Evolution, Meaning, and the Humanities

A Review Essay

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Darwinian evolutionary theory has been under attack from one quarter or another almost constantly since the publication of *The Origin of Species* in 1859. Over the past two decades the attack has been led by fundamentalist evangelical Christians using what they call 'creation science'. This travesty of the scientific method takes as its starting point the literal truth of Genesis, and reveals more about the psychology of belief than it does about life on earth.

There is, however, a second strand of criticism with somewhat more substantial claims to intellectual repute. This rejects the implied radical materialism of the evolutionary account of human origins on the grounds that it cannot account for the mental and spiritual components of human existence. These critics adopt a vitalist position: mind and spirit are not things that suddenly appear in humankind, but are present in proto-form in all life, if not in all matter. Evolution is thus not an accidental process. It is the process by which consciousness becomes conscious of itself, which is the goal of all its striving.

In a recent study, misleadingly entitled *Evolution and the Humanities* (New York, St Martin's Press, 1987), the literary critic David Holbrook argues for the rejection of Darwinian theory of evolution along these lines. Holbrook is depressed by the pessimism of much modern literature and social criticism, which he blames on the supposed meaninglessness of existence implicit in the evolutionary world-view. He therefore sets out to discredit Darwinian evolutionary theory and erect in its place a hypothesis incorporating some vague 'gradient' of consciousness that would imbue the whole process with goal-directed meaning.

There is not much joy in this for creationists. Holbrook denies being a Christian (13), and states his own belief that some form of evolution has indeed occurred. The fossil evidence, he concedes, is

irrefutable. Yet he trots out many of the creationist arguments in an attack, not simply on evolution, but on the very scientific method of which evolutionary theory is a product. For this reason, Holbrook's diatribe must be confronted and refuted. By entitling his book *Evolution and the Humanities*, Holbrook is making a blatant attempt to enlist the humanities in an anti-evolutionary and ultimately anti-rationalist crusade. Such an attempt is not simply uninformed but potentially damaging in so far as it provides more ammunition for irrationalists to sling. In what follows I shall not attempt to defend Darwinian evolutionary theory as such. The modern synthesis, so eloquently defended in Richard Dawkins's *The Blind Watchmaker*, needs no defence from me. Instead I propose to examine why Holbrook's attack on the Darwinian theory fails and to say something about the political implications of this kind of polemic.

To begin with, it must be said that *Evolution and the Humanities* is a thoroughly infuriating book. The sloppiness of the proof-reading, if any there was, is matched by the sloppiness of the argument. Holbrook has sought out everyone who has challenged the dominant Darwinian evolutionary paradigm from a scientific or philosophical point of view, and cobbles quotations together in a sort of scissors-and-paste criticism, with his own none-too-acute comments interspersed. More than once Holbrook admits he is no scientist; he is unfortunately no philosopher either. Nevertheless I shall try to reconstruct his case.

From his vantage point as a poetry critic, Holbrook has concluded that the loss of bearings he detects in modern English literature is due primarily to the 'menacing' metaphysic 'coming across to the humanities from science', which he believes constitutes 'the one remaining authority in the modern world' (1). Specifically, this scientific metaphysic threatens 'any sense that life can have a meaning' because evolution is a random and accidental process without either goal or purpose. On this basis he rejects it. There is no place in Holbrook's world for processes of chance or probability: evolution *must* have a purpose if human existence is to have a meaning.

In place of the supposed materialism of modern evolutionary theory is to be substituted an unfolding consciousness whose goal is to become conscious of itself. (Shades of Hegel!) In Holbrook's view, 'Life cannot be properly understood unless and until this dimension of intelligence or primary consciousness is recognized' (193). This 'primary consciousness' (the term is E. W. F. Tomlin's) is supposed to be present to a lesser or greater degree in all life forms, which thus constitute a 'gradient' of increasing order and complexity. (Shades of Herbert Spencer!) The human mind and consciousness can thus be conceived as the culmination of the 'striving towards order' brought about by 'certain benign and creative dynamics in the universe' (196).

Holbrook denies that his teleological conception of evolution is either animistic or vitalistic, that it postulates either an entelechy or a divine purpose. 'Primary consciousness' for him is merely the 'orderly innovating principle' Michael Polanyi sought, which provides the 'forward-seeking dynamic' he fails to find in Darwinian evolutionary theory. But Holbrook's alternative *is* a form of vitalism. For Holbrook there must be '"something else", some other organizing principle, some other mysterious morphogenetic life-power, something like intelligence in life'(203). A clearer statement of vitalism would be hard to imagine.

Much of Holbrook's opposition to Darwinian evolutionary theory derives from what appear to be misunderstandings of both the 'creative' aspect of natural selection and the statistical/populational components central to the modern synthesis. Holbrook returns again and again to the problem of how a 'negative' or 'accidental' process such as natural selection could *create* anything at all – let alone a new species. Of course a causal process doesn't create *de novo*: that is a metaphor. But selection against certain variants and in favour of others will swing the population mean towards one type or another. The result, after numerous generations, will be a new species, but not one that has been 'created' as such.

Elsewhere Holbrook shifts his ground from the problem of creativity to that of purpose. What he objects to in natural selection is its purposelessness. Holbrook can't conceive that evolution could occur simply in response to changing environmental conditions without some overall goal towards which the whole process actively tends. For Holbrook, 'The choice remains, a creative agency pervading and transcending nature; a creative impulse immanent in nature; or a blind and purposeless chance'(85). Out of God, vitalism, or natural selection, Holbrook plugs for the middle term.

Holbrook would *like* evolution to be both creative and purposeful, but the very fossil record that he accepts, with its history of the extinction of by far the majority of all species that have ever evolved, makes it impossible to accept his vitalistic view. If Holbrook's 'morphogenetic life-power' really is purposeful, why does it run into so many evolutionary dead-ends? Whatever happens to the life-power when the environment changes and species die out? Does it, like Hegel's Spirit, skip across to a successful species at the new 'cutting edge' of evolutionary thrust in order to pursue its ultimate goal? At around this point, vitalism degenerates into mystical nonsense.

Holbrook's misunderstanding of evolutionary theory is compounded by his misunderstanding of the role of theory in the growth of scientific knowledge. Low-level theories define the relationship between specific components of our material environment. High-level theories such as relativity or evolution not only define specific relationships, but also act as interpretative components of world-view.

As Kuhn and other philosophers and historians of science have shown us, the process of high-level theory replacement is a complex and uneven one. Even after anomalies have been demonstrated, *ad hoc* subsidiary hypotheses will often be sufficient to save a core theory – at least for a time. Only an alternative theory of equivalent simplicity and greater comprehensiveness – i.e. one capable of explaining everything the previous theory does, plus all or most anomalies – can replace an existing theory. Furthermore, as Imre Lakatos has demonstrated, an existing scientific theory will retain its paradigm status until its fertility as a generator of productive research programmes is all but exhausted. Only then will recognition of accumulated anomalies force a theory in question to the point of crisis that precedes imminent replacement.

No crisis yet exists in evolutionary theory. The work of modern evolutionists such as Gould and Eldredge does not challenge the mechanism of natural selection. Both are committed Darwinians. Their theory of 'punctuated equilibrium' simply suggests that natural selection operates in spurts rather than steadily and gradually. New species develop rapidly in response to rapidly changing environmental conditions (including, of course, the presence of other species), but settle into relations of stable equilibrium in relatively unchanging environments. Mammals evolved rapidly upon the demise of the dinosaurs, yet crocodiles are still with us. 'Punctuated equilibrium', far from threatening the status of the Darwinian theory, actually extends, and thus protects the core theory.

What Holbrook seeks to do is to create a crisis where none presently exists. He apparently believes that if enough criticisms are levelled against Darwinian evolutionary theory, scientists will be forced to come up with a new, more acceptable theory. But theories are not replaced through negative criticism alone. What is lacking in Holbrook's diatribe is the necessary positive, creative component of theory replacement – an alternative theory. At this point, the weakness of Holbrook's vitalism becomes glaringly apparent.

The fact that vitalism is no alternative to Darwinism does not mean that all Holbrook's criticisms can be dismissed. By no means every biological development is adequately explained by the modern synthesis. Holbrook rightly points to its failure to account for aspects of embryological growth and for the persistence of certain basic structures (six legs in insects, four in vertebrates, etc.). Rather than turn to some hidden 'life-power' for an explanation, however, scientists might do better to investigate the structuring effects of structure itself; how structure, once formed, defines and channels possible directions of growth. Gould has done some work along these lines on shell shape in molluscs. Perhaps Anthony Giddens's concept of structuration might serve as a model for analogous biological theory. After all, Darwin himself took the idea of evolution from social thought, and there is no reason why productive borrowing should not continue.

In summary, acceptance or rejection of scientific theories depends in part on the epistemic qualities of the theory itself, and in part on the extent of the consensus of opinion among the community of scholars in that discipline. The modern synthetic theory of evolution is simple in concept and extraordinarily comprehensive, accounting for a mass of empirical evidence from areas as diverse as geology and biochemistry. It is compatible with theories in everything from statistics to plate tectonics. And it is accepted by the overwhelming majority of the scientific community. By any measure, the Darwinian theory is as well established as any high-level scientific theory is likely to be.

The theory of evolution presents us with a world-view in which humankind is a very recent addition whose own development seems to have occurred in response to an accidental set of circumstances in parts of eastern Africa some four to two million years ago. This view of the origins of humankind tells us something about the relationship of our species to others in the animal kingdom. It helps explain some enduring human characteristics, of the kind that have become an obsession for sociobiologists. But it does not entail any necessary inference as to the value or meaning of human existence. It cannot be concluded that, because humankind evolved as a result of a series of apparently accidental environmental changes, intermediate individual members of the human lineage lived only to die and human life has no meaning. Similarly, that protohominids three million years ago were engaged in a struggle for survival against climate and disease and starvation, or that many human beings are so engaged today, says nothing about the value we should ascribe to any individual life. No argument from either evolution or history can provide us with an ethic for living or for treating our fellow human beings. Questions of ethics must be determined on philosophical and moral grounds: there is no argument from 'is', or 'was', to 'ought'.

All those who accept the view of the world resulting from scientific study and application of the scientific method must face the interlocking problems of discovering and living by a meaning for both human existence writ large and one's own individual life. The mainstream Christian churches have done so by resorting to a radical Cartesian dualism. Evolution is accepted as the way in which God chose to create the world, knowing in his omniscience that humankind would be the ultimate product. At the appropriate point in this process, hominids were endowed with divine souls, at which point the essentially animal became truly human. For those without some reconcilable religious belief, the problem of meaning is more pressing. But this is no cause for pessimism. The mystery of life in all its extraordinary complexity is no less for those who accept Darwinian evolution than it is for those who think some god was responsible for their creation.

Here lies Holbrook's ultimate misunderstanding. The pessimism he finds pervading much of modern literature is not the product of a

scientific understanding of how humankind evolved, but of modern technological society's failure to provide meaning for its marginalised members. But this is our society, and the meanings it provides are our meanings. No pluralistic modern society, not even the most totalitarian, can enforce uniformity of meaning on its members. Meaning ultimately is a private affair, no matter how much of it is socially shared. We in the humanities contribute much to the construction of meaning, through art and music and literature. This is a positive role, whether our offerings are bleak or bountiful. But let us not pretend that we can mount a critique of the scientific method on the basis of value judgements levelled against the meanings that others construct. The only valid basis for such a critique is epistemological. Holbrook's emotional response to modern literature can never serve as grounds for what passes for a critique of the scientific method, but really amounts to a failure of nerve.

Finally I want to say something about the political implications of the sort of attack Holbrook has mounted, given our present intellectual environment. In attacking Darwinian theory, Holbrook is impugning the scientific method as such. He thereby aligns himself with those who want to replace the free pursuit of human knowledge by appeal to some form of authority. Above all, science is an approach to knowing, a method by which causal connections are hypothesised and critically examined and assessed. Science is not a body of incontrovertible knowledge. Nor is it, as Holbrook claims, 'the one remaining authority in the modern world'. Science with a capital S is, if anything, an approach, a perspective, an admission of human fallibility yet a proclamation of the value of critical enquiry. It is, in fact, profoundly opposed to the notion of authority.

Nothing better illustrates Holbrook's misunderstanding of the scientific endeavour than his claim that science is authority; but nothing better reveals the underlying motives of his attack on evolutionary theory. Holbrook's very equation of science with authority reflects a yearning for certainty, for assurances that are no longer available. Holbrook's view of science as providing iron-clad assurances, albeit not those he seeks, is quite inapplicable to twentieth-century science. He exhibits the same nostalgia for a fixed core of belief that fundamentalists of all flavours deceive themselves into finding in one scripture or another. But our world offers only hypotheses, interpretations, and the possibility of being wrong.

In this respect, science can be said to have a political component: it offers not certainties, but the possibility of consensus arrived at through critical discourse on problems we face and ways to solve them. Those who condemn science as some reified demon undermine this political perspective. Their mind-set is essentially undemocratic because it is intolerant of varieties of interpretation, and impatient of the often tortuous process of consensus.

The political implications of anti-rationalist fundamentalism were exemplified in an article by Hiram Caton in the pages of *Quadrant* in May 1987. Caton, who teaches a course in 'biopolitics' at Griffith University, produced an apology for why Queensland conservatives like himself support the fundamentalist Creation Science Foundation. Caton proceeded by ridiculing differences in interpretation of finds of human fossil remains, by belittling evolutionary biologists as 'the evolution lobby', and by equating the epistemological claims of science with those of theology. He even expressed doubt that the fossil record provides evidence of evolution, and claimed that the 'fossil record, genetics, and speciation evidence' all point away from (and thus undermine) Darwin's own views. What they do not point away from, however, is the core of Darwin's theory – natural selection. This is what 'saltationists' such as Stephen Jay Gould still vehemently uphold. Finally, Caton trivialised the development of scientific knowledge by referring to modifications of Darwinian theory as 'fashions'.

At the crux of Caton's conservative concern once again lies the question of authority. In one revealing passage, he writes:

> The long evolutionary past removes the Judaeo-Christian God to an infinite distance and finally extinguishes Him in the belief that our species is the chance product of blind natural forces. We are on our own and consequently we may do what we will, free of ancient prohibitions and divinely-sanctioned codes.

Here lies the political message of Caton's defence of 'creationist science', and of Holbrook's and Caton's attacks against evolutionism. Authority must be brought back in; people must be put in their proper places; society must be conserved by its self-proclaimed elite. People must at all costs be prevented from thinking for themselves, societies from working out their own moral codes. Yet this is exactly what we need to do. We may be free of divinely sanctioned prohibitions, but only to be bound by socially sanctioned laws and conventions. And the basis for their formulations is not authority, but reason; not the reactionary politics of authoritarianism, but the progressive politics of rational discourse. The Holbrooks and Catons of this world confuse the epistemological claims of the scientific method with the axiological commitments that are part of their own world-views. It is up to others to sort out this confusion, to differentiate the role of reason in the growth of knowledge from the grounds of morality in the development of our social ethics, our knowledge of the conditions of human existence from the meaning we give to it.

'I AM THOU'

Towards a Psychoanalytic Language of Respect

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In 1910 Freud published *Leonardo da Vinci and a Memory of his Childhood*. Nine years later, Marcel Duchamp accomplished his work on Leonardo, his *Readymade LHOOQ*, the Mona Lisa with a beard. We can safely presume that Freud would not have appreciated the latter contribution to da Vinciana. This apparently random association inscribes this essay.

This is not another analysis of Freud's analysis, not another plucking of feathers from a particular bird's tail. I am interested only in the beginning and end of that study: in the case for the case, in the 'problem' called Leonardo da Vinci.[1] Why was that person a worthy case for analysis?

Freud tells us that Leonardo 'was admired even by his contemporaries as one of the greatest men of the Italian Renaissance; still, even then he appeared as mysterious to them as he now appears to us' (4). Why, Freud asks, was he a mystery? Certainly not because he was 'many-sided in his capacities and knowledge'; such versatility was 'not unusual' at the time. Nor was it his social demeanour: he was tall, strong, 'of consummate beauty', 'jovial and affectionate' and enjoyed music and company. So what made him mysterious, even then?

> The turning of his interest from his art to science, which increased with age, must also have been responsible for widening the gap between himself and his contemporaries. All his efforts with which, according to their opinion, he wasted his time instead of diligently filling orders and becoming rich ... seemed to his contemporaries as capricious playing ... he painted less and, what was more often the case, the things he began were mostly left unfinished; he cared less and less for the future fate of his works. It was this mode of working that was held up to him by his contemporaries, to whom his attitude towards his art remained a riddle. (7–8)