Twitter Thread by Simon DeDeo

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So—probability. Do we really need it? This has been on my mind since 2017, when I finally sat down to think through quantum theory. (/n)

One thing that's always struck me is how *late* probability theory came in intellectual history. We had integral calculus before we had probability. And probability is insanely simple, mathematically!

I'm tempted to say that probability theory is not, in fact, Lindy. Frequentist probability is (for all the usual reasons) best understood as a heuristic. Bayesian interpretations, by contrast, take the remarkable step of tying it to mental states.

You have to work very hard to convince yourself that beliefs really are "degrees of belief in sets of events" (or whatever). It's not natural—and I won't rehearse the whole story about rational choice and decision theory...

So with those critiques in the back of my mind, when I read David Wallace's decision-theoretic account of the Born Rule I was rather primed to say, hey, so what? Meaning...

Not that it wasn't great. But that now I was even more skeptical about the "classical"—meaning probabilistic—world as a real thing.

It made me think that there wasn't really a classical world to "get right" to begin with. (Perhaps this is QBism?)

The one thing that puzzles me, though, is that my experience of reality *seems* probabilistic. There's a bunch of reasonably predictable medium-sized stuff.

So perhaps the real puzzle is this: why is probability theory a really natural thing for perception, but not for higher mental states where (IMO) things are obviously getting weird (see, e.g., the Linda problem).

Probabilistic models work great for perception (see, e.g., the generative autoencoders, etc). But not for higher thought (representation of concepts).

This is about as epistemically edgy as I can get. Doubting that my beliefs are really "degrees of credence in sets of events" is fine, but that seems to lead to saying there's no such a thing as the classical reality of coin tosses.

Having come of age in the 1990s (i.e., well after the hippies that saved physics degenerated into Omni Magazine) I was whipped into not taking the philosophical implications of quantum theory seriously. A little fuzz at the atomic level shouldn’t matter!