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The high-stakes, very human nature of risk

Humankind won the giant evolutionary gamble — but our risk-taking may now be going too far

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Picture: 123RF

Fifty-thousand years ago, humans were on the verge of extinction; there were just 20,000 of our early ancestors, compared with 100-million elephants. Elephants — well dispersed across continents, having big, complex brains and supportive social networks — had apparently won the evolutionary design competition.

The Gambling Animal, co-authored by polymath academics Glenn Harrison and Don Ross, attempts to answer the question, "What changed?"

The question is answered with reference to interdisciplinary studies: evolutionary science, neuroscience, and the psychology and sociology that influence behavioural economics.

The latter is the authors' core field; they specialise in the economic analysis of risk, running research programmes in multiple countries, including SA. The essence of the book is pinpointed fairly early, then substantiated from various perspectives as the book gathers momentum. It is that "humans became ecologically dominant by finding new collective ways of managing shared risk".

But this is exactly what an elephant herd does when, for example, it plans a foraging expedition. So the fuller explanation is complicated — and the answers are not only to do with the information-processing capability of human brains compared with elephants. (Indeed, in some respects, elephants have better brains.) Rather, humans "took dangerous gambles that elephants were naturally disposed to avoid". This — the scaling up of risks that humans could manage — was the de facto process of building civilisation.

The passage unveiling this core idea is fascinating. It's not entirely far-fetched, the authors believe, that the first civilisation — and thereafter the dominant one, because this blocks civilisation in all other species — could have been started by elephants, not humans. They don't think this was likely; more probably, no civilisation at all would have arisen. Their point is that we need to understand the "particular gambles" our species took to get us to the pinnacle position. We have now scaled risk too far, so this knowledge may help to downscale the current gamble that threatens us all, including our fellow creatures.

Why do we think the way we do?

Our brains direct our management of risks, so the book's inclusion of a specific chapter on neuroscience makes sense. But it isn't easy to follow, the complexity only gearing into understanding when the science of addiction is unpacked, especially in relation to modern day gambling. Broadly, my understanding is that the brain's reward-seeking neurons release dopamine in response to pleasurable experiences, in turn compelling the nervous system to take action to find behavioural patterns that will repeat the reward.

The Gambling Animal
Humanity's Evolutionary Winning Streak – and How We Risk It All

Glenn Harrison   Don Ross

Picture: SUPPLIED

So addiction is a brain response; it's not a disease, say the authors, nor even a malfunctioning of the brain, because addicts' brains "are trying to learn probabilities of rewards just as natural selection built them to".

Electronic gaming machines are deliberately designed and programmed to capitalise on this. There is no pattern to learn, but the gambler's brain believes there is, and it values the experience of a recent win — no matter how small, and how far back — over far more regular disappointments (losses).
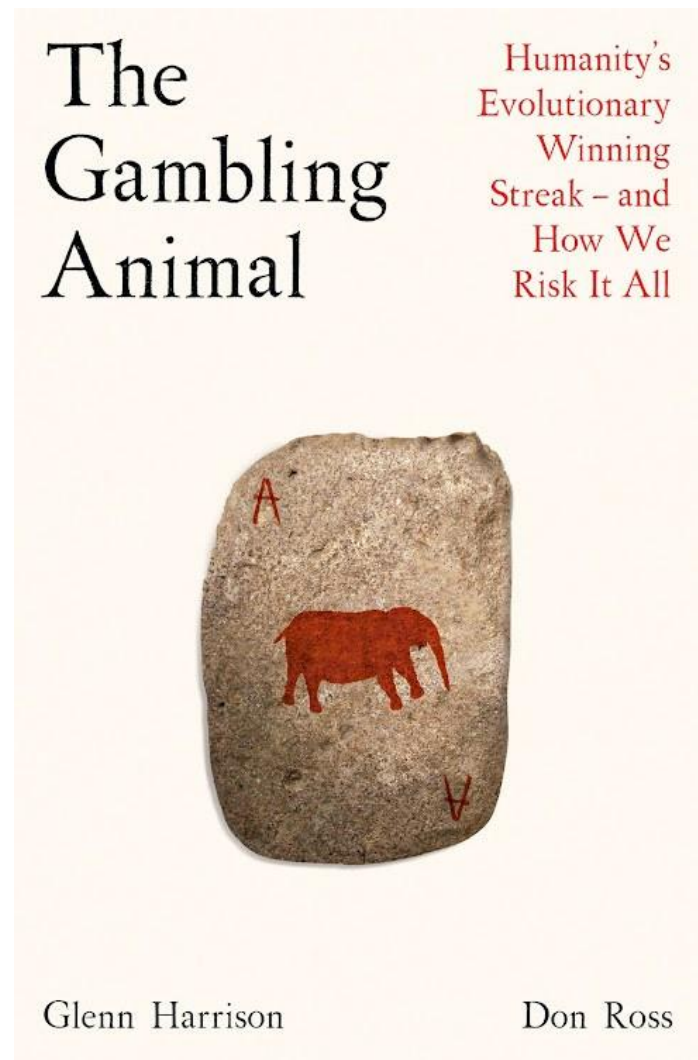
Further, the casino environment is adapted to trigger a state of flow in the gambler's mind and behaviour. "Many of the worst addictive traps for humans are set on purpose, by other humans," is one of authors' observations. Society understands that meth labs are criminal, but the book's explanation of the risk trap of addiction makes it unfathomable that we tolerate industries whose core business model is addicting people. It's a shocking indictment that the size of the worldwide gambling market is $540bn, and the cigarette market stands at $1.134-trillion, on which the book concludes too gently that "addiction, despite being a problem at the individual scale, calls for [a] co-ordinated social response".

Other sections of the book, such as those unpacking probability theory and statistical modelling and their relevance to behavioural economics, also require careful and patient reading. They spring sudden rewards, like a segue into the origins of morality. Behavioural norms are a critical building block for civilisation because they allow a widening of co-operative communities. Over time, the norms most important to a society's progression then get moralised within its culture. Above all, however, morals serve a risk-relevant purpose: they help manage our collective response to the complexities that have arisen as our species has advanced in a technological sense.

But at each phase of humankind's technological progress, our successful management of risks has led to new ones, on an increasingly complex and global scale. *The Gambling Animal* shows how human history is a pattern of ratcheting up our gambles, forging technologies to solve ever-more consequential risks.

There's a warning implicit in how the book rounds out. The various appendices culminate in an example, using the extent of sea ice, to illustrate the statistical distribution of probabilities. Readers do not need to be even remotely numerate to grasp what the data shows: in all recorded time the extent of sea ice has never fallen as rapidly as it has since 1980. The average level since then is about 15% lower than the average for the 2,500 years before. We don't need to be biologists to know that this has implications for the Arctic's ecology, for sea level rise, for further global warming. These are monumental risks the gambling human animal must now decide on.

For all the book's discussion of probabilities and the management of risk and the consequences of rewards that flowed from aeons-old decisions, it ends with a sense of sadness — and a flickering hope. The coda is titled *The Predicament of Elephants*. "Like other non-human forms of life, they dwell now in the Anthropocene," Harrison and Ross note in the bland tone of academics. No matter how badly or immorally we manage the consequences, the Anthropocene almost certainly will not mean extinction for us, nor for life in general.
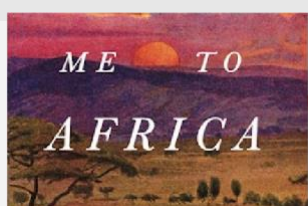
"But," they add, "there is a very serious prospect that the end looms for elephants." Empathy breaks through the intellectualising and theorising of the work they are doing: "Some humans ... whose sense of community has widened sufficiently far to include elephants want to prevent the disappearance of their spectacular and morally important way of being."

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