

Evolution, modern life & all that jazz

NON-FICTION

SEX, GENES & ROCK'N'ROLL: How Evolution Has Shaped the Modern World. By Rob Brooks. New South. 303pp. \$34.95.

Reviewer: STEPHEN SAUNDERS

The scientific perspective isn't always comforting or comfortable, cautions this University of NSW evolutionary biologist. Still, Rob Brooks is stepping forward to recommend evolutionary science as a useful guide to everyday issues and problems of our species. A guide that he sees as being somewhat crowded by religion and self-help books.

Evolution is even more useful, he says, if you link it to the study of economics and culture. Ignore the false divides between "nature and nurture, genes and environment". But mark you our "hideous and demonic" evolved traits, not just the cuddly ones.

This smorgasbord on human evolution first considers the obesity epidemic. Other key topics are population and fertility, love and mating, and (as per the title) popular music.

Our primeval ancestors gathered much less of their total energy from carbohydrates, relative to proteins or fats, than we do. They evolved a then-adaptive tendency to lay down any surplus kilojoules as fat, as if the "next famine" were imminent. Problem is, food is now "cheaper, more abundant, more refined, sweeter and higher in saturated fat" than it's ever been.

When we moderns sup too few proteins, Brooks explains, our bodily engines tend to way overcorrect on the carbs. As evolution hasn't sussed out how to make this unexpected surplus disappear, it can make us pear-shaped. In wealthy countries, with intervening economic and dietary influences, the poorer rather than richer people may fatten up.

So the author suggests that healthy governments shouldn't subsidise the production of sugars and cheap high-carb foods. If anything, their purchase should be taxed more, like drinks and smokes. For which cause he finds no less an authority than Adam Smith, grouping sugar, rum and tobacco as "extremely proper" commodities for taxation.

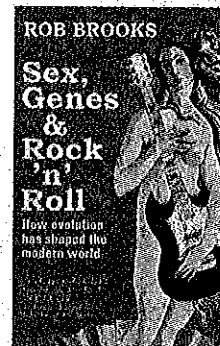
In love and mating, Brooks stresses, the immediate winners and losers are the individuals. Not the group or species as such. Unfortunately, "the evolutionary interests of individuals often conflict directly with the ecological interests of the species".

We seven billion are likened to the elephant herds of Botswana or South Africa: "There are so many of us that our consumption is damaging the planetary systems that sustain us." Biologists may encounter "hundreds of examples" of unsustainable densities leading to species crashes, including known examples among human societies. That matters less to economists and politicians, who are "focused on delivering economic growth via growing populations, increased consumption".

The primeval thing used to be that successful human families passed on more kids. The wealthier could procreate more, outsourcing the costs to the poorer. But these connections have flipped in richer countries, in which generally fertility is reduced overall and among the wealthy. Such paradoxes can't be explained directly through natural selection. Hence, the author turns to economic and societal logic, such as "Kids are getting dearer" and "If mum had her way".

Brooks infers that the so-called "tragedy of the commons" – as applied to the family trying to internalise benefits and externalise costs of its procreation – need not lead inevitably to destructive and indefinitely increasing world population. He discusses China's "Orwellian" one-child policy and Iran's notable turnaround in population growth. He doesn't directly consider his own country, where postwar parties and governments have consistently denied that democratic policy can (or should) control population growth.

This scholar "paid to think about sex" emphasises the different evolutionary strategies of men and women in reproduction. To begin with, the males average 1.9 per



cent taller and much beefier. No big deal compared with some primates, but suggestive to an evolutionary biologist that "fighting and territoriality among men have been an important part of our mating system for at least a few million years".

Fortunately, the female of our species has evolved a buffer to the biff. Here Brooks is referring to its "triumph" of (nearly) concealed ovulation. Which, usefully, serves to

confuse and defuse the issue of paternity. And also, he theorises, dampens partner jealousies and unwanted attentions from non-partners.

Don't expect this evolutionist to have rigid ideas about human mating. Not in a species that "naturally" appears to be pair bonding – or polygynous – or promiscuous. "In my opinion," he summarises, "there really is no such thing as a single 'natural mating system' for humans."

One age-old arrangement is the "sex contract". Whereby she appears to give him exclusive sex and kids, in return for dedicated food and protection. Not so simple, Brooks counters, as female hunter-gatherers commonly collect more in food value than their men. Not that exclusive or durable either, in many lives and in many cultures.

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Brooks highlights the invention of intensive agriculture as a profound influence on the mating leverages of men and women, rich and poor. Early agriculture, from his perspective, rather disempowered women. In its newly sedentary environment, suddenly the "fittest" women were the fastest baby-farms. Previously, natural selection had favoured more leisurely reproduction rates, less onerous for women.

Indeed, the author ascribes the rise of patriarchy to the success of agriculture. But the anthropologists and primatologists perceive many forms of patriarchy in pre-agricultural human societies or chimpanzee societies.

There weren't many Kublai Khans who got to sequester huge harems. Still, Brooks doesn't see the tilling of the fields in any way softening reproductive inequalities among ordinary males. Lesser males might have to struggle even harder to maintain their reproductive fitness. Down to today, Brooks ruminates, young desperados will literally fight for respect from rivals, women and society: "Men are more likely to kill one another in societies and neighbourhoods with big wealth inequalities."

Evolution doesn't prescribe right or wrong, he

society got to here, including its ideas of right or wrong. His sternest denunciations relate to polygyny and female infanticide.

Polygyny and democracy don't mix, he declares. That's because the former "promotes the deepest evolutionary interests of the wealthiest and most powerful men at the expense of all other men and all women". And the age-old practice of killing girl babies is dumb social policy, because "having too many men about the place is not a good thing". That is, if female scarcity squeezes men's marital and reproductive prospects, they're bound to find costlier forms of trouble and violence.

For more on trouble and violence, savour the graph at page 266. It plots the lives and deaths of rock music "immortals" according to increasing age. The male stars especially are much more likely to perish in the 25 years after their first fame, as compared with ordinary males in the same cohort. If popular music is "the greatest courtship signal that ever evolved, it is also one of the most deadly".

What a way to go! The doomed Rolling Stone, Brian Jones (pictured), managed "four children, each by a different mother". (At least five by five, some sources claim.) "The sheer number of fertile women who got up very close to the Stones," sighs Brooks, "is rivalled by very few men in history".

There are serious evolutionary questions in this jam session: Is music itself an adaptation shaped by evolution, or an auditory "cheesecake" that stimulates other evolved mental faculties? How does the harmfulness of inherited genes intertwine with their rarity or age of onset? How does our (evolved) long adolescence connect with our song memories in middle age? What's the link between musical taste and personality?

"Rock bands," the author comments, "bear more than a passing resemblance to hunting or raiding coalitions." Frank as he is, he spares the reader our most demonic band of all. Humans and chimps appear to be the only mammals carrying an ancient evolved trait for territorial raiding coalitions to attack and kill their own kind. What a relief we can emulate the chimps in sharing and altruism – also fascinating questions of evolution and culture.

Stephen Saunders is a Canberra reviewer with three offspring and a bunch of rock records.

The Meeting

Single chromosomes
line at the equator
nervous about meeting
their life partner
for once they join
they can never separate
only copy themselves
divide and multiply
spindle fibre joins
homologous chromosomes
in matrimony made in heaven
they order and divide for the
first time
enjoy the process so much
they repeat again
as a foetus grows
soon their dance is forgotten
as life breathes.

-- Lilliana Rose