

Learning to love sociobiology: The ideas of Chris Knight

*“There is no alternative [...] To come to terms with an evolved mind,
you have to learn to stop worrying and love sociobiology.”*
Marek Kohn, in *‘As We Know It: Coming To Terms With An Evolved Mind’*

We’re supposed to live in an age where -isms are out of fashion and grand narratives have been discredited. If so, then there’s something of an elephant in the room: Darwinism. Darwinism is a totalising grand narrative claiming to explain everything from the origins of life to why men don’t iron, and has won broad popular appeal. Sociobiology, which put the study of social behaviour on a Darwinian footing, is the culmination of over a century of debate on evolutionary theory. It is the ‘-ism’ of our times.

In this talk, I’ll be looking briefly at four topics. First, what is sociobiology? Second, why is it the ‘-ism’ of our times? Third, the left’s unsatisfactory response to the challenge it presents. And fourth, how Chris Knight rose to that challenge, finding from within its premises a great deal for Marxists to celebrate.

So, what is sociobiology? In 1975, Edward O Wilson, the world’s leading expert on ants, published a book called *Sociobiology: The New Synthesis*. The subtitle referred to Wilson’s grand aim, which was to bring the social sciences and the humanities into what Darwinists call the Modern Synthesis. The Modern Synthesis was the bringing together of Darwinian evolutionary theory with modern genetics and population genetics. With the New Synthesis, the social sciences and the humanities would become, as Wilson said, branches of biology.

This might remind some people of the quote from Marx which I circulated earlier this week. Marx said that natural science will one day incorporate the science of man, and there will be a single science. Not that I think Wilson and Marx had exactly the same thing in mind. It’s probably fair to say that Wilson wanted to reduce other areas of knowledge to biology, whereas Marx sought a genuine synthesis. The person who has come closest to achieving just such a synthesis is Chris Knight. Marx once hailed the philosopher Joseph Dietzgen as “our philosopher”. I’m convinced that if Marx were alive today, he would hail Chris Knight as “our anthropologist”. But that is to jump ahead.

What was Wilson’s new synthesis to look like? He defined sociobiology as “the systematic study of the biological basis of all social behaviour”. There’s no doubt that his book was a wonderful achievement; certainly it was hailed as such by his scientific peers. Richard Dawkins, for example, initially resisted being identified as a sociobiologist, but he expressed his admiration for Wilson’s “tour de force”, hoping that “people would read it more and read about it less”.

Sociobiology aimed to uncover the scientific principles of social competition and cooperation, embracing everything – from social insects to humans – within a unitary theoretical framework. And if that seems to you over-simplistic and hubristic, Wilson

was unapologetic. Simplification, he claimed, is a necessary first step in any new science striving for general explanatory power. As the linguist Derek Bickerton said in a polemic against Chomsky: “Speculation is the horse that drags the chariot of theory. If we don’t speculate, we’ll never get a hypothesis to test, and thus never be able to rule out any of the large number of possible answers that presently face us.”

We might never have heard of Wilson’s specialist academic tome, however, had it not been for the furious storm of protest that its publication provoked. This uproar had little to do with Wilson’s views on ants. The problem was that he explicitly stated his ambition to include humans within his synthesis.

Knowingly or not, Wilson had breached the postwar settlement between the human and natural sciences. Biological explanations of human behaviour had effectively been tabooed. The very idea had seemed inextricably bound up with the reactionary history of social Darwinism, among whose offshoots were the murderous, supposedly scientific policies of the Nazis. The Sociobiology Study Group, led by paleontologist Stephen Jay Gould and geneticist Richard Lewontin, quickly formed in reaction against Wilson’s project, announcing their outrage with a furious and damning rebuttal in the pages of the *New York Review of Books*. Wilson’s lectures were picketed, leaflets were handed out at his university accusing him of being some kind of fascist – and he even once got doused with a jug of icy water at an academic conference.

The hostility toward the new Darwinism spread to Britain the following year, fuelled by Richard Dawkins’ publication of his first book, *The Selfish Gene*. As Dawkins has pointed out, most of his critics didn’t read beyond the title, imagining the book to be a justification of capitalism, inequality, sexism and so forth. Had these critics read what Dawkins calls “the footnote” – i.e. the rest of the book – they might have discovered how far this was from the truth. But still, the mud stuck.

Drawing on the ideas of thinkers such as Bill Hamilton, Robert Trivers, John Maynard Smith and George Williams, *The Selfish Gene* presented Darwinism to a new audience, introducing and synthesizing the key concepts of kin selection, reciprocal altruism, game theory and the notion of an ‘evolutionarily stable strategy’. We needn’t go into the details, but the basic message, summed up by the title, is that a gene is a set of body-building instructions designed to ‘selfishly’ replicate itself. Any gene that didn’t do this – any gene that replicated the competition at its own expense – would not be a gene at all but an ex-gene. In short, Darwinians expect living organisms to prioritise getting their genes into the next generation. Where this expectation seems to be contradicted – that is, where we find instances of altruism as opposed to selfishness – then we must find an explanation, reconciling the apparent anomaly with the replicatory ‘selfishness’ of genes. Although the notion is very simple, it made visible all kinds of interesting problems that no one had noticed before. In a word, it revealed conflict. This was to have particularly interesting implications for feminist scientists, as we shall see.

But why and how did this seemingly specialised, scientific debate create so much public interest, and give rise to such furious rows? How did it all become the ‘-ism’ of our times? In his magnificent *Man, Beast and Zombie*, Kenan Malik argues persuasively that this was at least in part an expression of cultural pessimism following two world

wars, the Holocaust and other horrors of the 20th century. Before then, people believed in progress, hoping to bring this about by engaging at some level with historically informed politics. After the Holocaust and the experiences of Stalinism and social democracy, this idea came to be seen as naive at best, if not distinctly dodgy. But the need to make sense of the world did not of course go away. Books such as *The Selfish Gene*, and earlier, Desmond Morris's *The Naked Ape*, were the pioneers of the popular science genre that is going strong to this day. If the idea of progress-based rational political choice now seemed suspect, the idea that we were in some way prisoners of our animal heritage – or merely machines under the control of our genes – provided an element of solace. People could now turn to science, as much as to any novel or historical tract, for answers to the concerns of our age.

The effect of this stretched far beyond the book-buying public. As Marek Kohn points out, the media – everything from *Time* magazine to *Cosmopolitan* – fell over themselves to get the new high priests of Darwinism to explain social and political problems in their pages. The idea that political choices were constrained by human nature became part of common sense. I'm sure we can all think of many examples from our everyday lives. I've lost count of the number of times when, in my job as an editor, I've angrily crossed out claims that trading in stocks and bonds is part of human nature. At the other end of the social spectrum, politicians and management theorists have taken an active interest in what the new theories can tell them: Bill Hamilton, the inspiration behind Dawkins' selfish gene ideas, recalls being approached at a conference by senators interested in what the new theories had to say about reducing violence and crime; and I remember a Blair adviser, I forget who, pontificating on the limits set by evolutionary psychology on legitimate political expectations.

Having said all this, we must remember that Darwinism is also science. There is scarcely anyone working in biology or related disciplines today who does not accept it. I agree with Richard Dawkins that, due to lay misinterpretations of the word, it is even best to avoid calling it a theory. To all intents and purposes, evolution and Darwinism are facts, about as much open to challenge as Newton's Laws of Motion.

Darwinism therefore has two faces: one as science, one as ideology. How are we to make sense of this?

The left tended to focus on sociobiology's ideological face, and didn't like the look of it one bit. Chris Knight has said that he thought the left's reaction was a disgrace, and I agree with him. The truth is slightly more complicated than that, as you will see if you read Ullica Segerstrale's fascinating book, *Defenders Of The Truth*. It's complicated not least by the fact that the left/right distinction is something of a false one. Most of the people arguing from the 'right', i.e. on the side of sociobiology, were in fact mostly left-leaning liberals. Some, such as John Maynard Smith, were further to the left than that. Noam Chomsky, too, refused to join in the attacks on sociobiology, arguing that he agreed with the young Marx about the existence of a distinctively human nature open to scientific investigation. And what the so-called 'left' was defending was not obviously more progressive anyway. Some, for example, clung to the idea of group selection – which had been one of the central assumptions behind Nazi ideology.

An example of the left's seemingly willful misunderstanding is the oft-repeated claim that sociobiology is a genetic determinist doctrine, i.e. that sociobiologists believe that behaviour is genetically determined. This is wrong, as sociobiologists have explained carefully many times. In fact, sociobiology replaced the earlier ethological view of Konrad Lorenz and others, who *were* genetic determinists. Selfish gene theory doesn't have a dogmatic line on what causes behaviour any more than Marxism does. Many different factors – illness, growing old, a revolution, winning the lottery – can cause me or you to change our behaviour. All sociobiology says is that if the change in behaviour is to have evolutionary significance, then there must be a genetic *component* to that behaviour that is statistically significant.

Another example is the left's claim that sociobiology appropriated the ideas and language of the bourgeois economics of the time. The left drew attention to this to expose the ideological nature of what was going on. Sociobiologists weren't disinterestedly studying nature and doing science, it was claimed; they were merely projecting the self-interested, rational, calculating, profit-maximising individual of their ideological worldview onto the natural world, reducing everything to the universal currency of the gene. There was no such thing as society, only individuals and their families. To those already fighting an ideological battle against the New Right, it all sounded suspiciously familiar. This was all true. But it doesn't make it obviously wrong. Darwin himself drew on the reactionary ideas of Thomas Malthus. But reactionary or not, those ideas explained rather well what was actually going on in the natural world. There is nothing to be gained from angrily denying what is the plain truth.

What the left needs to do, and so often fails to do, is get beyond the straw man arguments, angry polemics and Biblical quoting of outdated texts, and start doing some science. The left felt angered at the whole sociobiology project, especially at its (admittedly often crude) attempts to apply the theory to humans. They probably felt a politically urgent need to prevent the revival of reactionary ideas – indeed, ideas with a recent Nazi past. But I agree with Foucault that, in debate, a whole morality is at stake that is betrayed by dishonest and dismissive polemic. If what we're interested in is actually the truth of the matter, then we need to proceed differently.

The left was on more convincing ground when it said that sociobiology has nothing to say about symbolic culture. Humans may well be evolved animals, but it can hardly be denied that we are rather unusual ones. Any theory that can't explain language, culture and consciousness has little to say about what it means to be human. As has been pointed out, if sociobiological theories applied unproblematically to humans, we would expect to see long lines of men fighting for a place in the queue at the sperm bank. But even on this stronger ground, the left missed a trick. Everyone but the lunatic fringe agrees that our species evolved through Darwinian natural selection. Everyone also agrees that we somehow crossed the line from a Darwinian world, entering a very different cultural one. But how did we cross the line? How did it prove possible for us, to use Richard Dawkins' words, to rebel against the selfish replicators? For an answer, we have to turn at last to Chris Knight.

Chris Knight saw in sociobiology the same potential that Karl Marx saw in political economy. As he says in his book 'Blood Relations':

“Central to [my book] is the firm belief that sociobiology’s achievements are to a modern Marxist analysis of sociality what the constructs of classical pre-Marxist political economy were to Marx himself. They are the corrosive acid that eats away at all illusions, all cosy assumptions about the welfare of the ‘community’ or the ‘brotherhood of man’, all unexamined prejudices about how ‘natural’ it is for humans to cooperate with one another for the good of all. There is much that is useful in this.”

To Knight, sociobiology was the political economy of the 1990s, and he took the same approach to the problem that Marx took to political economy. To paraphrase from Marx’s *Economic and Philosophical Manuscripts*, Knight started out from the premises of sociobiology. He accepted its premises and laws. Then, from within sociobiology itself, and using its own words, he found its revolutionary antithesis. In doing so, he came up with a scientifically credible and testable story that could account for the origins of culture, the origins of humanity.

Chris Knight’s is not, of course, the only human origins story that exists, and the whole field is subject to constant change as more evidence floods in. Knight’s story itself was transformed under the influence of his colleagues – the anthropologist Camilla Power and the archaeologist Ian Watts, in particular. However, as one of Knight’s scientific peers says in a commentary on one of his published papers, Knight and his colleagues have amassed “so much information, much of it already accepted in the disciplines from which it is derived, that those who wish to resist their conclusions will have to advance an alternative explanation of some kind”.

In other words, what is extraordinary about Knight’s work is not so much the evidence or theories it draws on. Much of this is scientific orthodoxy. What is extraordinary and truly ingenious is the number of different fields it weaves together. Karl Marx is often hailed for having woven together the best of British political economy, French socialism and German idealist philosophy. True enough. But what are we to make of a thinker who synthesises the insights of Durkheimian sociology, Marxist theory, social, cultural and biological anthropology, including Claude Lévi-Strauss’s monumental structuralist work on mythology, primatology, Darwinian evolutionary signalling theory, sociobiology, evolutionary psychology, archaeology, linguistics, and artificial intelligence? A rival human origins story based, for example, on the same ‘bones and stones’ evidence, may seem as convincing as Knight’s. But can it also explain the prevalence in the ethnographic record of menstrual and food taboos? The evolutionarily unprecedented structure of hunter-gatherer economic exchange? The unique features of the human female reproductive cycle? The emergence and structural content of ritual and myth? This list could be extended, but I hope it does its job, which is to show the impossibility of giving a detailed account of Chris Knight’s ideas here. To steal a comment from a reviewer of the popular science writer Jared Diamond, if I hadn’t actually met him, I would suspect the name “Chris Knight” to be a pseudonym for a committee of experts.

What I can do is give a brief introduction, focusing on Knight’s take on what

sociobiological theories can tell us about what it means to be human.

The fundamental sociobiological insight – as fundamental as class is to Marxism – is that male and female animals have different ways of getting their genes into the future, and therefore pursue different reproductive strategies. Before sociobiology, there was a tendency to see females as little more than objects to be fought over by rival males, creatures passively available for impregnating and rearing offspring. Sociobiology made females scientifically visible in their own right, perhaps most interestingly for our purposes in primatology. As Camilla Power points out, it would not be going too far to describe sociobiology as the first feminist science.

Why do males and females have different interests? It all boils down to the simple fact that the number of offspring a male can have is in principle virtually limitless – the male produces billions of sperm in a lifetime. His genetic interests may therefore be best served by impregnating as many females as he can, minimising his investment in any particular offspring. By contrast, the number of offspring a female can produce is strictly limited. She produces more in the order of hundreds of eggs. Her genetic interests, therefore, are typically best served by investing time and energy in her existing offspring. Species-specific details and environmental and other factors obviously complicate this simple picture. But the implications are clear enough.

In short, the burden of childcare normally falls on females. Males are therefore ‘the leisured sex’. In the human case, from about half a million years ago, the burden on females was becoming especially heavy owing to a massive increase in the size of the brain. The immense costs associated with carrying a large-brained infant, giving birth to it and nurturing it to maturity posed special challenges. Humans compensate for their large brains by having correspondingly small guts – a trade-off which is only sustainable given a high-quality diet. Evolving females had somehow to get their mates to invest more energy in their offspring – in other words, they had somehow to persuade fathers to go out to work and bring home the bacon. How was this process of domestication to be achieved?

Non-human primate females certainly haven’t managed it. In most primate species, males are the dominant sex; mature males compete violently for females as these become sexually available. Fighting for females and getting them pregnant is the primary male contribution to reproduction. Providing for and protecting the young is something that females have to fit in around this male sexual priority. For ape or monkey mothers, childcare can be a dangerous and precarious occupation, with a real risk of babies getting killed during periods of sexual conflict.

An interesting and instructive counterexample is that of the Bonobo chimpanzee. Bonobo females form coalitions and exercise dominance over males. They are more often sexually receptive, the females bonding with each other by rubbing their genitals together. Two or more females who have bonded in this way can gang up and subdue any would-be dominant male. The result is a relatively harmonious society where individualistic male violence is penalised.

Knight supposes something like this to have happened in the course of human

evolution, since this is exactly what human females achieved – but on a much bigger scale. Not only did human females achieve a relatively harmonious society. They managed somehow to create a sexual division of labour. For the vast majority of our history as a species, we have lived as hunter-gatherers. No male animal, and, most likely, no male early ancestor of humans, went hunting in order to catch food not for his own consumption, but to bring it back to a base camp for distribution. That is unique in evolutionary history, and a puzzling problem for sociobiology.

Why is it a puzzle? Sociobiology forces us to do away with naive assumptions about behaviour for the good of the group. Altruistic behaviour such as this would be too open to cheating to be evolutionarily stable. Why bring home the bacon when you can scoff it yourself, then concentrate on spreading your seed elsewhere? From a Darwinian point of view, there's no reason at all. And so we would expect and predict cheating to evolve. Without enforceable rules about behaviour, group level trust of the kind we see in human societies is evolutionarily improbable. And it is exactly the existence of enforceable moral rules in populations of modern humans that needs explaining.

How far can sociobiology take us? What evolutionary strategy could females adopt to entice males to hang around? We can discover what options were open to them by turning to the peculiarities of the human female reproductive cycle.

Unlike other primates, human females do not advertise their periodic sexual availability through displays and genital swellings. In fact, ovulation is so well hidden that women themselves often do not know when they can conceive. Human females are not just periodically available; they are, as scientists slightly misleadingly put it, “continuously receptive”. This leaves males with no signals about when any philandering activity might pay off; compared with other primates, they are therefore more likely to stay around. This is standard sociobiology: concealing ovulation is the start of a strategy to induce males to provide for those burdensome offspring.

However, as Knight and his colleagues point out, ovulation concealment is complicated by the fact that human females have pronounced menstrual bleeding. Again, this is not found in the same way in any other primate. Once ovulation has been concealed, menstruation is left salient as the only signal divulging information about imminent fertility. A periodically menstruating female, therefore, would stand out as an especially attractive target for males seeking a new partner who could offer fertile sex.

But what about from the female point of view? Knight insists that we set out from ‘naked’ Darwinism – Darwinism unconstrained by moral sensibilities or restrictions. If you're pregnant or nursing an infant and hoping for male investment, then in a world devoid of morality you might well view a cycling neighbour as a sexual threat, competing with you for attention. What could you do to counter this threat? For Marxists, the answer should be becoming obvious. You should join up with others faced by a similar threat and take control over the whole situation. You should refuse to allow males to pick and choose between one female and the next on the basis of naked Darwinism, nakedly biological signals. This means collectively controlling those signals. By appropriating the menstruation of an individual and turning it into a collective display – a ritual performance – mothers and potential mothers could assert

themselves as all equally fertile, all equally attractive. Cosmetic display – a kind of make-believe – would be the result.

The deceptive display wouldn't have to be convincing, merely authoritative. What we've got now is a female coalition united under the banner of blood, acting to enforce change in the behaviour of what was once the dominant sex. We would have, in other words, the world's first revolutionary picket line. The biological fact that women living together are capable of synchronising their cycles would only add to the strength of their union.

In reality, it is impossible for pregnant or nursing mothers to produce menstrual blood. There is therefore always the danger that males will target cycling females at the expense of the rest, deploying predictable philanderer strategies of 'divide and rule'. Since biology is a fact of life, how might women at this point have dealt with the threat posed by menstruation?

One way would have been to paint themselves up with red ochre, which in fact is such an abundant and otherwise puzzling feature of the archaeological record. Imagine that this red pigment were used to scramble the menstrual signal, rendering all women cosmetically equal. We can see that we've got here the beginnings of a way of life that is no longer purely biologically determined, but symbolically and culturally organised. The biological come-on of menstruation is turned into a ritually organised 'No'. 'No sex', that is, unless demands are met. As the anthropologist Marshall Sahlins put it, in the animal world, sex organises society. With the advent of culture, for the first time society organises sex.

By following the premises and laws of sociobiology, then, Knight and his colleagues have demonstrated that it is possible to pursue an entirely Darwinian logic based on known biological facts and end up facing the necessity of revolution – the most momentous revolution in all history. This revolution takes us over the line from the animal kingdom into a world of rules and collective representations – what Durkheim would recognise as the essence of religion. And by moving into a world governed by the rule of law, language too, which is thoroughly implausible in a Darwinian world, becomes possible for the very first time:

“In the beginning was the Word, and the Word was with God, and the Word was God.”

Knight would add only that the first word was “No”.

If Knight were dealing purely in philosophical or political theorising, you could take all this or leave it. It could safely be ignored. But as Marek Kohn points out, Knight understands his own theory too well to settle for that. In Darwinian signaling theory, words are cheap. To be believed, you need to back that up such cheap signals with costly, hard to fake ones. Knight's costly signal is to demand that this model be taken seriously as science. And being the gentleman he is, he willingly provides the bullets and tells you where to point your weapon. Because unlike what is all too often the case in left-wing circles, in science you just can't expect to get away with waffle or bullshit

for long. Your model will be tested. Falsifications will be sought. Figures and data will be checked. Knight sticks his neck out and dares you to prove him wrong. If he is proved wrong, then of course we can simply rejoice in the new growth of scientific knowledge.

I've been going on for a while now, so I will conclude. Thankfully, for all its complications and sophistication, Knight's message can actually be summed up in just two words. 'Revolution works.' Human nature, far from ruling out the possibility of revolution, was created in a revolution. We've done it before. We can do it again.

Recommended reading

- Blood Relations: Menstruation and the Origins of Culture* by Chris Knight
Man, Beast and Zombie: What Science Can and Cannot Tell Us about Human Nature
by Kenan Malik
Chris Knight's Theory of Human Origins: an Abridged Account by Edmund Bradden,
see www.radicalanthropologygroup.org/class_text_041.pdf
As We Know It: Coming To Terms with An Evolved Mind by Marek Kohn
Sociobiology, Sex and Gender (unpublished essay) by Camilla Power
Sham menstruation, sex-strike theory and contemporary implications by Camilla Power,
see www.radicalanthropologygroup.org/pub_easter94.pdf
Defenders of the Truth: The Sociobiology Debate by Ullica Segerstrale
Origins Reconsidered: In Search Of What Makes Us Human by Richard Leakey and
Roger Lewin
The Selfish Gene by Richard Dawkins
Darwin's Dangerous Idea by Daniel Dennett
Sociobiology: The New Synthesis by Edward O Wilson
*The Rise and Fall of The Third Chimpanzee: How Our Animal Heritage Affects the Way
We Live* by Jared Diamond
Interview with Chris Knight by Stuart Watkins and Dave Flynn, see
www.readysteadybook.com/Article.aspx?page=chrisknight
The Human Symbolic Revolution: A Darwinian Account by Chris Knight, Camilla
Power and Ian Watts. See
www.radicalanthropologygroup.org/pub_knight_power_watts.pdf