

Editorial – Science under plutocracy

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It is surely impossible to miss the fact that 2009 marks the 150th anniversary of the publication of Charles Darwin's *Origin of Species*,¹ variously described as one of the most important books ever written. As *Origin* was published during Darwin's fifty-first year, 2009 is a double anniversary, being also the bicentenary of his birth. I can find one record of Morris and Darwin attending the same public event, on 8 December 1876, when both were at the St James's Hall, London, for the foundation of the Eastern Question Association.² However, Darwin was a man plagued by chronic ill health made worse by any exertion or excitement, who therefore, unlike Morris, avoided controversy, and, especially following publication of *Origin*, kept mainly to his house in Kent, and relied on other, younger men – Thomas Henry Huxley, Joseph Hooker, Charles Lyell – to champion his ideas.³

The legacy of Darwin's work and thought is indeed almost unparalleled, both in terms of its impact on science, and on wider society. If ever there was someone whose life and work are larger subjects than those of Morris (although not Marx, or Freud), it is Darwin. Thus it is difficult to think of any issue in the arts, the sciences or the humanities, which has not been transformed by an evolutionary perspective, even if not in the strict, Darwinian sense, then in more general terms. And yet, for socialists, I would suggest that it is not so much Darwin's own ideas which are problematical, as the manner in which they were interpreted at the time, and the ways in which they have subsequently have been used.⁴ Unfortunately, the influence of such 'vulgar Darwinism' is widespread and deep, despite often bearing scant resemblance to the original theory.

For example, from discussing environmental issues with numerous students, and others, over very many years, I have come to the conclusion that the general beliefs in our society regarding evolution and 'human nature' are broadly that

1. 'Evolution' (or more correctly, the theory of natural selection) clearly shows (i.e., in scientific terms, 'predicts') that all organic species, including human beings, are descended from a common ancestor, and that rather than being separate from nature, we are, in an evolutionary sense, intimately part of it. So far, so good, but it is then usually taken as implicit that human beings are therefore essentially animals, and that, despite our 'vener' of civilisation, everything we see in nature also applies to us.

2. Evolution is progressive. Those species which emerge later in the fossil record are, by definition, 'more highly evolved', and therefore somehow 'better' than those which evolved earlier. This idea applies, of course, particularly to our own species, thus making us somehow 'the pinnacle' of evolution.

3. The sole process which drives evolution is competition, both between and within species, mainly for territory, food and sex. Therefore, the most successful species are those which are the best at competition ('best fitted'), both with other species, and with other members of their own. One factor said to enhance evolutionary success above all others is aggression,⁵ the very trait which, according to some, has made the human species so successful.⁶

4. The level at which natural selection operates is not, as Darwin thought, the species, but the individual, implying the existence of a nature, and therefore a human society, which consists of dissociated individuals interacting by competing with each other, and using each other for their own, self-interested evolutionary purposes. A more recent perspective is that natural selection operates at genetic level, and that individual organisms, including human beings, serve merely as devices by which essentially immortal 'selfish' genes, replicate themselves.⁷

5. As competition is the main 'driver' of natural selection, and as all organisms operate as individuals – either at their own behest, or that of their genes – human beings are, by definition, and by nature, essentially selfish and competitive, seeking ultimately only their own gratification and survival (and thus the propagation of their genes). This view of 'human nature' is therefore ultra-deterministic, portraying us as essen-

tially competitive, aggressive, selfish *individuals*.

The relevance of this to environmentalism is, of course, that if we are such a species, then there is little hope if any of our ever dealing with the issues which beset us. In wider terms, it also seems equally difficult to imagine how such a species could build the kind of just and fair society envisaged by Morris and countless other socialists, if to do so is 'just not in our genes'.

However, what is not generally realised, or so I believe, is that Darwin did not actually obtain two key aspects of his theories from his scientific studies alone.⁸ For example, he did not develop the idea of a 'struggle for existence' himself, but acquired it, some ten years after returning from the second voyage of the *Beagle*—but some twenty years before publication of *Origin*—by reading Malthus's notorious *Essay on Population*.⁹ This represented, for Darwin, a key moment in the development of his thought.

After my return to England it appeared to me that by following the example of Lyell in Geology, and by collecting all facts which bore in any way on the variation of animals and plants under domestication and nature, some light might perhaps be thrown on the whole subject. My first note-book was opened in July 1837. I worked on true Baconian principles, and without any theory collected facts on a wholesale scale, more especially with respect to domesticated productions by printed enquiries, by conversation with skilful breeders and gardeners, and by extensive reading. ... I soon perceived that selection was the keystone of man's success in making useful races of animals and plants. But how selection could be applied to organisms living in a state of nature remained for some time a mystery to me.

In October 1838, that is, fifteen months after I had begun my systematic enquiry, I happened to read for amusement 'Malthus on Population,' and being well prepared to appreciate the struggle for existence which everywhere goes on, from long-continued observation of the habits of animals and plants, it at once struck me that under these circumstances favourable variations would tend to be preserved, and unfavourable ones to be destroyed. The result ... would be the formation of a new species. Here, then, I had at last got a theory by which to work ...'¹⁰

Neither did Darwin develop the phrase 'survival of the fittest' from his own scientific studies, but obtained it from Herbert Spencer, the apologist for the free market, who had earlier developed his own, 'synthetic'

evolutionary theory.¹¹ In other words, what today have become immensely powerful phrases, are derived not from direct, empirical observation of nature, as widely thought, but from two seriously flawed studies of human society. They were then applied to nature by Darwin, and by numerous later scientists, often in naïve and uncritical ways. More important, in the shape of Social Darwinism, Sociobiology, NeoDarwinism, and more recently, Evolutionary Psychology, they have been *reapplied* to the study of human society as if they had been derived from the ‘objective’, scientific study of nature, and are therefore, so far as many people are concerned, ‘true’.

However, if we take the above propositions one by one, we find that each can be easily falsified, indicating the flawed reasoning on which they are based. For example

1. ‘Evolution’ (natural selection) is not progressive: organisms which emerge later in the fossil record are not ‘more highly evolved’ than those which appeared at the origins of life. What natural selection does produce, over geological time, is complexity, in that, given sufficient time and stability, increasingly complex forms emerge. However, this process can also take place extremely rapidly (in geological terms), as in the ‘sudden’ appearance of multi-cellular life forms during the ‘Cambrian explosion’ about 530 million years ago. But, just because an organism is more complex, or more ‘intelligent’ does not mean that it is better adapted to changing circumstances, as our species may be about to find out. Some of the most adaptable organisms – for example the cyanobacteria, or ‘blue-green algae’ – are also the simplest, and have been ‘around’ for about 1.8 billion years. Others are even more ancient.¹²

2. Competition, between species, individual organisms, or genes, is not the sole driver of natural selection, an idea originally recognised by Darwin, but then neglected, especially by his followers, in favour of the competitive principle.¹³ Prince Kropotkin, a contemporary of Morris, believed that cooperation, both within and between species, was a more important factor, and that the cooperative principle (‘Mutual Aid’) was innate, at least amongst social species such as our own.¹⁴ Nowadays, some evolutionary biologists (e.g. Lyn Margulis) believe that Darwinian natural selection is not the only process by which evolutionary change can occur, and that amongst bacteria, for example, both symbiosis (separate species living ‘mutually’), and DNA exchange (between species), can also

produce new forms.¹⁵ As well as competition, natural selection can also be promoted by isolation of species in ‘under-occupied’ habitats (a mechanism Darwin believed he saw operating on the Galápagos), or by ‘divergence’ (occupation of new niches and habitats but without isolation), which promotes ‘radiative’ selection and adaptation.¹⁶

However, evolutionary biologists and others who study ‘complexity’ (the properties of ecosystems, communities or populations, as opposed to species or individuals – to say nothing, for the moment, of genes) have also identified the idea that an important property of biological systems is cooperation, not only within, but also between species. As this is an ‘emergent’ property (i.e. it is a property *of the system*, and therefore cannot be predicted from studying the properties of its components),¹⁷ it is not surprising that most great evolutionary biologists of the 19th and 20th centuries, including Darwin, either neglected it, ignored it, or did not (and still do not) consider it.

3. Those aspects of Darwin’s theory which stress our similarities to other species, our common origins, and hence our inherent connection to nature, are sometimes taken as a sign of the essential ‘proto-greenness’ of his ideas. Indeed, Darwin took with him on the *Beagle* the record of an earlier scientific expedition to South America, namely Alexander von Humboldt’s *Personal Narrative*,¹⁸ a text which, according to Worster, represents a more benign, arcadian strand in early nineteenth century Western thought.¹⁹ Before setting out on his own journey, Humboldt had declared that

... (my) main purpose (is) ... to find out how nature’s forces act upon one another, and in what manner the ... environment exerts its influence on animals and plants. In short, I must find out about *the harmony of nature*.²⁰

Unfortunately, Darwin was less influenced by Humboldt in his subsequent thinking, and much more by Malthus, and by the pioneer geologist, Charles Lyell, who also developed the idea of a struggle for existence.²¹ Thus, Darwinism, especially under the influence of Thomas Henry Huxley, came eventually to emphasise not the similarities, but the differences between human beings and the rest of nature, especially ‘civilised’ human beings. Coupled with the influence of Freud, such rejection of ‘the primitive’ led many scientists and other scientific rationalists of the first half

of the twentieth century to adopt an anti-nature ethos, in which natural and traditional ways of doing things were to be replaced by the artificial and the modern.

Thus, in 1923, the great geneticist J.B.S. Haldane discussed ways of improving on and increasing human power over nature by living almost exclusively in cities (using artificial light to regulate night and day), eating synthetic foods, and reproducing mostly by *in vitro* fertilisation.²² Similarly, his contemporary, the crystallographer J.D. Bernal, asserted that synthetic materials can be made to suit almost any human purpose, so that

The stage should soon be reached when materials can be produced which are not merely modifications of what nature has given us in the way of stones, metals, woods and fibres, but are made to specifications of a molecular architecture ... soon we shall be doing this to suit our own purposes.²³

In an echo of Francis Bacon, and also of Edward Bellamy (and indeed James Lovelock!), such change will lead to a transformation of human lives, to a richer and more complex existence in a more efficient world, and the sweeping away of old and backward ways and methods, in an infinitely progressive (or to Morris 'Whig' or 'cockney') future, about whose 'evolution' Haldane was completely relaxed.

Personally I do not regret the probable disappearance of the agricultural labourer in favour of the factory worker, who seems to me a higher type of person from most points of view. Human progress in historical time has been the progress of cities dragging a reluctant countryside in their wake. Synthetic food will substitute the flower garden and the factory for the dunghill and the slaughterhouse, and make the city at last self-sufficient.²⁴

Such ideas clearly epitomise the main principles of scientific rationalism, of Modernism, and of the globalisation of production of goods and services which, despite the current economic crisis, is still being promoted by politicians as a solution to the very problems it has created. And they are, of course, the very antithesis of *News from Nowhere*.

4. Thus we come to the argument which is always levelled at those who wish to 'change the world' – that such things are 'against human nature', and that the essentially flawed nature of human beings is an insurmount-

able barrier to any aspirations to a just and fair society. A 'vulgar' reading of Darwin appears to reinforce this model, in that it suggests that, as the most 'successful' species, *Homo sapiens* must therefore be the most competitive, the most aggressive, and the most selfish species of all.

Numerous examples have been used apparently to support the idea of our species being at the pinnacle of evolution because of its supreme innate competitiveness, not least of which are the lifeboats which left the sinking *S.S. Titanic* whilst still less than full, so that their occupants could save themselves at the expense of other passengers and crew. Thus, in the form of the selfish gene, Malthus's 'lampoon upon the human race'²⁵ becomes a full-blown calumny.

And yet a study of anthropology shows that there is no such phenomenon as the fixed human nature which, in particular, the selfish gene theory of human inheritance predicts. Some human societies are hierarchical and centralised, others egalitarian and decentralised: in some, resources are distributed unequally, according to status, in others, 'according to need'. In some societies, what constitutes kinship is, by modern, Western standards, highly inclusive, and strongly related to life-support; in such societies, access to nature and resources is often unrestricted and open to all. In other societies, such as our own, kinship is very much more narrowly defined, and has (mainly) become detached from access to 'land', which since about 1500, has been increasingly privatised.²⁶ But what the tremendous variability of these social and ecological systems surely suggests, is that the species which has produced them does not possess a set of behaviours which is solely, or even particularly strongly, genetically determined.²⁷

And as pointed out by Mary Midgley, that wonderful de-bunker of the myths we live by, even when plants and animals are competing, *they are not being competitive*.²⁸ Whilst competitiveness is clearly a characteristic of some humans, it is not a universal, and is therefore not genetically inherited. In a competitive *system*, some people, even the majority, will compete, but that does not mean that they are innately competitive. As to why we possess such a negative self-image, Stephen Coleman believes that our species is guilty of 'human racism' – irrational prejudice against itself – and subscribes to a set of stereotypes he characterises as the Sinner (the Augustinian image), the Warrior (the Hobbesian), the Predator (the Darwinian) and the Egoist (the Freudian) – to which we might now add

the 'Genetic Robot' (the Wilsonian)²⁹ – all of which have been used historically by social conservatives in order to justify authoritarianism.³⁰

As for William Morris, as Stephen also points out, he rejected all religious and metaphysical beliefs about the nature of human beings. Instead, in *News from Nowhere*, when William Guest reveals to Old Hammond that he has been told that political strife (and, by implication, all other kinds, especially economic), is a 'necessary result of human nature', the latter cries out impetuously

'Human nature! ... What human nature? The human nature of paupers, of slaves, of slave-holders, or the human nature of wealthy freemen? Which? Come, tell me that!'³¹

In other words, according to Morris, 'human nature', like 'truth', is a product of culture, space and time, and there is no fixed, genetically inherited human nature which need blight our struggle for a better world.

Unfortunately the contrary, view – of human beings pitted against each other in a constant struggle to gain political, domestic, financial and sexual advantage, which clearly was already tremendously seductive – as witnessed by such books as *Lord of the Flies* – has, over recent years, become even more pervasive. The success of such TV programmes as *Desperate Housewives*, a series dedicated to the proposition that everyone is 'out' to obtain as much gratification of any kind as they can,³² or of 'Reality TV' in general – where people are placed in completely artificial environments, and their behaviour then used by some to draw out general principles regarding fundamental human nature – acts, like the promise to lower taxes, as a self-fulfilling prophecy.

But prophecy is not science, and the half-empty lifeboats which rowed away from the *Titanic* were occupied not by a cross section of 'selfish' humanity, but mainly by passengers from first and second class, who had already fought their way up through, or were well aware of their position in, a system based on competition, and were not about to give away such privilege. Furthermore, with the collapse of the global market economy, we find, to our apparent surprise, that being rich does not actually make us happy, may in fact make us ill, and that people may live healthier, happier lives in more equal societies.³³

It was, of course, Tennyson, in *In Memoriam*, who first used another phrase subsequently associated with 'vulgar Darwinism' – 'Nature, red

in tooth and claw'.³⁴ In this issue, Peter Faulkner discusses the relationship between Morris and his contemporary, indicating that the two poets possessed very different political ideas, to say the least, and that Tennyson was very much part of the same mainstream Victorian ideas which influenced Darwin. In addition, Béatrice Laurent examines the 'moralised' landscape of Nowhere, the 'well-tended garden' so very different from the depressed agriculture and poverty of late nineteenth century England produced by the very competitive ethos which many of Darwin's followers had so willingly embraced.

We also carry reviews of books on the long, collaborative relationship between Morris and Burne-Jones, who, like Tennyson, did not share Morris's politics, but who remained his closest, life-long friend; of Hardman of Birmingham, manufacturer of church furniture of whose industrial methods Morris would surely not have approved; and of two volumes which examine the relationship between Morris's own verse and the wider context of Victorian poetry. This year may also not only be the year of Darwin, but of the Pre-Raphaelites in general, not only currently the subject of a short series on BBC4, but also celebrated in a BBC2 series described as a 'colourful drama', and perhaps rather ominously entitled *Desperate Romantics*.³⁵ Here, Peter Faulkner reviews 'the book of the series', along with an interesting piece of local history discussing Rossetti and Lizzie Siddal's short stay in Hastings during the summer of 1854.

Finally, we also review two books one of which has long been described as a masterpiece, the other surely quite soon to be. The first (Muthesius's *Das englische Haus*, finally available in English translation) provides an invaluable cross section of (mainly) upper and middle class English living at the turn of the nineteenth century. The other, Sheila Rowbotham's biography of Edward Carpenter, is a comprehensive study of a pioneer of what, despite Orwell's reservations about 'beards and sandals', must soon surely, of necessity, become everyone's 'sustainable' lifestyle.

NOTES

1. Charles Darwin, *On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life*. London: John Murray, 1859, 502 + 32 pp. Afterwards *Origin*.

2. Fiona MacCarthy, *William Morris. A life for our time*. London: Faber & Faber, p. 381. Those present also included Browning, Ruskin and Trollope.
3. Peter Bowler, *Charles Darwin, The man and his influence*. Oxford: Blackwell, pp. 73–5.
4. Or is it? One problem, for professional scientists, in developing a perspective on Darwin's own ideas, and their wider philosophical and social implications, is that he was just so *good* at science that it is difficult to think or say anything adversely critical about him. However most environmentalist writers make a strong case for both Darwin's own ideas, and the conclusions he drew from his empirical studies, being strongly influenced by the mores of Victorian society.
5. Konrad Lorenz, *On Aggression*. London: Methuen, 1964, 285 pp.; *King Solomon's Ring*. London: Methuen, 1952, 238 pp.
6. Robert Ardrey, *African Genesis. A personal investigation into the animal origins and nature of Man*. London: Collins, 1961, 380 pp. See also Stanley Kubrick, dir., *2001: A Space Odyssey*, Metro-Goldwyn-Mayer/Turner Entertainment/Warner Bros., 1968, 141 minutes.
7. Richard Dawkins, *The Selfish Gene*, Oxford: Oxford University Press, 1976, 224 pp.
8. At least, I myself, first as a student of science, and then as a teacher of it, do not remember ever being told this, or of being aware of it, until about forty years into my career.
9. Thomas Malthus, Rev. *An Essay on the Principle of Population, as it affects the Future Improvement of Society with remarks on the speculations of Mr Godwin, M. Condorcet and other writers*. London: J. Johnson, 1798.
10. Charles Darwin, 'Chapter II, Autobiography', in *The Life and Letters of Charles Darwin, including an autobiographical chapter, edited by his son, Francis Darwin, in three volumes*, London: John Murray, 1887, Vol. 1, p. 83. [On line 29 April 2009 at <http://darwin-online.org.uk/content/frameset?itemID=F1452.1&viewtype=text&pageseq=1>].
11. Spencer used this phrase in a review of the first edition of *Origin*. Darwin then added it to subsequent editions, having originally used the much more neutral 'natural selection'. William Sweet, *Herbert Spencer*, Internet Encyclopedia of Philosophy, 2006, paragraph 3. 'Human Nature'. [<http://www.iep.utm.edu/s/spencer.htm>; accessed 6 March 2009].
12. Stephen Jay Gould, *Wonderful Life: The Burgess Shale and the Nature of History*. London: W.W. Norton & Co., 1990, 352 pp.
13. Donald Worster, *Nature's Economy. A history of ecological ideas*. Cambridge: Cambridge University Press, 1977, pp. 160–162. (Hereafter Worster).
14. Peter Kropotkin, *Mutual Aid: a factor of evolution*, London: Heinemann, 1902, 218 pp.

15. Fritjof Capra, *The Web of Life. A new synthesis of mind and matter*. London: Flamingo, 1996, 320 pp.
16. Worster, pp. 160–163.
17. Brian Goodwin, *How the Leopard changed its spots. The Evolution of Complexity*. London: Phoenix, 1995, 240 pp. Evolutionary biologists in general are beginning to discover cooperation in nature, not only within species, although they are troubled by it, as it violates the fundamental role of competition! (Martin Novak, 'Five rules for the evolution of cooperation'. *Science* 314, 2006, 1560–1563). Female evolutionary biologists, however, see the world much more for what it really is (e.g. Joan Roughgarden, *The Genial Gene: deconstructing Darwinian selfishness*, Berkeley: University of California Press, 2009, 272 pp).
18. Alexander von Humboldt & Aimé Bonpland, *A Personal Narrative of Travels to the Equinoctial Regions of the New Continent during the years 1799–1805*, Transl. Helen Maria Williams, Longman, Hurst, Rees etc: London, 1814–1829, 6 vols.
19. Worster, pp. 131–137.
20. Humboldt to Karl Friesleben, 1799, as cited by Worster, p. 133. Italics added.
21. Worster, pp. 143–144.
22. J.B.S. Haldane, *Daedalus, or, Science and the Future*. A paper read to the Heretics, Cambridge, 4 February 1923. New York: E.P. Dutton & Co., 15 pp. (Afterwards Haldane). As seen at <http://www.marxists.org/archive/haldane/works/1920s/daedalus.htm> [Accessed 2 April 2009].
23. J.D. Bernal, *The World, The Flesh and The Devil. An enquiry into the future of the three enemies of the rational soul*. London: Kegan Paul & Co., 1929, 81 pp. Quote from Part 2, 'The World', para. 1. <http://www.marxists.org/archive/bernal/works/1920s/soul/index.htm> [Accessed 2 April 2009].
24. Haldane, Para 32. I am extremely grateful to my former student Emily Durrant for her excellent work on the origins of 'scientific' modernism.
25. Karl Marx, to *Der Social-Demokrat*, 24 January 1865. 'On Proudhon', *Marx Engels Selected Works*, Vol. 2. As seen at http://www.marxists.org/archive/marx/works/1865/letters/65_01_24.htm [Accessed 29 April 2009].
26. Marvin Harris, *People, Culture, Nature: an introduction to general anthropology*. London: Harper & Row (Third edition), 1980, 584 pp; Roy Ellen, *Environment, Subsistence and System. The ecology of small-scale social formations*. Cambridge: Cambridge University Press, 324 pp; Tony Spiby, *Social Change, Development and Dependency*. Cambridge: Polity Press, 257 pp.
27. Application of 'selfish gene' theory to human nature always strikes me as insidious, as any attempt to demonstrate that it does not accurately predict the infinite complexity of human motivation and action in respect of some action can always be met by 'Ah, but the *real* (i.e. underlying) reason why

they did that, is because their ultimate aim is to spread their genes throughout the population'. This argument can be used to infinite regress – 'Yes but the *real* reason they did that ' – at which point it ceases to be scientific theory, as it is no longer open to falsification. Instead, it becomes an act of faith; rather ironic, considering the anti-religious diatribes recently produced by several of its strongest advocates.

28. Mary Midgley, *Beast and Man. The Roots of Human Nature*. London: Routledge, revised edition 1995, pp. 132–133. (Afterwards Midgley)
29. Edward O. Wilson, *Sociobiology. The new synthesis*. (Cambridge, Mass: Harvard University Press, 1975, 697 pp.), although here 'robot' is from Richard Dawkins, *The Selfish Gene*, Oxford: Oxford University Press, 1976, p. x, as in Midgley, p. xviii footnote. The 'Caveman' (the corresponding stereotype image of Evolutionary Psychology) has long been with us.
30. Stephen Coleman, 'How matters are managed. Human Nature and Nowhere', in Stephen Coleman & Patrick O'Sullivan, eds, *William Morris & News from Nowhere. A vision for our time*, Hartland, Devon, UK: Green Books, pp. 75–89.
31. James Redmond, ed, *News from Nowhere, or an epoch of rest, being some chapters from a utopian romance by William Morris*, London: Routledge & Kegan Paul, Chapter XIV, 'How matters are managed', pp. 73–74.
32. I continue to follow it with fascinated horror!
33. Richard Layard, *Happiness. Lessons from a new science*. London: Penguin, 2005, 256 pp.; Oliver James, *The Selfish Capitalist: The Origins of Affluenza*. London: Vermilion, 2008, 400 pp.; Richard Wilkinson & Kate Pickett, *The Spirit Level. Why more equal societies almost always do better*. London: Penguin, 2009, 320 pp.
34. *In Memoriam* (Canto 56), published 1850, and therefore *before* the *Origin*. Tennyson may have been influenced by an earlier evolutionary text (Robert Chambers, *Vestiges of the Natural History of Creation*, London: John Churchill, 1844, 383 pp.).
35. BBC4, *The Pre-Raphaelites*. BBC Television, 3x 30 mins, 2009, <http://www.bbc.co.uk/programmes/b00lbnnd>; BBC2, *Desperate Romantics*, BBC Television, 2009, 6 x 60 mins, <http://www.bbc.co.uk/pressoffice/proginfo/tv/2009/wk28/> [both as accessed 26 June 2009]