# Die young, live fast

Could many of the problems in modern societies actually be evolved strategies to deal with dire circumstances? **Mairi Macleod** investigates

FROM feckless fathers and teenaged mothers to so-called feral kids, the media seems to take a voyeuristic pleasure in documenting the lives of the "underclass". Whether they are inclined to condemn or sympathise, commentators regularly ask how society got to be this way. There is seldom agreement, but one explanation you are unlikely to hear is that this kind of "delinquent" behaviour is a sensible response to the circumstances of a life constrained by poverty. Yet that is exactly what some evolutionary biologists are now proposing.

There is no reason to view the poor as stupid or in any way different from anyone else, says Daniel Nettle of the University of Newcastle in the UK. All of us are simply human beings, making the best of the hand life has dealt us. If we understand this, it won't just change the way we view the lives of the poorest in society, it will also show how misguided many current efforts to tackle society's problems are – and it will suggest better solutions.

Evolutionary theory predicts that if you are a mammal growing up in a harsh, unpredictable environment where you are susceptible to disease and might die young, then you should follow a "fast" reproductive strategy – grow up quickly, and have offspring early and close together so you can ensure leaving some viable progeny before you become ill or die. For a range of animal species there is evidence that this does happen. Now research suggests that humans are no exception.

Certainly the theory holds up in comparisons between people in rich and poor countries. Bobbi Low and her colleagues at the University of Michigan at Ann Arbor compared information from nations across the world to see if the age at which women have children changes according to their life expectancy (*Cross-Cultural Research*, vol 42, p 201). "We found that the human data fit the general mammalian pattern," says Low. "The shorter life expectancy was, the earlier women had their first child."

But can the same biological principles explain the difference in behaviour between

When life expectancy is short, it makes sense to have babies early

BELOW: "THE CHILD" (LES FILMS DU FLEUVE/ARCHIPEL 33/RTBF/ARTE FRANCE CINEMA/CANAL+/EURIMAGES/LOTERIE NATIONAL DE BELGIQUE/CNC/RONALD GRANT ROBIN NELSON/ZUMA

rich and poor within a developed, post-industrialised country? Nettle, for one, believes it can. In a study of over 8000 families, he found that in the most deprived parts of England people can barely expect 50 years of healthy life, nearly two decades less than in affluent areas. And sure enough, women from poor neighbourhoods are likely to have their babies at an early age and in quick succession. They have smaller babies and they breastfeed less, both of which make it easier to get pregnant again sooner (*Behavioral Ecology*, DOI: 10.1093/beheco/arp202).

"If you've only got two-thirds as much time in your life as someone in a different neighbourhood, then all of your decisions about when to start having babies, when to become a grandparent and so on have to be foreshortened by a third," says Nettle. "So it shouldn't really surprise us that women in the poorest areas are having their babies at around 20 compared to 30 in the richest ones. That's exactly what you would expect."

Consciously or subconsciously, women do seem to take their future prospects into account when deciding when to start having children. At a meeting last year, Sarah Johns at the University of Kent in Canterbury, UK, reported that in her study of young women from a range of socioeconomic backgrounds in Gloucestershire, UK, those who perceived their environment as risky or dangerous, and those that thought they might die at a relatively young age, were more likely to become mothers while they were in their teens. "If your dad died of a heart attack at 45, your 40-year-old mum has got chronic diabetes and you've had one boyfriend who has been stabbed, you know you've got to get on with it," she says.

It's the same story in the US. The latest figures, from 2005, reveal that teenage motherhood accounts for 34 per cent of first births among African Americans – who are more likely to live in deprived areas – and 19 per cent among whites. Arline Geronimus of the University of Michigan at Ann Arbor, who has studied health inequalities and ›

"In the most deprived parts of England, people can barely expect 50 years of healthy life – two decades less than in affluent areas"