Unnatural Selection

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For decades now the conventional social sciences have turned their backs on Darwinian theory as a tool for understanding man. The social sciences are driven by a core awareness of the tremendous power of culture in moulding human behaviour, yet social scientists have been led to believe that Darwinism largely rejects this. But there is a problem for those who hold that human behaviour is not so moulded but that our observable behaviour is written into our genes. Their problem is that it is a view that is utterly rejected by Richard Dawkins, John Maynard Smith and George Williams, the three biggest names in orthodox Darwinian theory. As we shall see, Darwinism does not just ground human malleability. It shows that it is our susceptibility to being moulded by culture that is the defining quality of the human animal, and the very key to the existence of civilization.

Darwinism and the social sciences

> 'The rejection of a central role for Darwinism by the mainstream of twentieth-century social science has been a historical process of some complexity. … Most important, we believe, was the apparent importance of culture in shaping human behavior'—Robert Boyd and Peter Richerson[1].

For over twenty years those who have most loudly spoken for the human implications of Darwinism have tended to deride social scientists. This group has operated under such titles as 'human sociobiologists' (where sociobiology is supposed to be the scientific study of the biological basis of all forms of social behaviour in all kinds of organisms including man) and 'evolutionary psychologists'.

'My initial interest in Darwinian theory was roused by philosophers' criticisms—not because I thought that they were right but because I was convinced that they must be seriously wrong', writes the evolutionary psychologist and philosopher of science Helena Cronin[2]. Edward O. Wilson, the founding father of human sociobi-

[1] R. Boyd, and P. J. Richerson, *Culture and the Evolutionary Process* (University of Chicago Press, 1985), 1.

[2] H. Cronin, *The Ant and the Peacock: Altruism and Sexual Selection from Darwin to Today* (Cambridge University Press, 1991), xii.

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ology, is also critical of philosophers, 'most of whom lack an evolutionary perspective'[3]. Evolutionary psychologists mock the 'Standard Social Sciences Model' that holds at its centre the idea that humans are malleable creatures, and as the science writer and journalist John Horgan tells us after watching a meeting of American evolutionary psychologists: '[t]here is much gleeful bashing of those deluded souls who think culture—whatever that is—determines human behavior'[4].

The outcome of the social sciences' belief that Darwinism ignored or refuted the necessary role of culture was understandable hostility, and a rejection of the importance of Darwinism by many social scientists. See, for example, Mary Midgley's article[5] in *Philosophy* criticizing Dawkins' *The Selfish Gene*, and which Dawkins calls a 'vicious paper'[6]. This hostile attitude, however, has been a great tragedy for both the social sciences and Darwinism, as at a stroke it removed many of those who would otherwise have seen the enormous inconsistencies that have been creeping into Darwinism in the last twenty years. The greatest mistake social scientists have made was in not discriminating between the various Darwinian theorists.

More recently, certain social scientists have come to the conclusion that they can no longer simply ignore modern biological science, and have sought to build bridges with Darwinism. Yet because social scientists are now coming back to Darwinism with no real background in, or knowledge of, the various underlying debates, they have been seeking their reconciliation with the vocal element; the human sociobiologists and the evolutionary psychologists. The vast majority of social scientists are totally unaware that this vocal element does not speak for orthodox 'selfish gene-ery'. This vocal element actually operates with an *heretical* interpretation of the selfish gene concept. Social scientists have been seeking to make their accord with what Richard Dawkins in 1981 called 'evangelistic' sociobiology[7], which is often written by 'doctrinaire sociobiologists

[3] E. O. Wilson, *On Human Nature* (Cambridge, Massachusetts, Harvard University Press, 1978), 5.

[4] J. Horgan, 'The new social Darwinists', *Scientific American* **273**, No. 4 (October, 1995), 152.

[5] M. Midgley, 'Gene-juggling', *Philosophy* **54**, No. 210 (October 1979), 439–458.

[6] R. Dawkins, *The Selfish Gene* (revised edition to first edition published 1976), (Oxford University Press, 1989), 278.

[7] M(ark) Ridley and R. Dawkins, 'The natural selection of altruism', *Altruism and Helping Behavior: Social, Personality and Developmental Perspectives*, J. P. Rushton and R. M. Sorrentino (eds) (Hillsdale, NJ: Lawrence Erlbaum, 1981), 35–37.

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jealously protective of the importance of genetic influence' in the human animal[8]. A good example of this is given by the political theorist Allan Gibbard.

Gibbard bravely and importantly tried to reconcile 'the normative' and 'the natural' approaches to the human animal in *Wise Choices, Apt Feelings*, but, though he is critical of much evangelistic sociobiology, he nevertheless seems to ground his Darwinian understanding in this heretical tradition. Thus he can write: '[i]t should not be surprising if we find widespread benevolence without thought of return. Often returns come unthought'[9]. As we shall see, from a pure orthodox gene selection standpoint, yes, it should indeed be surprising. Evangelical sociobiology, the driving force behind *all* 'behavioural genetics', tries to argue that 'human decency is animal' (Wilson[10]), that 'helping the sick and the weak … emerged through the process of natural selection' (Gribbin and Gribbin[11]). But, as Dawkins tells us, our decency, our compassion, has nothing to do with our genes: '[c]ivilized human behavior has about as much connection with natural selection as does the behavior of a circus bear on a unicycle'[12].

Selfish gene-ery

In 1966 George C. Williams wrote *Adaptation and Natural Selection*, and in so doing began the 'selfish gene' revolution. Selfish gene-ery (also known as 'gene-selectionism') is today accepted as the Darwinian orthodoxy, as the conventional understanding of modern Darwinism. Central to it is the understanding that selection operates at the near-exclusive level of the gene; that natural selection operates upon genes, and that higher-level entities (individuals, families and even groups) benefit only as a by-product of what is good for individual genes. Darwin himself realised that: 'natural selection can act only through and for the good of each being[13]'—today termed 'individual selection'—but the selfish gene revolution is the realization that selection, in almost all cases, is actually operating at the lowest level, that of the gene. What it is important for

[8] Op. cit. note 6, 331.

[9] A. Gibbard, *Wise Choices, Apt Feelings* (Oxford: Clarendon Press, 1990), 258.

[10] E. O. Wilson, 'Human decency is animal', *The New York Times Magazine*, (12 October, 1975), pp. 38–50.

[11] M. Gribbin and J. Gribbin, *Being Human: Putting People in an Evolutionary Perspective* (London: Phoenix, 1995), 246.

[12] Op. cit. note 7, 32.

[13] C. Darwin, *On the Origin of Species by Means of Natural Selection*, (edited and introduced by J. W. Burrow), (London: Penguin, 1968), 133.

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social scientists to realize is that 'group selection'—the idea that nature will select for the benefit of the group, rather than its component parts—is anathema to modern orthodox Darwinism: it is heresy. And, to quote the evolutionary theorist Niles Eldredge: '[t]he three main characters in the [selfish gene] camp would be [John] Maynard Smith, George Williams, and Richard Dawkins'[14].

The reason that gene-selectionists hold that group selection will not occur is that evolution is a struggle for survival and works because it is. As Williams showed in 1966, any selected useful trait (or 'adaptation') that managed to evolve for the good of the group would suffer from 'subversion from within'. Organisms within groups are still competing against one another, and the organisms that begin to take the benefits without paying the costs will be favoured by evolution. Those organisms that acted for the good of the group, rather than at all times being driven by what is good for themselves, would be taken advantage of and would not be the successful ones.

'Subversion from within' has consequences. John Maynard Smith made a major breakthrough in the early 1970s when he applied game theory to the natural world to develop the concept of the *evolutionarily stable strategy*, or ESS. An ESS is defined as a strategy which, if most members of a population adopt it, cannot be bettered by an alternative strategy. Such a strategy cannot then be bettered by an aberrant individual; the strategy is 'stable' and cannot be subverted from within. No aberrant individual will have a higher fitness or potential for reproduction, and the trait thus becomes fixed. It is the paradigm of game-theoretic modelling, and where, of course, it is iterated Darwinian selection playing the role of the 'rational' policy selector. Natural selection provides a dynamic which will, subject to constraints, cause a population to evolve towards an optimum. Groups are made up of competing individuals, and natural selection creates limits on group sizes, dependent on the level of co-operation necessary between the individuals, and the degree of relatedness amongst them. Wildebeest may sweep majestically across the plains in their thousands, but wildebeest don't have to co-ordinate and share a kill. Apes do, and so natural selection has established that apes co-exist in groups with a maximum size of approximately sixty. Ants may co-ordinate a kill in their millions, but all 'social insects' operate off entirely different genetic inheritance systems from mammals, which is then allied to the considerable genetic implications of worker sterility. Apes, by contrast, are diploid and fertile. Apes need to be able closely to co-ordinate. Apes therefore have the genetic consequence they can operate only

[14] Eldredge writing in J. Brockman, *The Third Culture: Beyond the Scientific Revolution* (New York: Simon & Schuster, 1995), 121–122.

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in the groups of approximately sixty. And this is what we witness in the natural world. Yet we are apes, and we operate in our millions. What is going on?

Evolutionary theory says that the key to group behaviour revolves around the 'problem of altruism' as it is called. 'Altruism' is defined in modern evolutionary theory as occurring when an organism behaves in such a way as to increase another entity's reproductive success at the expense of self. How can this happen, since self-sacrifice as a character trait would tend to breed itself out of a population, even if it could get started in the first place? Darwin himself had answers, but the conventional understanding came in the latter part of this century with population genetics and the gene-centred view of evolution. In the modern orthodox tradition represented by Williams, Dawkins and Maynard Smith, 'altruism' has been explained through the two mechanisms known as kin selection and reciprocal altruism. Kin selection explains the evolution of altruistic characteristics towards close relatives because a gene for altruism can spread because it enhances its own replication through its survival effects on the relatives. Reciprocal altruism is the exchanging of altruistic favours such that each benefits more from co-operating than it would from not co-operating. All 'altruism' in the natural world reduces to selfish genetic prudence—'Darwinism is still about a universe of self-interested individuals'[15].

Other apes can co-exist in groups of sixty at most. But we co-exist relatively peacefully in our millions. How?

'Evangelicals' tell you that we somehow broke the billion-year mould; that we evolved to do things differently. 'The cry "for King and country" is precisely explained in sociobiological terms', writes the evangelistic science journalist John Gribbin[16]. John Maynard Smith knows better. He tells us that biologists have explanations for altruism—kin selection and reciprocal altruism—'but they are ones that work only for altruistic behaviour among the members of small groups'[17] and thus cannot be sufficient explanations for human large-scale altruism.

'Evangelistic' sociobiology

Evangelical sociobiologists try to argue that the two mechanisms of kin selection and reciprocal altruism can be a sufficient explanation of human behaviour. Evangelicals tell us that 100,000 years ago the

[15] Op. cit. note 2, 267.

[16] Op. cit. note 11, 297.

[17] J. Maynard Smith, *Games, Sex and Evolution* (Hemel Hempstead: Harvester Wheatsheaf, 1988), 119.

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human ape broke from the pattern that exists in the rest of nature and evolved a form of altruism never before witnessed on this planet. Other organisms are selfish; we, uniquely, are born altruistic. Though we are, genetically, 99 per cent ape, our '1 per cent advantage lies very largely in the fact that we are altruistic apes'[18]. Dawkins tells us differently: 'we are born selfish', he writes[19].

This idea of humans as 'the altruistic ape' has driven human sociobiology since Wilson launched it, and, as we shall see, is the driving force behind all 'behavioural genetics'. So, for Wilson, large-scale human sacrifice exists because human evolution has worked in such a way that the species did better by evolving a uniquely *unconditional, disinterested*, altruism, rather than the conditional, 'interested' altruism seen elsewhere in nature. For Wilson, disinterested altruism had evolved from simple small group kin selection, and this is described by him as 'hard-core' altruism, the result of a combination of factors including perhaps a genetic capacity for blind conformity[20]. Another example of this argument is given by the Darwinian philosopher Michael Ruse, who thus tells us that human evolution has worked in such a way that 'one will probably function most efficiently when one has no hope of return at all. … [T]he claim is that (literal) altruism and (biological) "altruism" are connected. In particular, it is argued that, in the case of humans, in order to make us perform "altruistically", because we do indeed (for good biological reasons) have selfish feelings, we have laid over us (literal) altruistic inclinations. … The position of the modern evolutionist, therefore, is that … [m]orality is a biological adaptation. … Perhaps we really ought to hate our neighbours, but we, poor fools, think otherwise!'[21]. Or there is Richard Alexander, who writes that '[p]opulation-wide indiscriminate beneficence might also evolve when small "populations" are regularly composed of relatives related to a similar degree'[22] and that this can thus be a basis for explaining human large-scale generosity. This argument is also proposed by David Barash when he says that 'unilineal descent permits extraordinary large numbers of individuals, from dozens to millions, to unite under the aegis of common ancestry'[23]. Many of

[18] Op. cit. note 11, 246.

[19] Op. cit. note 6, 3.

[20] Op. cit. note 3, 186–187.

[21] M. Ruse, *The Darwinian Paradigm: Essays on its History, Philosophy, and Religious Implications* (London: Routledge, 1989), 231, 261–2, and 271.

[22] R. D. Alexander, *The Biology of Moral Systems*, (Hawthorne, NY: Aldine de Gruyter, 1987), 100.

[23] D. Barash, *Sociobiology and Behavior* (expanded edition to first edition published 1977), (New York: Elsevier, 1982), 133.

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these early big-name human sociobiologists also based their explanations for why we are programmed to be 'nicer' than other animals on the suggestion that we evolved the capacity for third party reciprocal altruism, where returns may thus eventually come back from society at large.

Central to all evolutionary psychology[24] is this idea that we are 'the altruistic ape', though the rationales have often changed. For example, excessively moral behaviour can be accounted for because we are 'adaptation-executors' and not 'fitness-maximizers' and as such, while unconditional altruism never evolved *per se*, it is the evolutionary consequence of 100,000-year-old selfish behaviour that in today's alien environment has the phenotypic expression (manifested attribute) of selflessness.[25] In 1994 Robert Wright caused a stir by publishing *The Moral Animal*, where he quoted the evolutionary psychologists Martin Daly and Margo Wilson's argument that step-parents kill their step-children for 'Darwinian' (survival of the genes) reasons. Wright gives us his key to human altruism: '[i]n sum the best guess about valor in wartime is that it is the

[24] Evolutionary psychologists claim that they are very different from the earlier human sociobiologists.

Human sociobiology is effectively giving the same line as 'behavioural genetics'; the answer that the differences between people's behaviour are the results of the slightly different genetic codes they are born with. Evolutionary psychologists now profess to reject this argument. Horgan quotes from their literature: '"Evolutionary psychology is, in general, about universal features of the mind. … In so far as individual differences exist, the default assumption is that they are expressions of the same universal human nature as it encounters different environments"' (op. cit. note 4, 153). In other words our similarities are genetic, and our differences cultural; although, *crucially*, still based in the mistaken impression that for humans it's all about that one inheritance system, genes, being expressed differently in different environments.

This may be the party line, but it is one that many evolutionary psychologists seem disinclined to follow. For example, the linguist and avowed evolutionary psychologist Stephen Pinker gives full support to the Minnesota twin studies (*The Language Instinct: The New Science of Language and Mind*, (London: Penguin, 1995), 327–329), which are the paradigm of behavioural genetics. I shall therefore use Dawkins' term 'evangelistic sociobiology' to also cover evolutionary psychology.

[25] J. Tooby and L. Cosmides, 'The psychological foundations of culture', also D. Symons, 'On the use and misuse of Darwinism in the study of human behavior'. Both in *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*, J. H. Barkow, L. Cosmides and J. Tooby (eds) (New York: Oxford University Press, 1992), respectively 19–136 and 137–159.

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product of mental organs that once served to maximize inclusive fitness and may no longer do so'[26].

The immediate problem with such suggestions is that many are unfalsifiable; they are evolutionary 'just-so' stories that can never be disproved. Stephen Jay Gould, the evolutionary theorist, famously coined the term '"just-so" story' for such unfalsifiable speculation (named for Kipling's famous fictional inventions for how animals 'got' various attributes).

The more pressing problem for all these arguments, which Gould actually misses (coming as he does from an unorthodox Darwinian tradition that sees a role for group-level selection), is that they are gene-selectionist heresy. Dawkins is dissatisfied with those who provide many of the biological explanations of human behaviour, and one reason he gives is that '[f]requently the evolutionary preconception in terms of which such theories are framed is implicitly group-selectionist'[27]. Group selection is anathema to mainstream Darwinism, yet here is Dawkins telling us that the human sociobiologists—who profess to be good gene-selectionists—are actually heretics. This idea that we evolved to be 'the altruistic ape' is nonsense to the biologists who know that such a process could not get past the 'subversion from within' problem at the very least.

One of the greatest problems with those who have sought to speak on the human implications of Darwinism over the last twenty years is that almost all are formally untrained in evolutionary genetics. They are what the zoologist the late Sir Peter Medawar called 'amateurs of biology, a class that includes an increasing number of sociobiologists'[28]. As John Horgan tells us, evolutionary psychology 'has attracted a growing number of psychologists, anthropologists, economists, historians and others'[29]. What is interesting is that 'zoologists', 'ecologists' and 'biologists' are conspicuously missing from Horgan's list. Edward Wilson himself is one of the very few trained biologists within the evangelicals, but as Ruse tells us: '[c]uriously, the one human sociobiologist who is prepared to take seriously non-individualistic mechanisms of change is Wilson'[30]. Wilson could therefore be argued never to have been in the selfish gene tradition in the first place.

The ecologists Robert Boyd and Peter Richerson, quoted at the

[26] R. Wright, *The Moral Animal: Evolutionary Psychology and Everyday Life* (New York: Pantheon Books, 1994), 391.

[27] Op. cit. note 6, 191.

[28] P. B. Medawar, 'Pro bono publico', *The Spectator* **238**, No. 7750 (15 January, 1977), 20.

[29] Op. cit. note 4, 151.

[30] Op. cit. note 21, 163.

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start of this paper, have done more than most to try to reconcile the natural and social sciences. They are well aware of the problems with the 'implicitly [genetic] group-selectionist' arguments of the evangelicals. Yet they also realize that 'the scale of human social organization … is hard to explain without group selection'[31]. They therefore constructed mathematical models to show that, while *genetic* group selection (be it explicit or 'implicit') will not be favoured by selection, *cultural* group selection has no such necessary implications. In 1996 the science journalist Matt Ridley (not to be confused with the Oxford zoologist *Mark* Ridley writing with Dawkins in 1981) was to produce *The Origins of Virtue*, which argued that virtue, uniquely, evolved in man. He tells us that he has considered Boyd and Richerson's ideas and found them 'facile'[32].

This is a little presumptuous, given that 'cultural group selection' —the idea that cultural forces twist us free from our Darwinian inheritance and determine human behaviour patterns—is the understanding offered by Richard Dawkins, John Maynard Smith and George Williams, the three most influential orthodox Darwinians of the last thirty years.

Cultural group selection

> 'As an enthusiastic Darwinian, I have been dissatisfied with explanations that my fellow-enthusiasts have offered for human behaviour. They have tried to look for "biological advantages" in various attributes of human civilization. … Frequently the evolutionary preconception in terms of which such theories are framed is implicitly group-selectionist'—Richard Dawkins[33].

I first came across John Maynard Smith's understanding in a 1988 collection of some of his earlier writing, including a 1986 review of Boyd and Richerson's concept of cultural group selection where he admitted that: 'I do not have anything better to offer'. He had never been attracted by the work of the early human sociobiologists, because 'human societies change far too rapidly for the differences between them to be accounted for by genetic differences between their members'[34].

In 1995 Maynard Smith was openly to support the 'cultural

[31] Op. cit. note 1, 295.
[32] M(att) Ridley, *The Origins of Virtue* (Harmondsworth: Viking, 1996), 188.
[33] Op. cit. note 6, 190–191.
[34] Op. cit. note 17, 121 and 82.

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group selection' hypothesis as the key to human behaviour in a book he co-wrote with the chemist and physical scientist Eors Szathmary. The authors tell us that, when it comes to human societies, '[o]ften, the crucial factor is ritual ... and myth'[35]. Yet in writing this Maynard Smith was simply confirming an understanding that goes back to the first days of human Darwinism. As Darwin himself wrote in *The Descent of Man*: 'a belief constantly inculcated during the early years of life, whilst the brain is impressible, appears to acquire almost the nature of an instinct'[36].

I had come across an almost identical understanding to Maynard Smith's before. It was in Richard Dawkins' *The Selfish Gene*. It is the astonishing variety of human societies that suggests 'that man's way of life is largely determined by culture rather than by genes', Dawkins tells us[37]. Now social scientists have been critical of Dawkins' concept of the 'meme', defined as a unit of cultural inheritance, hypothesized as analogous to the particulate gene. But the crucial thing about the meme is *not whether the meme concept is valid, but the foundational genetic understanding it is built upon*. The meme, at least when it was originally posited, was viewed simply in terms of the 'gap' it sought to bridge. 'My purpose was to cut the gene down to size, rather than to sculpt a grand theory of human culture', he wrote in the second edition of *The Selfish Gene*[38]. The point is that Dawkins, as an evolutionary geneticist, knew that genes could not come close to explaining human behaviour, for the reasons you have met above, and that you shall meet below with Williams. So maybe Dawkins is right to speak of the 'meme', and maybe he is wrong; the point is that there is a *gap* to be filled. A gap between the sorts of behaviour we should be expected to display as selfish apes, and the behaviour we actually do display. Social scientists share with Dawkins their understanding of the limitations of gene arguments. They also share with him the understanding of the power of culture to influence human behaviour: '[f]or a geneticist, all variance which is not genetic is, by definition, "environmental"'[39].

Dawkins' suggestion in *The Selfish Gene* is that memes can help bridge the human altruism gap where we are dealing with 'memes'

[35] J. Maynard Smith and E. Szathmary, *The Major Transitions in Evolution* (Oxford: W. H. Freeman, 1995), 272.

[36] C. Darwin, T*he Descent of Man and Selection in Relation to Sex* (facsimile reproduction of first edition with an introduction by John Tyler Bonner and Robert M. May), (Princeton University Press, 1981), 100.

[37] Op. cit. note 6, 164.

[38] Op. cit. note 6, 323.

[39] Op. cit. note 17, 66.

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such as religion, nationalism or political ideology which hold such great psychological appeal that they can cause an individual to override biological self-interest and display behaviour that looks not to his genes' interest, but rather to that particular worldview's interest. What Dawkins fails to explain is that he himself—the epitome of the gene selection concept—is now offering a theory of group selection—but, crucially, a theory of *cultural* group selection. When an individual sacrifices himself for a belief, and that belief defines a group, this is cultural group selection. We are born selfish but we can be persuaded, by culture acting through innate psychological dispositions, to sacrifice ourselves for something other than our genes. We are displaying observable behaviour not possible under our genetic inheritance system; Occam's razor tells him that the answer is that culture is setting us free from genetic control. As he told a journalist in 1996: '[m]ost of us, if we see somebody in great distress, weeping—we will go and put an arm around them and try to console them. It's a thing that I have an overwhelming impulse to do ... and so we know that we can rise above our Darwinian past'[40].

George Williams himself has gone further than Dawkins or Maynard Smith in offering us a possible driving force behind much evangelistic sociobiology. 'Romantically inspired naturalists found wholesome lessons in the mutual grooming of monkeys, the feeding of one bird by another, the brave self-sacrifice of worker bees for colony and queen. Such observations served as parables for moral guidance in a system that [the psychologist] Donald Campbell called *normative biologism*. … Romantics could deal with overt selfishness and destructiveness in nature by name changing and selective attention'[41]. Nature as our saviour, in an age when gods can no longer be? Yet natural selection is no Messiah. Dawkins himself speaks often of the 'blind, pitiless indifference' of the natural world. In 1988 Williams was to go further, and re-interpret Huxley for the new Darwinian orthodoxy. Thomas Henry Huxley, 'Darwin's bulldog', like both Darwin and Wallace thought that natural selection could not explain our moral sentiments. For Huxley, culture was necessary to oppose the legacy given to us by evolution: '[t]he history of civilization details the steps by which men have succeeded in building up an *artificial* world within the cosmos'[42] (my emphasis). Yet Williams was to reject Huxley's term the 'moral indiffer-

[40] G. Dougary, 'Gene genie', *The Times magazine*, (31 August, 1996), 11.

[41] G. C. Williams, 'Huxley's Evolution and Ethics in sociobiological perspective', *Zygon* **23**, No. 4 (December, 1988), 388–389.

[42] T. H. Huxley, *Evolution and Ethics: and Other Essays* (London: Macmillan, 1901), 83.

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ence' of nature as understating the reality. In the 1988 *Zygon* paper he substituted his own term, the 'gross immorality' of nature, our 'enemy'.

Human decency is not 'animal'. Decency does not, *cannot*, exist in nature. The traits that the Darwinian philosopher Daniel Dennett is about to introduce you to are not *by-products* of naturally selected behaviour, they are the *dynamics* of natural selection:

> When a lion acquires a new lioness who is still nursing cubs from an earlier mating, the first order of business is to kill those cubs, so that the lioness will come more quickly into estrus. … [L]angur-monkey males often kill the infants of other males to gain reproductive access to females. … This dark message about our furry friends is often resisted[43].

Williams expands this message. All other animal populations are *thousands* of times more likely to kill than are humans from even the most murderous of American cities. 'Simple cannibalism … can be expected in all animals except strict vegetarians'. Infanticide is a commonplace. Take our cousins, the monkeys: '[i]f she loses her infant, the mother quickly comes into estrus and accepts her infant's killer as the father of her next offspring'[44].

There is no grief in nature, and no true 'love'. A mother may fight savagely to protect her offspring, but when she knows the game is lost her behaviour changes immediately. Mother chimpanzees mate contentedly with their child's killer. Smaller mammals, with less access to reliable sources of food, and worn down by a long period of having to suckle, will even kill and eat their own offspring rather than allow them to fall into a predator's hands. This is because a healthy mother—made more healthy still by devouring young Junior—will get a chance to mate again next season. And grief has no place in the natural world because it is inefficient. In the battle for gene survival wasting energy on gene vehicles that have not fulfilled, or will not fulfil, their purpose is counterproductive. So grieving for them after the event is even more senseless.

Yet these are the programs for *all* animals. There are not some male primates out there who will rape, and others who will not. There are not some male and female chimpanzees who will tear apart the male infant of a mother who has recently joined their group, and some who will not. (She, by the way, is allowed to join the group because she is a new womb for the males; her child however is a future genetic rival). Darwinism tells us about the univer-

[43] D. C. Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life* (London: Penguin, 1996), 478.

[44] Op. cit. note 41, 397, 395 and 397 again.

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sal nature of a species. The mistake evolutionary psychologists make is in trying *directly* to extend this understanding to man. They speak of a 'universal human nature' while simultaneously denying that they would ever dream of tearing apart *their* step-children of course.

And the list continues. Compassion, extreme self-sacrifice, adoption of non-kin, laughter, celibacy, suicide. All unknown in nature.

So George Williams' answer to the human animal? Again, it can only be cultural group selection. Culture, in the form of powerful psychologically-attractive worldviews and other motivators, 'induces' a selfish ape to behave truly altruistically. This is 'manipulation' of our genetic inheritance: '[i]t is indeed correct that truly altruistic acts cannot be favoured by selection, but the ability to induce others to behave altruistically certainly can be'[45].

And yet simply knowing that culture must be allowing us to rise above genetic control does not explain how and why culture makes this possible. This is Huxley's 'apparent paradox': 'that ethical nature, while born of cosmic nature, is necessarily at enmity with its parent'. Huxley himself thought the answer to resolving that paradox lay in our capacity for reason. 'Fragile reed as he may be, man, as Pascal says, is a thinking reed: there lies within him a fund of energy, operating intelligently … that is competent to influence and modify the cosmic process'. This was also to be the answer proposed by the philosopher Peter Singer in 1981 in *The Expanding Circle*, his critique of human sociobiology. Yet Maynard Smith, for one, remains to be convinced: '[t]he difficulty for any account of society that assumes that individuals behave rationally is partly that experimental psychologists find little support for such an optimistic view'[46].

Another candidate for resolving the paradox may be simple biology itself. Maynard Smith, writing with Szathmary, suggests that '[t]he innate capacity to be influenced by ritual may have been individually selected, although we are not clear why it should be so'[47]. Williams prefers to draw a tentative link between cultural manipulation and biological 'manipulation' (for example, what cuckoos do to unwitting foster parents), although Dawkins and Maynard Smith seem careful not to make this link.

A third candidate, the one that I tend to favour, is what is known as the 'emergent properties' argument. As Williams tells us: '[a]ll through evolutionary history there have been such changes with important future consequences entirely unrelated to the selfishness

[45] Op. cit. note 41, 400.
[46] Op. cit. note 17, 121.
[47] Op. cit. note 35, 272.

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that brought them about'[48]. Perhaps the great psychological appeal of certain worldviews is a necessary side consequence of having a very large brain. The only brain in the animal kingdom capable of understanding and ruminating upon its own forthcoming extinction and its individual insignificance in the great cosmic process.

The resolution to Huxley's paradox may lie in one or more of the above. We know that there must be an answer, because we have a very large gap to bridge once we cut the gene down to size. As Maynard Smith tells us, there is no alternative: 'I do not have anything better to offer'.

A time to choose

> 'Wilson did not single-handedly invent the recent rush to reduce virtually every facet of human existence to genetic terms. But he gave the movement strong impetus with his suggestion that all manner of human behaviors—from schizophrenia to religion to criminality—have a strong genetic component'—Niles Eldredge[49].

The social sciences turned their backs on Darwinism as it was being presented because they had seen it all before. Social scientists, knowledgeable about history, know that we are the genetic issue of people who had taken part in unbelievably horrific slave trading a few hundred years ago, the offspring of those who had butchered and tortured with glee in the Wars of Religion, and those who had raised rape, infanticide and theft to the very keystone of culture in pre-Christian times. Throughout our long, dark history our forefathers have been capable of extraordinarily savage behaviour. And so when some people began again to claim that such acts in *individuals* were the result of genetic programming, while such acts in *peoples* were usually (but not always) seen as the result of cultural programming, social scientists knew better. Yet Darwinism, true Darwinism, never claimed any of this.

By now you should realise that 'behavioural genetics' is driven by evangelistic sociobiology. This idea that we are born the altruistic ape, who will kill only—and then quite willingly—'for King and country', is the underlying assumption behind both. That there is a single human nature in this mould, and that those who do not display such behaviour are genetically atypical, the biological reprobate. And, of course, this idea of a 'universal human nature' which both evolutionary psychologists and behavioural geneticists speak

[48] Op. cit. note 41, 400.

[49] N. Eldredge, *Reinventing Darwin: The Great Evolutionary Debate* (London: Phoenix, 1996), 211.

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of is never a nature of 'gross immorality'; of just another selfish, cannibalistic, infanticidal ape.

You can ground no politics in Darwinism, not the right wing politics of most evangelical sociobiologists, and not left wing politics. There is no duty, or honour, or patriotism, or religion, or racism, in Darwinism, just 'blind, pitiless indifference' to non-kin in the desperate scramble to get genes into subsequent generations. No *polis* could survive in this almost anarchic state of nature, the 'politics' of the genetic world. And no civilization can be built with groups of only sixty. Civilization is, as Huxley saw, an artificial construct divorced from the evolutionary process.

It is time for social scientists to choose. They can continue to ignore human biological history as it is presented by orthodox Darwinism, or they can make their peace with the evangelicals. And evangelism grows stronger by the day. Through their platforms in *The Times* and *The Telegraph*, John Gribbin and Matt Ridley are now responsible for interpreting Darwinism for over 70 per cent of the UK's broadsheet readership. Or social scientists can try to understand human biology through the eyes of George Williams, John Maynard Smith and Richard Dawkins, the three most influential orthodox Darwinians of the last thirty years.

Darwinism should not be seen as threatening to the mainstream social sciences; indeed it should be seen as the opposite. The biologists' answer of 'cultural group selection' should never be viewed as natural scientists trying to invade the territory of the social scientist. Biology actually carves out the sphere of the social sciences. Cultural group selection is simply the evolutionary term for what, uniquely, occurs in the human animal, and for that understanding common to most philosophers for two and a half thousand years: that different environments can induce humans to display extraordinary kindness, or malice, to one another. The social sciences—anthropology, sociology, psychology—merely begin their areas of study from *within* this understanding.

Since the dawn of civilization man has tried to separate himself from the other animals, to claim a special place in the universal order of things. He has seen his intrinsic nature sometimes as worse, but often as better, than the other animals. But we are not 'the killer ape' as some social scientists have claimed in the past, and neither are we 'the altruistic ape' as the evangelical sociobiologists claim today. We are just another ape; just another selfish ape. Yet, crucially, we are also the contingent ape, the ape that can 'rise above our Darwinian past' (Dawkins). The ape that culture can 'manipulate' free from its genetic program (Williams). We are not the killer ape, or the altruistic ape. We become the killer human, and the altru-

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istic human. Evangelical sociobiology is nothing more than another crass attempt to separate ourselves from the natural world. 'Some people hate Darwin's idea, but it often seems that even we who love it want to exempt ourselves from its dominion'—Dennett[50].

Cultural manipulation is of course not solely benign; it may allow extraordinary altruism and kindness, but it also allows barbarity and horror. Cultural manipulation sets us free from genetic control, but leaves us at the mercy of cultural control; 'victims to our memes', as Dawkins has so often put it, victims to cultural group selection.

Indifferent killing for gene survival is the way of the natural world. Enthusiastic killing for gods, countries and ideologies is the way of only the human world. The argument proposed by 'behavioural geneticists' that they are close to isolating the gene for violence in certain individuals, that certain individuals are genetically predisposed to kill, is sublimely anti-Darwinian (as the 'default assumption' of evolutionary psychology admits[51]). We have now seen the 'gross immorality' of the natural world. But this is the genetic code we all carry. *This* is our common animal nature, a nature shared with every mammal, with every ape. But this is not our *human* nature. Human nature is the consequence of the largely incompatible meeting of genes and culture. Human nature is the legacy of the reprogramming; of the cultural 'manipulation' of that genetic inheritance. It is the legacy of fifteen billion utterly unique cultural experiences, one for every man, woman and child that has ever lived. We share the innate nature. We each possess a unique human nature.

The evolutionary geneticist Steve Jones has written: '[g]enetics is, at last, like Germany, ready to stop apologizing for its past'[52]. My greatest fear is that genetics will never be able to stop apologizing for the mistakes of each new generation of its theorists.

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[50] Dennett writing in Brockman (op. cit. note 14), 188.

[51] The 'default assumption' of evolutionary psychology at first sight appears to be far more in line with Darwinian theory than the earlier human sociobiology. However it proves to be equally anti-Darwinian. The 'adaptation-executors' argument that, while we never evolved true altruism *per se*, 100,000-year-old selfish behaviour has the genetic manifestation of 'niceness' in today's alien environment, is extraordinary. The suggestion is that the genetic code for cannibalism—which, remember, 'can be expected in all animals except strict vegetarians' (Williams)—just happens to have the phenotypic expression in modern man of, perhaps, the love of fine cooking, or Wright's 'extreme valor'.

[52] S. Jones, *In the Blood: God, Genes and Destiny* (London: Flamingo, 1997), vii.

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