Twitter Thread by Simon DeDeo



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Someone tosses a coin ten times; it comes up heads every time. What's the probability it comes up heads on the next toss? (Pretty darn high—part of @nntaleb's work is unprogramming you from your high-school rules of thumb.) Now consider the (related) Gambler's fallacy...

In this case, it's a theory about compensation: the worse one's luck is, the more likely it is to see a reversal. On the surface, it's irrational. The more bad luck you have, the more you accumulate evidence that the system is rigged.

But there's also an anthropic component. If the luck is bad enough, it starts to become inconsistent with your survival. You've accumulated evidence for correlations in the environment, but these correlations (may be) inconsistent with (people like you) being in this environment.

An example. You're in a city where everyone takes public transport. You encounter a string of bad delays. It's reasonable to conclude they'll end—otherwise people wouldn't take public transport. It's unlikely that you happened to show up right when the network collapses.

Of course, that's a bad heuristic in a casino, which relies on a constant influx of losers. But in other environments, particularly with persistent populations and no evidence for sudden changes in the underlying laws, it makes sense.

Another example: the three-card monte scam in a big city. You meet some guys on the corner, who convince you to go in on the game. You win, a few times. The more you win, the more you ought to be convinced that your luck will turn. Otherwise, how are these guys there?

(In this case, the anthropic reasoning concerns the scamsters—it's unlikely that you showed up right when their operation starts to fall apart.)

The general principle, which again is due to @nntaleb, is a new kind of failure. The "IYI", intellectual-yet-idiot. IMO, this is driven by standardized testing—we started to promote people on the basis of their ability to internalize fake-but-difficult-to-master rules...

In a previous cycle, the British ran their empire by fast-tracking twelve year olds who could master Latin grammar. The ambiguities of interpretation make this a much better idea than the SAT version, where one learns more abstract "grammars"—e.g., integration by parts.

Everything can be degraded, of course. When I give CMU students the coin-toss problem, it's usually unfamiliar enough that they're thrown back on a more complex, and life-integrated, form of reasoning. But ask that question enough, and tutors will arise to teach the solution...

...which negates the original value of the puzzle. (BTW, nearly all the students "get it", which bodes well for our future engineers.)

A final thought on this, before I get back to my real work. If you pose this kind of problem as a teacher, there's a second level to what's going on: your students are also modeling you! (and your class.)

i.e., they're asking themselves—is this a class where we're all living in la-la land, or is there some substance here, some connection to our own lived experience?

So, yes, I'm proud that most of my students get it. :)

This is lovely—yes! "I can't be the only idiot" summarizes why we keep waiting for the train with rising hope. https://t.co/s3d4aFg7Tv

> Very interesting thread. For more general cases (\U0001f447) I proposed skin in the game as \u201cwhat makes imitation work\u201d but didn\u2019t consider professional scammers incl. casinos
>
> Both scammers and casinos artificially inflate the crowd to provide an illusion of \u201cI can\u2019t be the only idiot.\u201d https://t.co/cMUrQpxc15
>
> — Luca Dellanna (@DellAnnaLuca) January 18, 2021

You might also connect it to the bulk-vs-long-tail. "I'm not the only idiot" is true when there are repeated tests of the system of similar magnitude.

OK, truly one last thought. A scam is more likely to succeed if you're doing something new, but can convince people you've always been around, that this is "normal". Certainly psychologically obvious, but it's fun to look at it from the point of view of rational analysis.

(In the case where the scam operates by inducing the Concorde/sunk-cost fallacy—slowly extracting money from the person, who continues to believe in a final payoff.)