

ARE DARWINIAN PRINCIPLES NOW EXTINCT?

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Darwin's theory of evolution is one book long, and contrary to popular representation *The Origin of Species* nowhere contains a succinct statement of the theory. To avoid fundamental misunderstandings, any critique of this hypothesis has to commence with what the writer understands to be the fundamental premiss on which the theory is based.

The essence of Darwin's theory is that there is a struggle for existence: organisms possess stable patterns of inheritance, but can develop occasional variations that interact with the environment. Those organisms possessing fitter variations are naturally and specifically selected for a greater chance of surviving in order to reproduce so that, over several generations, gradual but *cumulative* natural selection 'filters out' the less advantageous variations of the ancestral organisms. As a consequence, new species (descendants that could only breed amongst themselves) develop.

PROBLEMS WITH DARWINISM

A successful theory should explain *all* occurrences within its domain. If exceptions occur then the theory has to be challenged and, if even *one* challenge cannot be rebutted or integrated into the theory, then a fresh or modified theory is required. Darwin's theory does not accommodate several exceptions and in particular there has been one new development such that the theory has to be reassessed.

Darwin's theory requires a struggle for survival. Darwinism supposes not just that the fitter variations prosper, but also that the less fit variations die out – either because of the competition with their fitter relatives or because the environment kills them off. Life may well be a struggle at times, but is it *always* a struggle, *always* a competition, with the prize of survival available *only* for the winners? Even with mindless organisms there is often cooperation rather than struggle. Cooperation occurs both within cells – for example, it seems certain that mitochondria were originally pathogens which settled into cooperative symbiosis between cells to form multicellular organisms – and within colonies, packs and societies of organisms.

In *The Origin of the Species* Darwin claimed 'Every [my italics] single organic being around us may be said to be striving to the utmost to increase its numbers' and he thought, like Malthus, that this formed the basis of the struggle for existence. This is not true now and probably



FIGURE 1
Charles Darwin, c. 1854.

was never totally true. The most obvious and notable exception to Darwin's theory, human beings, limits reproduction once population density reaches a certain critical level. Humans do not do this at the behest of their genes: they do it to benefit themselves.

Neo-Darwinism is the use of knowledge, only available after Darwin had died, of the stable units of inheritance, genes, which occasionally develop variations (mutations). Some genes caused 'their' organisms to be fitter than otherwise identical organisms. But what defines the fitness of a gene? The definition seems to be that the more apt 'fit' genes survive to reproduce themselves, thus, in effect, stating the obvious in retrospect – that survivors survive. One of the requirements of a useful theory is that it should allow predictions to be made by which it can be tested. Neo-Darwinism explains a lot *in retrospect* but little in prospect.

Altruism, in which individual organisms sacrifice their existence for the benefit of others, implies that they do *not* struggle for existence. The explanation put forward is that some individual organisms do not struggle for existence but rather sacrifice themselves so that their kin survive to reproduce 'on their behalf' – kin selection. With kin selection, so it is said, interests of genes predominate over interests of organisms so that some organisms sacrifice themselves and their own genes in

favour of *relatives* if they think (and not all organisms think) that these relatives, and thus at least some of the genes that they share with relatives, will survive. The classical example of kin selection is bees. In beehives there are numerous sterile workers that, so it is claimed, work to perpetuate some of their genes by assisting their queen and her offspring. None of the bees questions that they do this but do they actually do it to *perpetuate their genes*? Evolutionists may call this kin selection but it would be better named kin *exploitation*.

GENES

Selection of genes by kin selection presupposes the ability to recognise one's relatives and the ability to modify behaviour. There is only one organism that can do both, and by doing this this organism is invalidating Darwin's theory by thwarting natural selection. Humanity has been thwarting natural selection by influencing the future of our genes by quality of parenting, selectively aborting fetuses, and now genetic engineering has become an additional methods by which to control our genes. Thus we now cannot be considered, as has been claimed, robots programmed to preserve selfish genes. We are not genetically predetermined. However, the concept of genetic determinism is undoubtedly popular because it reduces responsibility for behaviour. The justification for this is less obvious. We could imagine that Alan Clark, a British cabinet minister who published a set of uninhibited diaries including details of his serial philandering, might have justified his behaviour by saying 'I am what I am because of what is in my genes' but he would have been referring, I think, to what was in his jeans.

Genes (if book titles are to be believed) act selfishly, but plainly genes cannot have subjective views and might not function selfishly in all contexts even if they did. The neo-Darwinian selfish gene paradigm really ought to be qualified 'When all other things are equal [which they often, indeed usually, are not] some genes function as if they were acting selfishly.'

Natural selection can explain how major characteristics developed because organisms possessing favourable 'survival to reproduce advantages' did just that. The problem is with *trivial* characteristics. How did the numerous, relatively trivial, characteristics emerge, unless they were linked, genetically or non-genetically, to something else more beneficial? It seems unreasonable to suppose that natural selection could operate to supply each relatively trivial individual characteristic. Perhaps then a whole package deal of trivial characteristics would make a difference? But in this case, some trivial characteristics would have been along for the ride *in spite* of natural selection. Perhaps this only slightly diminishes the power of natural selection.

Contrary to popular understanding, Darwin did not claim an exclusive role for natural selection: 'Natural selection

has been the main but not exclusive means of modification.' Natural selection obviously operates if organisms are simple, passive and unresponsive. But some organisms have been naturally selected to become complex and, once they became aware, to *any extent whatever*, that they could modify their behaviour (and thus ability to survive and reproduce) they would attempt to overcome natural selection. Thus, hiding in Darwin's concept of natural selection, is the seed of its destruction – if natural selection does its job, then an organism should develop that will resist natural selection. The fact that this organism has developed proves that natural selection had been operating *until we escaped its role*. By we, I refer to those of us lucky to live in the developed world. The Grim Reaper operates natural selection elsewhere in the world.

Some evolutionist writers spend time (and destroy not a few arboreal ecosystems to produce books) debating whether evolution occurs by multiple small steps or by leaps (saltations) which punctuate otherwise stable equilibriums. Darwin favoured multiple small steps, an 'accumulation of slight modifications . . .'. Probably, both gradual and abrupt changes occur, depending largely upon the extent of environmental changes. Send in an asteroid and the ensuing global winter will cause abrupt changes, both positive (allowing certain organisms to flourish) and negative (by extinction of other organisms).

The one new development that is making Darwin's theory outdated is the abrupt evolutionary saltation that is occurring right now. Nearly all evolutionists need to be informed that the accelerating transition from carbon-based species (organisms) to silicon-based species (computers) is an evolutionary eruption. Computers can outperform us in numerous tasks and carbon-based life will be redundant once computers control production of their own hardware and software and can integrate these abilities to allow them to cope with changing environments. Hopefully cooperation, and not selection, will then occur. Is it possible that, in years to come, computers will sit around discussing how on earth they evolved? Will they discuss an original carboniferous being which constituted the Gates through which silicon became the basis of their existence? They might even discuss the joys of information exchange between themselves to create even better computer offspring, in effect re-inventing sexual reproduction!

A conclusion must be that Darwin's theory does not now apply to humankind (or at least to those in the developed world) as we are able to replace natural selection and to control both internal environments, notably genes, and the external environments that were the means of natural selection. Recently there has been much re-emphasising of Darwin's theory. I suspect that this is the often-observed occurrence that resistance to change is often maximal just before the change. Darwin's

theory needs to be changed because there is a growing realisation that his theory is now not as comprehensive and all-embracing as the retrenching fundamentalists would have us believe.

A POST-DARWINIAN THEORY

Darwinism *has* been a successful theory and has *mostly* explained the route by which organisms, species and humanity developed. One should be grateful for his insights but humans have evolved to the point when Darwinism should not be patched up, but should be replaced. Darwin acknowledged artificial, natural and sexual selection, but did not envisage that humans would replace natural selection by artificial selection applied to

ourselves. In fact, the word 'natural' in natural selection is a weasel word and allows many interpretations. *Anything* that occurs could be considered to be natural – no matter how unnatural you might like to think it. Stated simply, the new theory must be 'Persistence of a population requires that each individual member should, on average, leave at least one offspring who does the same.' The population in question can be of chemicals, crystals, organisms, computers, whatever. The mechanisms by which any variations will occur, and will be selected to survive, will vary and could include kin selection, kin exploitation, abortion, genetic interference, control of the environment, meteor strikes, good luck or bad luck!