

New Scientist and Greenpeace Science Debates

Science, technology and our future: the big questions

What is 'natural'?

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I'm very sorry to be late...partly my fault. I was particularly sorry to miss the beginning of Patrick Holden's speech. The rhetoric of The Soil Association I was brought up on – my father is a farmer and I've lived on an organic farm (it's been an organic farm for much longer than organic farming has been fashionable). My father was an enthusiastic member of The Soil Association, not quite a founder member, at least he was a member within the first five years of The Soil Association's existence. He was one of that band that was derided as 'the muck and magic brigade'; he was a disciple in some ways of F. Newman-Turner and although he never followed Newman-Turner to the lengths of refusing to plough – Newman-Turner said "nature does not plough" – he resolutely refused to use artificial fertilisers and weed killers. 'Chemical' was a dirty word in our household and the word 'natural' had an almost sacred resonance in the household of my childhood. And I've never fully thrown off that early influence, and I can think my way back into it in an instant. But I left the land and became a Darwinian scientist and so came to look upon nature in a different way, not necessarily incompatible, but at least different. That's what I'm going to talk about.

Popular views of nature often regard it as more or less benign, benign towards the species that comprise it, even benign towards the continuation of life itself or the ecosystem itself. And this ethos, which used to pervade natural history television programmes, goes something like this: nature is self-sustaining, self-preserving, there is a balance of nature, a balance of species within the ecosystem, such that all work for the preservation of the whole, until man comes along with his exploitative, selfish, unnatural greed and ruins it.

Ten minutes is not long to make many points, so I'll just make one. My point will be that this disagreeable quality of our own species is not new, not unique, not peculiar to us, and is very very natural. It's a universal quality of all life, which doesn't make it good. On the contrary,

it's something to be fought against. Far from being the most selfish, exploitative species, Homo Sapiens is the only species that has at least the possibility of rebelling against the otherwise universally selfish Darwinian impulse. Humans are no worse than the rest of the animal kingdom, we're no more selfish than other animals; we're just more effective in our selfishness, and therefore more devastating. All animals do what natural selection programmed their ancestors to do, which is look after the short-term interests of themselves, their close family, their cronies, their allies. If any species in the history of life has the possibility of breaking away from short-term selfishness and of long-term planning for the distant future, it's our species. We are earth's last best hope, even if we are simultaneously the species most capable of destroying life on the planet. But when it comes to taking the long view, we are literally unique, because the long view is not a view that has ever been taken before in the whole history of life. If we don't plan for the future no other species will.

There's a tension between short-term individual welfare and long-term group welfare or world welfare. If it were left to the forces of Darwinism alone, in one sense there could be no hope, because short-term greed is bound to win. There is a hope that lies in the unique human capacity to use our big brains, our massive communal database, all the libraries, all the computers, all the knowledge that we've built up over the generations, and our forward simulating imaginations. This is what things like the Kyoto Accord and similar initiatives are all about. To a Darwinist it's not surprising that it's so hard to get agreement in support of such political initiatives.

Darwinism is unfortunately not friendly to values of sustainability, the long-term values of life as a whole. To the extent that our values stem from Darwinian selection of our ancestors, this would seem to be a pessimistic conclusion. The only solutions to problems of sustainability, things like that, is long-term foresight, and long-term foresight, as I've said, is something that Darwinism in itself doesn't have.

Well I've said that hope lies in our unique human capacity for foresight, but how you might ask, do we manage to have foresight, given that we ourselves are products of Darwinian natural selection which only favours short-term goals? And some people have even complained of what they see as an inconsistency, almost an illogicality, in the position that I am adopting. How can I on the one hand say that we are the product of Darwinian selection, which is incorrigibly short-sighted and selfish, but at the same time say that salvation lies in humanity's capacity for looking far ahead? And the answer lies in the fact that brains, although they are themselves the natural product of natural selection, follow their own rules, which can rise above the rules of natural selection. This is obvious in the case of the example of contraception. Contraception is clearly anti-Darwinian. It would be hard to imagine anything more anti-Darwinian than deliberately limiting your own reproductive success yet we do it. The brain is big enough to override the imperative of the selfish genes. The brain exists originally as a device to aid gene survival; the ultimate rationale for the brain's existence and

very large size in our own species is, like everything else in the living world, gene survival, which tends to imply short-term selfishness. But as part of this the human brain has been equipped by the natural selection of genes with the power to make its own decisions, which can override the ultimate goals which were originally used to programme it. We can take decisions which are not based on the ultimate Darwinian value of gene survival, but upon other proximal values, such as hedonistic pleasure or such as something more noble, something such as sitting down together with people of the world and trying to plan what would be the best future for the whole of the planet. Totally unique, totally foreign to our evolutionary past.

Darwinian selection of genes originally built into our brains primitive values such as hedonistic pleasure, orgasm or enjoyment of a sweet taste, but it is an evident fact that the brain, specially the human brain, is able to override its ultimate programming, to dispense with the ultimate value of gene survival and substitute other values, including of course things like love of art and music, which Patrick Holden's friend was so wrongly ashamed of. And among these values is of course the long-term survival of the planet and other things for which Greenpeace has so single-mindedly struggled.

So my conclusion is that the natural, at least the natural of natural selection, has few virtues that we would wish to import into our human political life at least. It has been a part of our life for most of our ancestry, but we'd be well advised to in event mistrust it, even fight against it. I said that although I am a passionate Darwinian in the academic sense that I believe that Darwinism is the main ingredient in our understanding of our own existence and that of all life, I am a passionate Darwinian in that sense, yet I am a passionate anti-Darwinian when it comes to human social and political affairs and political planning for the world.

Nature really is red in tooth and claw. Nature really is ruthless, selfish, greedy. Nature in its Darwinian role of natural selection is not something we should wish to emulate.