

A life on the wild side

John Launer

"I have spent over a year of my life in lock-up due to being bi-polar. Often when I'm brought in by the police during a manic episode, it's obvious that I need to be incarcerated in hospital, and the transfer promptly takes place. Getting out once you're in takes some negotiation, as well as evidence that your manic phase is sufficiently under control. After the episode is indeed under control, you suffer depression of a half to a full year, after which you are back to functioning as you were before. This subject would almost require a book in itself, but here I am skipping it entirely and focusing only on my criminal arrests."¹

This quotation is from a recent autobiography, written by an American in his seventies who has spent much of his life in Jamaica. It is actually from one of the less dramatic parts of the book. Elsewhere, we learn about the author's encounters with violence, gangs, marijuana, cocaine, alcohol, prostitutes, armed robbery, murder, near-death experiences – and lizards.

The reason the lizards are in the book, along with pigeons, ants, humans and other organisms, is that the writer is in fact Robert Trivers, one of the world's leading evolutionary scholars. He has managed to combine a life of mental illness, danger, feuds and controversy with discoveries in evolutionary biology that some people consider among the most important since Darwin.

Trivers' career was unconventional from the start. His first love was astronomy, but he entered Harvard to study maths, before changing to history in order to become a lawyer and then, after his first psychotic breakdown, taking a course in psychology. Rejected from conscription into the Vietnam war because of his medical history, he found a job designing training materials in social sciences for schoolchildren. As he knew no biology, his employers paid for him to have a private tutor, an eminent researcher called Bill Drury, who taught him how to communicate with mammals and birds and to study their social behaviour. By the age of 23, Trivers had already made some original discoveries concerning sexual

relationships in pigeons. He returned to Harvard, to study biology. By the time he completed his doctorate at 29, he had already published the first of his papers on evolution that established his reputation as a thinker of international stature.

MAJOR THEORIES

Many great scientists become famous for a single major theory. Trivers, by contrast, is known for five or six. His first and perhaps most familiar is "reciprocal altruism". Previously, evolutionists had all struggled to understand how altruistic behaviour could possibly survive in a world driven by competition. One of Trivers' teachers, Bill Hamilton, had come up with a good explanation for why organisms can be unselfish toward their own kin: they are in fact helping to perpetuate a proportion of their own genes. Trivers was the first to take this further and demonstrate how generous behaviour might serve the organism's own long term self-interest too, through building up reliable alliances.² Among other things, this insight provided the first robust connection between biology and ethics.

A year after this ground-breaking paper, Trivers brought out another one, on parental investment and sexual selection. He showed how the behaviour of males and females in any species is influenced by the differing amounts of time and energy they each devote to raising offspring.³ For example, in species where females invest a great deal more than males, they generally put on impressive displays to try and attract males of better genetic quality, while males will behave more aggressively in the pursuit of further matings. In another paper published soon afterwards, Trivers addressed parent-child conflict. He argued that the interests of each generation, or of different siblings, were not genetically identical, and hence would always be prone to certain predictable conflicts.⁴ For example, it is in a baby's interest to suckle and to hold its mother's undivided attention for as many months as possible, while the mother is likely to have other biological priorities. These include the welfare of her other offspring, or preparing herself for conceiving future ones. This kind of understanding, and the mathematical calculations that go with it, have provided a scientific basis for the field now known as evolutionary psychology.

In the 1980s, Trivers turned his attention to an apparently unrelated field: the evolution of deceit and self-deception. In one of the most extraordinary academic collaborations ever, he wrote a paper on this with Huey Newton – an African-American revolutionary who had founded the Black Panther movement to defend blacks against police violence. Newton was a student of Trivers and they became close friends, with Trivers himself joining the movement as one of its few white members. Together, they wrote a paper analysing the recording of a cockpit conversation between a pilot and co-pilot, leading up to an air crash in which 78 people died.⁵ They showed how the crew had entered a fantasy world, denying all the signals that their plane was in extreme danger. Newton and Trivers used this analysis to illustrate a new hypothesis concerning self-deception: that it evolved as a way of disguising lies, through first persuading oneself they were true. This hypothesis, which Trivers later developed into a book,⁶ is now widely accepted among psychologists.

COMPETING GENES

Few biologists have ever turned their attention from the big evolutionary picture to the exacting details of molecular genetics, but Trivers has done just that. He and his colleague Austin Burt spent 15 years compiling a massive textbook that examined the ways that genes can compete within a single organism.⁷ He regards conflict between "selfish genetic elements", universal in nature, as being on a continuum with the conflicts between whole organisms. As if this list of previous interests was not enough, Trivers is now conducting long-term research into anatomical symmetry in humans as a predictor of athletic speed.⁸ He also has an interest in the evolutionary understanding of "honour killings" and homosexuality⁹ – and has founded an armed group to protect gay men from mob violence in Jamaica.

In spite of his struggles with psychosis, addiction and incarceration, Trivers has received the Royal Swedish Academy of Science Crafoord Prize, the equivalent of a Nobel Prize in bioscience. Better-known evolutionary scientists like Richard Dawkins and Steven Pinker acknowledge his primacy in the field, and their intellectual debts to him. Dawkins invited him to write the foreword to the first edition of "The Selfish Gene", while Pinker has said of him: "I consider Trivers one of the great thinkers in the history of western thought. It would not be too much of an

Correspondence to Dr John Launer, Professional Development Department, Health Education England, Stewart House, 32 Russell Square, London W1B 5DN, UK; john.launer@nwl.hee.nhs.uk

exaggeration to say that he has provided a scientific explanation for the human condition: the intricately complicated and endlessly fascinating relationships that bind us to one another".¹⁰ It is hard to know if there is more to learn from Trivers' own phenomenal ideas, or from the fact they have emerged from such extraordinary and turbulent life. Taken together, they certainly have important lessons to teach us.



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To cite Launer J. *Postgrad Med J* 2016;**92**:567–568.

Postgrad Med J 2016;**92**:567–568.
doi:10.1136/postgradmedj-2016-134422

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