

Causation, Chance, and Dummett's Dilemma

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Chance and rational betting odds

Chance and rational credence/betting behaviour

CHANCE/OBJECTIVE PROB.

If $Ch(\text{Heads}) = 0.5$...



CREDENCE/SUBJECTIVE PROB.

... then accept a bet on
Heads at evens or better.

Chance and rational credence/betting behaviour

CHANCE/OBJECTIVE PROB.

If $Ch(Heads) = 0.5$...

(Belief about) a modal fact

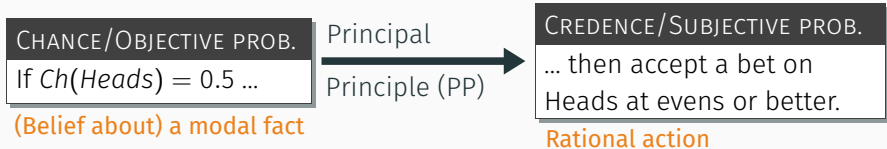


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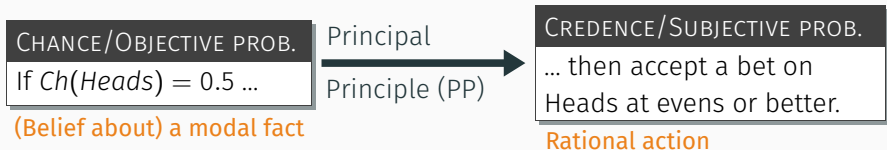
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Rational action

Chance and rational credence/betting behaviour

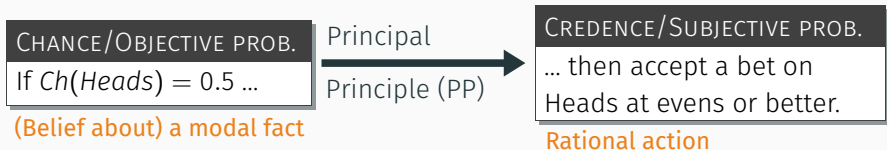


Chance and rational credence/betting behaviour



The *Euthyphro* question: Is the bet rational because of the facts about chance ('Objectivism')? Or do the facts about chance 'turn on' the rationality of the bet ('Subjectivism')?

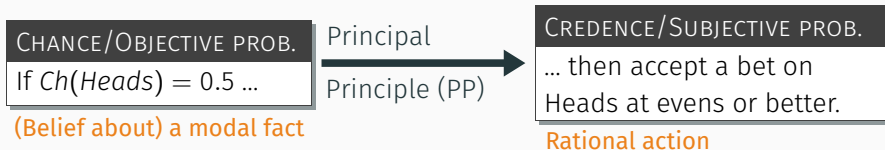
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Advantage of Subjectivism: It **explains** PP.

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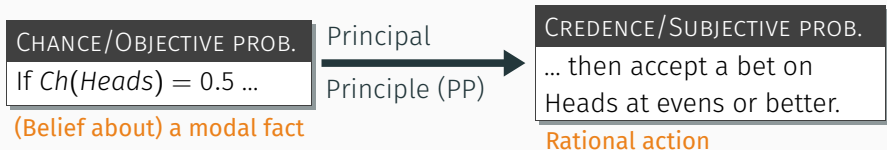


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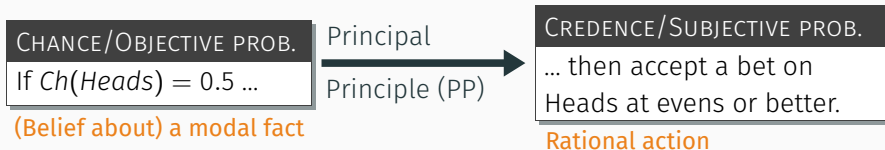
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Lewis (1980): "I am led to wonder whether anyone *but* a subjectivist is in a position to understand objective chance!"

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Papineau (1996): "[M]any philosophers in this area now simply take it to be a **primitive fact** that you ought to weight future possibilities according to known objective probabilities in making rational decisions. ... It is not just that philosophers can't agree on the right justification; **many have concluded that there simply isn't one.**"

Crystal balls



Lewis: The Principal Principle admits exceptions in cases of 'inadmissible evidence', such as that from crystal balls.



Crystal balls

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Principal

Principle (PP)

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If your crystal ball shows that the coin is going to land Tails, rationality doesn't require that you accept an evens bet on Heads – though it remains true that $Ch(\text{Heads}) = 0.5$.



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Hall: PP is always true; chance is just weird in worlds with crystal balls.

Nobody (SFAIK): “Chance isn’t weird, but PP is always true – it is rational to take the evens bet on Heads, even though the crystal ball tells you you’ll lose. (Crystal ball worlds just reward irrationality.)”

Subjectivism	Hall (PP universal)	Use crystal ball
Hybrid theory	Lewis (PP exceptions)	Use crystal ball
Objectivism	[Null] (PP universal)	Ignore crystal ball

Causation and effective strategies

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Causal Decision Theory itself (from 1970s): Widely interpreted in the same Objectivist spirit.

Newcomb problems



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Newcomb problems

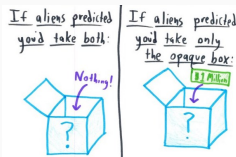
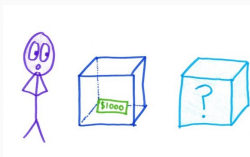
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A causes B

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Theory (CDT)

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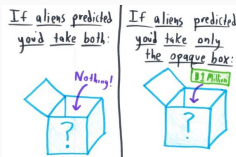
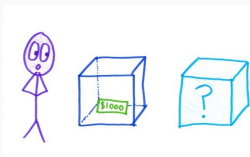
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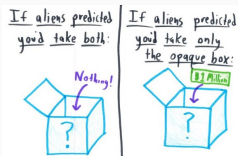
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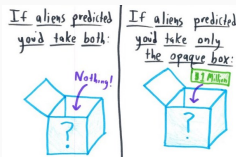
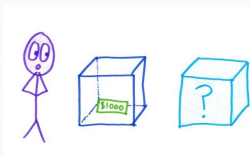
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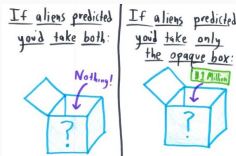
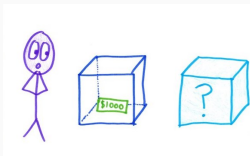
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Two distinctions

In summary, we've distinguished:

- **Objectivism** *versus* **Subjectivism** about causation (by analogy with chance).
- **Causalism** *versus* **Evidentialism** about Newcomb problems.

I want to make two claims:

1. Subjectivism implies that Causalism = Evidentialism.
2. Objectivism favours Evidentialism.

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Dummett on acting for past ends

Bringing about the past



Dummett has two famous early papers on the conceivability of acting for past ends (Dummett 1954, 1964).

Bringing about the past

Dummett (1954): Argues that causation always runs past-to-future; but that acting for past ends might nevertheless be rational.

'Click!': "Imagine that I find that if I utter the word 'Click!' before opening an envelope, that envelope never turns out to contain a bill; ... I keep up the practice for several months, and ... can unearth no ordinary reason for my having received no bill during that period. It would then not be irrational for me to utter the word 'Click!' before opening an envelope in order that the letter should not be a bill. ... [I]f one were really to have strong grounds for believing in such a regularity as this, and no alternative (causal) explanation for it, then it could not but be rational to believe in it and to make use of it"

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'Click!' as a Newcomb problem

If we charge Dummett a small fee for saying 'Click!', then 'Click!' is a Newcomb problem:

- **Causalists** will say that no matter what the envelope contains, Dummett is better off saving the fee.
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- Dummett (1964) continues to defend the coherence of acting for past ends, but is now happy to call it **backward causation**.
- In effect, he has shifted from Objectivism to Subjectivism about causation.
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Causation – summary

Subjectivism	Dummett 1964 (CDT universal)	Say 'Click' / One-box
Hybrid theory	Dummett 1954 (CDT exceptions)	Say 'Click' / One-box
Objectivism	Orth. Causalism (CDT universal)	No 'Click' / Two-box

Dummett's Dilemma

Dummett's two positions in (1954) and (1964) correspond to the two horns of a dilemma for orthodox **Causalists** about Newcomb problems.

The dilemma turns on this question: Are you a **Subjectivist** or an **Objectivist** about causation?

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Objectivist In this case your prime criterion for causality is **something other than** supporting effective strategies – e.g., temporal direction – and you need to explain why the two keep step in exceptional cases. (Dummett 1954 argues that they do not.)

Proposal: Much of the apparent intractability of Newcomb problems stems from failing to distinguish these options.

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Comparison with the Principal Principle & crystal balls

We described two options for PP and crystal balls:

Hall Allow that chance is 'weird' in the presence of crystal balls, so that PP is universal.

Lewis Retain a more orthodox view of chance, but allow that PP admits exceptions for crystal balls.

These mirror the options that Dummett offers us:

1964 Allow that causation is 'weird' in 'Click!'-like worlds, so that CDT is universal. (Causalism = Evidentialism, via Subjectivism.)

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The important point is **what these options exclude**: i.e., the combination **Objectivism + Causalism**.

This option is the orthodoxy in the causal case, though its analogue – 'Chance isn't weird, PP is universal, and it is rational to ignore crystal balls' – has no support at all (AFAIK) in the case of chance.

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Summary

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Subjectivism	Hall	Dummett 1964	
Hybrid theory	Lewis	Dummett 1954	Evidential priority
Objectivism	Nobody	Two-boxers	Modal priority

Counterfactuals to the rescue?

What about the counterfactuals?

Do counterfactuals provide a middle way for **Objectivist Causalism** – a criterion for causation that wears its link to rationality on its face?

Imagine this objection to Dummett's 'Click!' example:

If you had not said 'Click!' the envelope would still not have contained a bill, and you would have saved the fee. The truth of that counterfactual shows that there's no causation involved, and explains the sense in which you did the irrational thing.

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Dummett's response:

*After I have done it, the rules governing ... counterfactual conditionals may entitle me to assert, "If I had [not said 'Click!'; it wouldn't have contained a bill]"; **but that is only a remark about our use of counterfactual conditionals.***

Before I make my choice, I should be a fool to disregard the ... probability of the statement "If I [don't say 'Click!'; it will contain a bill]". That is not merely a remark about our use of the word "probability", nor even about our use of the word "rational", but about what it is rational to do.

Objection: If counterfactuals and rationality belong in the same package, you can't wave one away while framing your entire enquiry in terms of the other.

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Not at all: if [I hadn't said 'Click!'], it might well have contained a bill].

But he slides back into the suggestion that this is merely a point about the use of counterfactuals, which isn't the main issue.

A better approach: Present the dilemma for counterfactuals exactly as we have presented it for causation.

For counterfactuals, too, there is a choice between Subjectivism and Objectivism – but no comfort for the combination Objectivism + Causalism.

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Conclusions

- The apparent intractability of Newcomb problems turns on a failure to ask the *Euthyphro* question about causation – a question that was asked long ago about chance (and answered in favour of **Subjectivism** by giants such as Mellor and Lewis).
- Once the question is asked, orthodox **Objectivist Causalism** – whose analogue already seems absurd in the case of chance – faces a dilemma, whose twin horns are marked by Dummett:
 1. Give up **Causalism** (Dummett 1954); or
 2. Give up **Objectivism** (Dummett 1964).
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The End

	Chance	Causation	
Subjectivism	Hall	Dummett 1964	
Hybrid theory	Lewis	Dummett 1954	Evidential priority
Objectivism	Nobody	Two-boxers	Modal priority

Appendix

Objection: What about medical Newcomb problems, such as the Smoking Gene?

Answer: Once Dummett's Dilemma is on the table, it becomes clear that Causalists can't simply 'read off' effective strategies from their causal commitments, in difficult cases. If they are **Subjectivists**, the facts about effectiveness need to come first; if they are **Objectivists**, the case might be one of the exceptions to CDT.

So everyone is in the same boat, in needing to establish the line between effective and ineffective strategies in non-causal terms. **Evidentialists** have long had the resources to deal with the Smoking Gene case (the Tickle Defence, etc); what's new here is the point that **Causalists** need those same resources, thanks to Dummett's Dilemma.

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