

The Human Genome Project

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The completion of the first draft of the human genome marks an exponential explosion of genetic manipulation. The director of the Science and Human Dimension Project at Jesus College, Cambridge, says that our concerns should be clearly voiced at every juncture of these developments.

The announcement of the completion of the first draft of the human genetic code in the summer was greeted with puzzlement, wariness and a prodigious eruption of hype. It was also greeted with expressions of religious awe. "Today we are learning the language in which God created life", declared President Bill Clinton at an internationally televised press conference. "All human life is here", quoth the *Daily Telegraph*; it was the final publication of "the Book of Life", enthused newspapers the world over. And Clive Cookson in the *Financial Times* put religion on notice of a new challenge.

"Traditional theology has managed to coexist with scientific theories of evolution and cosmology", wrote Cookson. "But if biologists manage to explain in full detail how our bodies and minds work, will they leave any room for a soul or a divine Creator?" *El Mundo*, the Spanish daily, echoed the sentiment, asking whether the biologists had not become like "God himself". Was this not, suggested the paper, the veritable discovery of the Tree of Knowledge of Good and Evil?

But to what extent were the gasps of holy awe authentic?

An influential constituency of ultra-Darwinists - including Richard Dawkins, Daniel C. Dennet, Edmund O. Wilson, together with an assortment of sociobiologists and evolutionary psychologists - have for two or three decades borrowed from religious language and concepts to characterise the scope and import of their project. At the same time they have become ever more hostile towards religious belief. The source of the paradox, religiose and yet anti-religious, resides at the margins of very different kinds of explanations of the world - "how" questions and "why" questions (as in, why is there something rather than nothing), and the attempt of evolutionary biology, as in a final adaptive Darwinian struggle, to satisfy, and thus encompass, religious longings with false metaphysical claims in the guise of scientific realism.

Awe in Science

Scientists are, of course, justified in using expressions of awe, even religious awe, to describe the unfolding discoveries of science. Early modern science, in fact, was largely a religious pursuit aimed at bringing humankind closer to the divine Creator, and appropriate religious awe is everywhere present in Darwin's reflections on evolution. A more recent, and surely authentic, expression of religious awe was recently uttered by Francis Collins, director of the Human Genome Project. A practising Christian, he sees no conflict between religion and science which, in his view, adopt different discourses. Coming upon something entirely new in the human genome, he remarked, "I experience a sense of awe at the realisation that humanity now knows something only God knew before. It is a deeply moving sensation that helps me appreciate the spiritual side of life."

The problem, however, is not with Collins's kind of awe; it is with those evolutionary scientists and social scientists who claim that their discipline penetrates the ultimate

meaning of human nature, mistaking what the philosopher Mary Midgley once characterised as "the small mirrors reflecting only parts of the universe for the whole". Clive Cookson's use of the term "explain in full detail" (leaving by implication nothing more to be thought or to be said) is a revealing example of the category error.

Science as Religion

It was Edmund O. Wilson - *Sociobiology* (1975) and *On Human Nature* (1978) - who set the tone for pseudo-religious rhetoric in the recent and expanding fields of evolutionary psychology and sociobiology. Wilson was perhaps the first to use the word "epiphany" to describe the effect of fully understanding the world in terms of evolutionary truth. It came upon him, he insisted, with the religious force of a "revelation", and as a former southern Baptist he had convictions about what that meant. "Science", he wrote, "is religion liberated and writ large." Then he asked: "Does a way exist to divert the power of religion into the service of the great new enterprise that lays bare the sources of that power?"

Wilson's bid to appropriate religion for the force of his argument was paralleled by Richard Dawkins's dogmatic "selfish gene" theory of everything. Dawkins was yet to enunciate his "meme" idea, the notion that there are cultural entities, of which religion is one, that behave like adaptive and competing viruses, thus extending and reinforcing the primacy of natural selection as an explanation for all human behaviour.

Nothing Buttery

Alongside Mary Midgley, the biologist Steven Rose has also combated the grandiose tendencies within his discipline. Rose, too, focuses on the blurring of the margins of opposing styles of explanation: "how" questions, and "why" questions. The problem arises, Rose says, out of the "nothing buttery" of sociobiology, as in "nothing but our genes". From another perspective, the central fallacy of evolutionary biology's dangerous hubris, as he sees it, is due to the overweening ambition of reductionism - explaining the whole exclusively in terms of the smallest parts. Reductionist method has provided most of the penetrating insights into mechanisms in every field of science; but in biology, according to Rose, "complexity and dynamics, open rather than closed systems, are norms rather than exceptions, and the methodology of reductionism, however powerful, has difficulties in dealing with complexity". Doing biology, in other words, requires restraint in its explanatory scope. What's more, biology that emphasises the primacy of populations and whole organisms, as opposed to genes and molecules, is obliged to work not only bottom up, but top down. In other words, good biology involves a balance of reductionistic and holistic method.

In fact, working molecular biologists, such as Rose, tend in a more or less self-denying ordinance to confine themselves to gene-based diseases rather than attempts at discovering a genetic base for complex human behaviour. It is the sociobiologists and the evolutionary psychologists who have been making ever wider claims for the exclusive influence of the human genome on determining complex human activities. Love, jealousy, violence, competitiveness and, yes, religious belief, are all to be explained by the urge of our genes to survive. Our genes, alone, determine what, who, and why we are. "The need to maximise evolutionary fitness", as the New York science-media sociologist Dorothy Nelkin puts it, commenting on evolutionary psychology's pretensions, "governs the world, controls destiny, intervenes in history and guides the conduct of human behaviour".

The Mystical Genome

Nelkin, author of the science sociology classic *Selling Science*, has sketched out a useful contributory essay on evolutionary psychology's religious impulse in Steven and Hilary Rose's recently published *Alas Poor Darwin* (Jonathan Cape). It is an impulse, she says, that aims to displace religion, while seeking converts by creating confusion at the borders of science and the sacred. The ambiguities are familiar. Geneticists routinely exploit biblical language: the genome is the "Bible", the "Book of Man", and the "Holy Grail"; geneticists such as Walter Gilbert talk of genetic composition as the ultimate answer to the counsel "Know Thyself". The human genome takes on a mystical quality in its claim to contain the "secret of life"; both Dawkins and Wilson talk of the "immortality" of the genes as opposed to the mortality of the organism.

Evolutionary psychologists acknowledge the great difficulty of demonstrating the empirical basis of their claims about genes and human nature. Resorting unabashed to unsupported dogma, they denounce their critics as deluded, unenlightened, damned, with an enthusiasm akin to evangelical missionary zeal. At the same time, they lay claim to a new and all-embracing moral and social order based on genetic determinism. In their view, moral responsibility is obsolete and, in consequence, so is the criminal justice system. Why should anyone be blamed if they had no other alternative but to act the way they do? Intention, human agency, and free will are meaningless since all behaviour is reducible to evolutionary impulse. How curious that a scientific constituency involved in deconstructing moral responsibility and the basis of respect for the human person, as well as religious belief, should at the same time assume the mantle of religiosity.

Popular Science

The power of religious evolutionary biology reveals its true scope and influence against the background of the expanding genre of popular science publishing. Not so long ago the editorial director of a leading London publisher told an audience of science writers at a meeting in Cambridge that popular science books were enjoying huge sales because they "answered in adult parlance the profound religious why-questions posed by five-year-olds".

The genre of popular science exposition, peppered with God-talk, according to this publisher, was in part explained by the persistence of a sense of religious mystery despite a decline in formal religious belief and practice. Science writers were filling a profound need and they discovered that the more they blurred the distinction between religion and science, the more popular were their books. At the heart of the matter was science's insistence, against the background of a decline in religious belief and practice (if not a decline in religious instinct), that it could confirm a unifying principle of all existence, or, at the very least, a God of the Gaps. Equally influential is the perception of an equivalence between spooky misconceptions about, say, quantum physics, and spooky misconceptions about the mystical - encouraging the taste for New Age vagaries and pieties.

As *Newsweek* magazine crassly puts it in a recent editorial comment: "The achievements of science offer support for spirituality and hints of the very nature of God."

Popular science writers - employing God-talk either in the form of implicit denials or facile "hints" - have become the new-wave theologians: whether it be Freeman Dyson affirming a deistic designer in consequence of the numerical accidents in the make-up of the universe, or Stephen Hawking's sarcastic reference to the "mind of God" in the soon-to-be-discovered

"theory of everything". And the rewards of such pseudo-reconciliations - the sacred and the scientific - are not solely in heaven. Apart from the swelling royalties, there are powerful and wealthy bodies ready to support the cause. Both Paul Davies (*God and the New Physics*) and Dyson have been recipients of the John Templeton Foundation award of £600,000 for their contributions to the unity of science and religion. Meanwhile the Templeton Foundation has established a Center for Theology and Natural Sciences to foster a "growing tolerance" for a "hierarchy of explanations in the world of the natural sciences". Members of the centre are at pains to emphasise the "cosmic deity" revealed by science. "Evolution occurs because all of nature is being grasped by the future that we call 'God'."

To talk of conspiracy is to overstate the case; to talk of a con-trick seems closer to the mark. The hallowing and pseudo-sacralising of the genome project promotes and sustains the perception that the gap is being bridged between science and religion. Yet it is abundantly clear that evolutionary psychologists are not so much offering what Edmund O. Wilson has termed "consilience" with religious perspectives as an attempt to undermine and neutralise them.

Religious groups, and the Catholic Church in particular, have many concerns about the new genetics, from the practice of embryo research to the spread of gene patenting. The completion of the first draft of the human genome marks an exponential explosion of genetic manipulation, testing, wide-ranging experiment, and clinical and commercial exploitation. Our concerns should be clearly voiced at every juncture of these developments. We should not be easily enticed by pseudo-religious narratives that make false claims for scientific authority aimed at remodelling our understanding of the relationship between science and religion. Nor should we be under any illusions as to evolutionary psychology's reductive and atheistic aims.

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