
- But then, given $\text{EV}(W_G) = \infty$ and finite $\text{EV}(W_{\neg G})$, *any* mixture of wagering for and wagering against will have the same EV: ∞!
- Pascal's argument doesn't provide reasons for wagering for God over any alternative course of action that provides a non-zero probability of wagering for God

Eternal damnation to the rescue?

	G	$\neg G$
W_G	a	b
$W_{\neg G}$	c	d

- Other possible patch (Hajek 2012):

  Claim that $c = -\infty$ (Hell really sucks), rather than $a = \infty$
- It follows that $EV(W_G) > EV(W_{\neg G}) = -\infty$, so long as our evidence entails that $\Pr(G) > 0$
- Regarding mixed strategies: their EV is now $-\infty$ and wagering for comes out uniquely recommended

Eternal damnation to the rescue? (ctd)

- As Hajek (2012) points out, however, this seems to be out of line with Pascal's theological views:

  'The justice of God must be vast like His compassion. Now justice to the outcast is less vast …than mercy towards the elect'

Bartha's Grouchy God

- There have been many criticisms of these arguments (e.g. the 'many gods' objection)
- A variant of Pascal's problem that highlights peculiarities of decision problems in which the acts are *beliefs* (Bartha 2012)
- Bartha understands the act of wagering for a deity as taking steps that will increase to 1 one's assessment of the probability of that deity's existence (see also Hacking 1972)
- But since decisions to wager are *themselves* grounded in such assessments, this leaves open the possibility of making a wager *that undermines the very grounds that one had for choosing it*
- He asks us to consider the case of a grouchy God, who inflicts infinite punishment on believers ($a = -\infty$; assume further $b > d$)

Bartha's Grouchy God (ctd)

- Note: Assuming a situation of decision under risk, wagering against the grouchy god if mandatory if and only if one's evidence entails that $\Pr(G) > 0$
- But consider an agent whose initial probabilities incline them to wager against ($\Pr(G) > 0$)
- As their confidence in the existence of the grouchy deity goes to 0, their initial impetus for the wager is lost: wagering against is rationally self-defeating
- One tempting response: the case highlights something fishy about Pascal-style decision problems

Next week

- Topic: Clifford vs James + Introducing scepticism
- Required reading:
  - Pritchard, D. *WTK*, Ch. 13, except final section titled 'Contextualism'.
- Recommended reading:
  - Dretske, F. & J. Hawthorne 2013: Is Knowledge Closed under Known Entailment? In M. Steup, J. Turri and E. Sosa (eds) *Contemporary Debates in Epistemology, 2nd Edition*. Wiley-Blackwell, pp. 27–59.
  - Sosa, E. 1999: How to Defeat Opposition to Moore. *Philosophical Perspectives* 13, pp. 141-53.

References

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- Bartha, P. 2012. Many Gods, Many Wagers. In J. Chandler and V. Harrison (eds.), *Probability in the Philosophy of Religion*, Oxford University Press, Oxford UK, pp. 187–206.
- Hacking, I. 1972. The Logic of Pascal's Wager. *American Philosophical Quarterly*, 9(2), pp. 186–92.
- Hajek, A. 2012. Blaise and Bayes. In J. Chandler and V. Harrison (eds.), *Probability in the Philosophy of Religion*, Oxford University Press, Oxford UK, pp. 167–186.