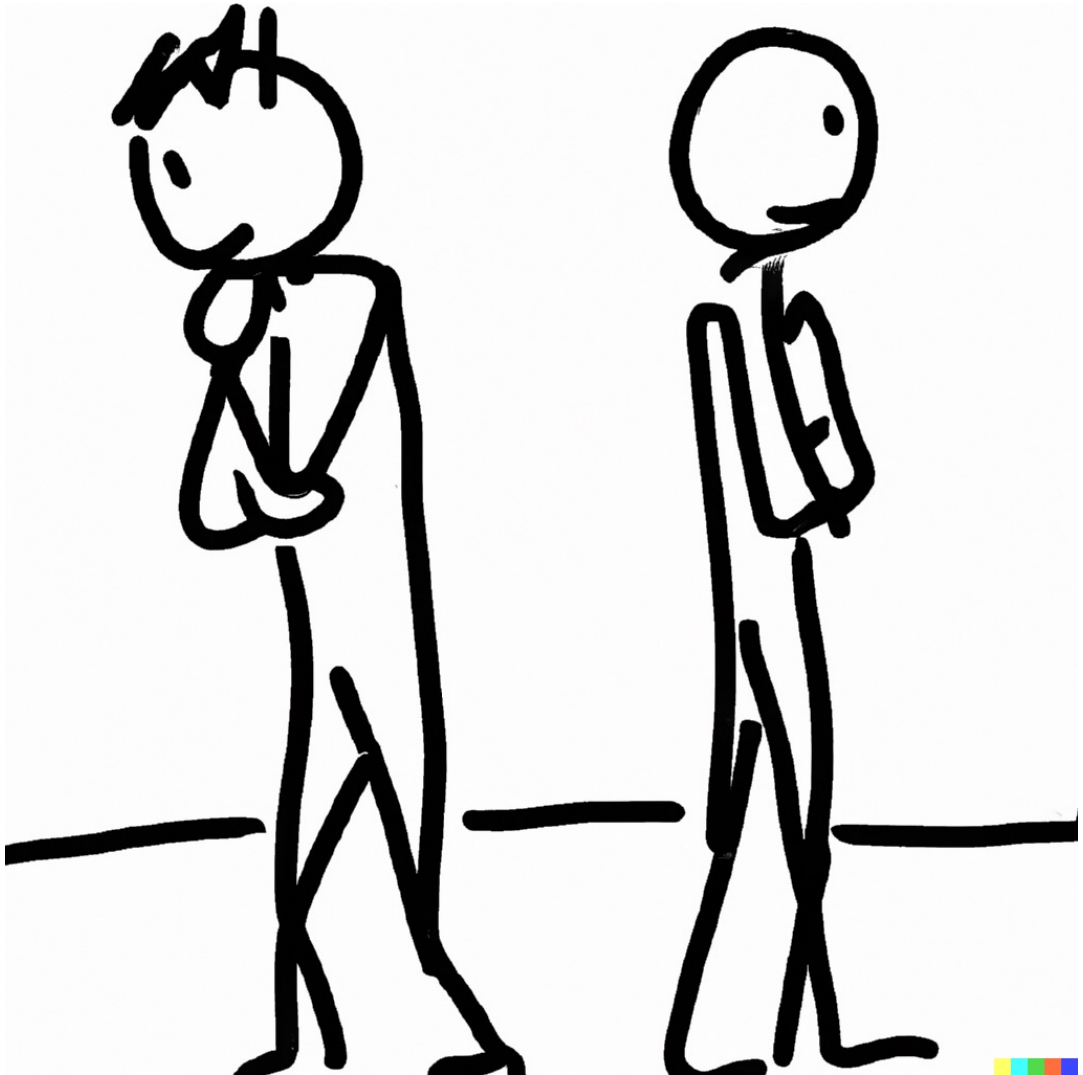
Gambler’s fallacy

Notes on Behavioural Economics

Jason Collins



Probability of a head

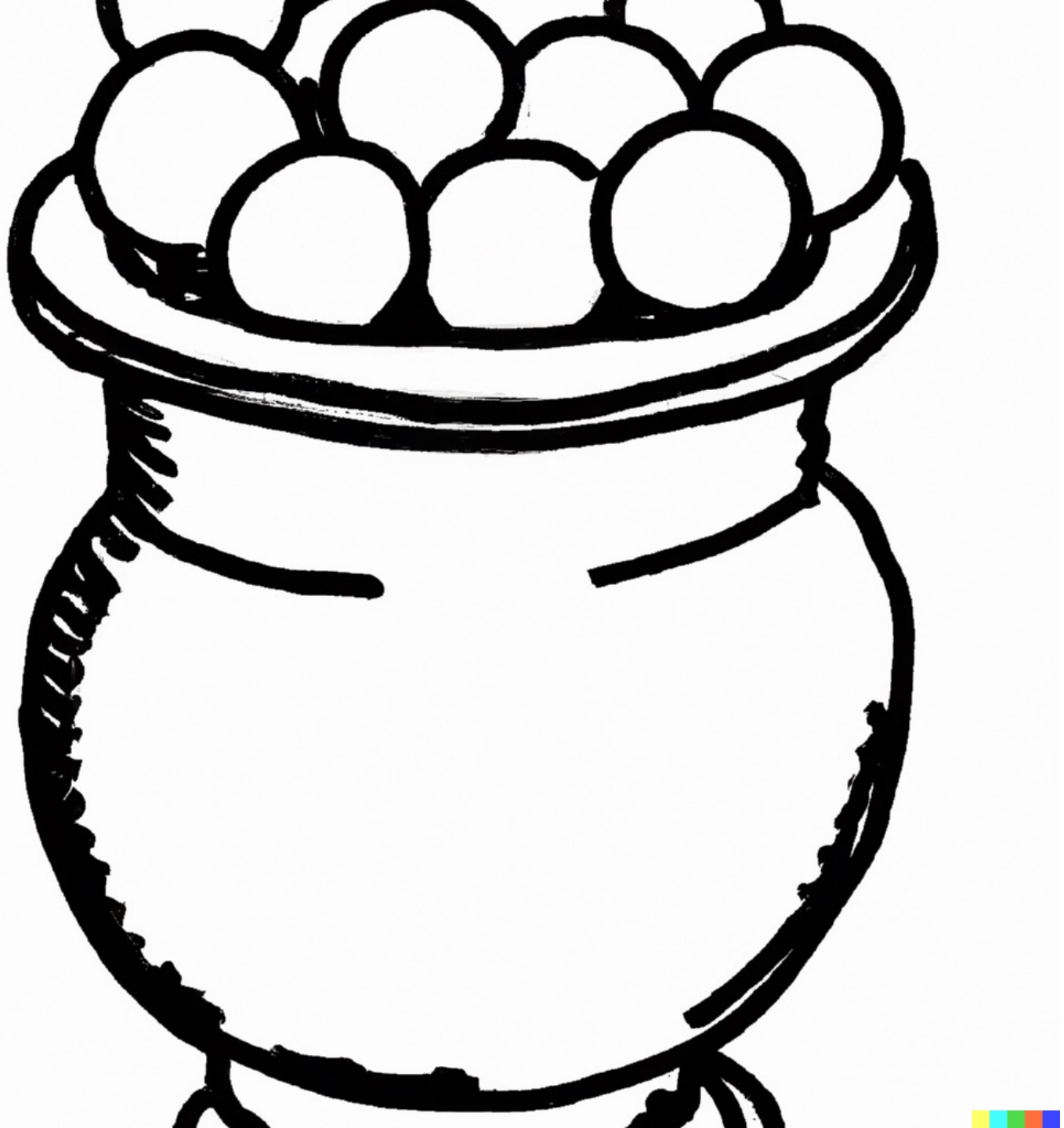
3rd-to-last	2nd-to-last	Very last	Prob. next will be H (%)
H	H	H	30.0
T	H	H	38.0
H	T	H	41.2
H	H	T	48.7
H	T	T	62.0
T	H	T	58.8
T	T	H	51.3
T	T	T	70.0

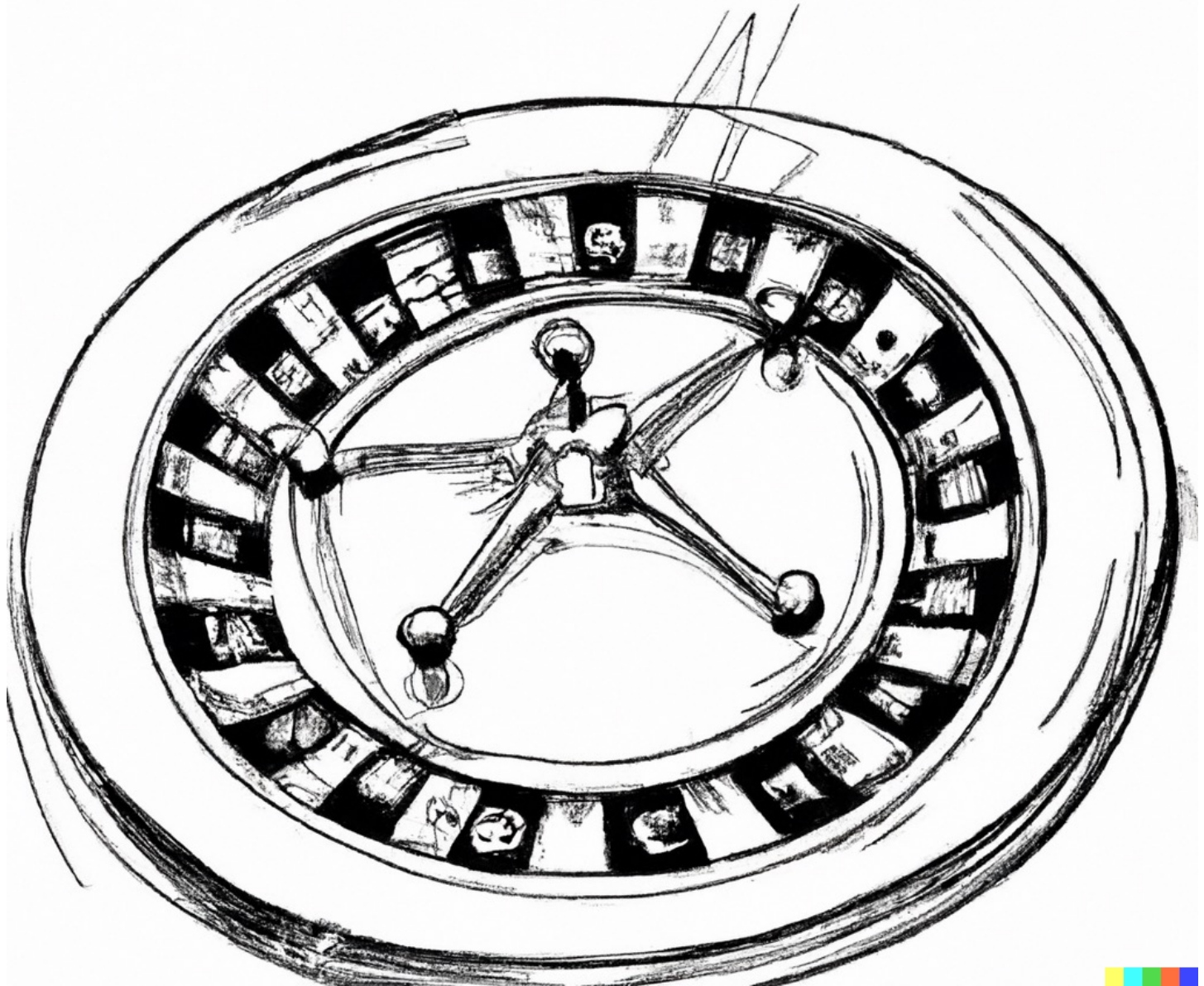
Gambler’s fallacy

HHHHHHH

HHTTHH

The law of small numbers





The law of small numbers

$$\hat{P}(RRRRR|RRRR) = \frac{\text{reds}}{\text{reds} + \text{blacks}}$$

$$= \frac{18 - 4}{(18 - 4) + 18} = 0.438$$

In reality: $P(RRRRR|RRRR) = 0.5$