The world through rose coloured spectacles

WALTER GRATZER

The story is told that Senator Chauncey Depew, one of the brazen tongued titans of American politics in the last century, was laid low by a political opponent at a fund raising dinner in the following terms: "Senator Depew says that if you open my mouth and drop in a dinner, up will come a speech; but I warn you that if you open your mouths and drop in one of Mr Depew's speeches, up will come your dinners." Now everyone of course to his own pabulum, but prospective readers of this book should consider themselves similarly cautioned. The active emetic principles are certain catchwords, notably reductionism, determinism, and feminism, lightly dusted with other "isms."

Stephen Rose, professor of biology at the Open University, who set up the series of discussions on which *Science and Beyond* is based, defines the rules at the outset. His position in brief is that reductionism is an evil—a deformity rather—that afflicts scientists somewhat like halitosis or genital herpes, worse indeed, for it leads ineluctably to the dread determinism. Determinism means that you believe that we are the helpless products of our genes; nay more, that you hold with E O Wilson (whom the ideologists of Rose's kidney would surely have had to invent, had he not presented them with his *Sociobiology; the New Synthesis*) that human society is governed by biological imperatives. The National Front, Stephen Rose believes, marches under the banner of sociobiology (presumably chanting slogans from *The New Synthesis* and *The Selfish Gene*, rather like the stout fellows of another age who would fight to the death against popery "without knowing whether it be a man or a horse").

It further transpires that reductionism has its roots in the male domination of science and that we must look to feminism to steer us away from it and towards wholesome holism, which goes with peace and harmony.

What then is to replace the reductionist science that is supposed to have preserved male, white, middle class supremacy and to have served society so ill? Well, for a start we are to find "a way of controlling and directing research, which open[s] all laboratories up to community involvement in their direction, and plan[s] work by a combination of the tripartite structure of decision-making by scientists and technicians in the lab itself, by the community in which it is embedded and the discussion of priorities and resources at a national level." Such a scheme of research by democratic committee or workers' cooperative was actually given a try in France in the heady days of the 1968 students' rising—briefly, it is true, but still long enough to reveal a rich seam of comic possibilities.

Stephen Rose clearly has no patience with what I imagine to be the view of nearly all working scientists, that science is, in Medawar's famous adage, the art of the soluble, and not the pursuit of the desirable (or at least desired). But to do him justice he has offered his adversaries the floor, and they include such unregenerate pragmatists as J D Watson, whose response to Rose's dialectic is much like that of Dr Johnson to Bishop Berkeley's solipsism—to kick a stone hard. Watson holds that we should save our energies for grappling with the challenges of discovery that rise up endlessly before us. The double helix, he says, made him content for at most

Esau and Jacob. (From an early engraving.)

Selling his birthright for a plate of pottage has got Esau a rather bad press over the years, but what looks like mere greed and stupidity may have been a matter of life and death, according to *Search the Scriptures Illustrated. Modern Medicine and Biblical Personages* by R B Greenblatt (£11.95; Carnforth: Parthenon, 1985, ISBN 1-85070-102-4.) Esau was probably suffering from severe hypoglycaemia and "knew that he must have food instantly or drop," says the author, Robert B Greenblatt. He also reckons that Joseph suffered from delayed puberty and that Goliath's size was due to acromegaly—which could also have given him tunnel vision, thus making it possible for David to keep out of his way while taking aim with the sling.

This collection of pieces interpreting biblical events in the light of modern medical knowledge (each chapter is headed with quotations from Holy Writ like texts for a sermon) was a bestseller when it was originally published 20 years ago. It has now been brought out in a fully illustrated edition, making it an attractive book to dip into and for savouring the peculiar satisfaction that comes from learning that legend, allegory, or dimly remembered history may be sober fact—something caught nicely by C Day Lewis in connection with the Greek myths:

Well, I have seen a clutch of hydras
Slithering round WC2,
And Odysseus striding to the airport. I think
Those tales could be strictly true.

six months before an urgent desire for new progress again took possession of him.

Watson and several others of the distinguished line up of protagonists that Rose has assembled have produced some rewarding essays, even if sometimes from an uncomfortably defensive posture. As literary craftsmen John Maynard Smith and Richard Dawkins are in a class of their own. Maynard Smith dilates on the limitations of natural selection as the basis of evolution. He shows that Darwinism alone is insufficient to explain all that we need to understand, but he concludes with the following gentle barb: "My fear is that when people argue that Darwinism is not enough, it is not the absence of a theory of development or of ecology that they are worried about. Often I suspect that they are hankering after some kind of Lamarckian inheritance of acquired characteristics, or some Teilhardian inner urge towards the omega point. If so, they would do better to stick with Darwin."

Richard Dawkins, who has established himself as one of the great exponents of pop science, examines the political assault on sociobiology and sets out, successfully as I judge, to show up the diatribe against it and against reductionism and determinism as a foolish and meretricious irrelevance. His chapter is the best read in the book. He is followed by Patrick Bateson, who takes greater care than Dawkins to distance himself from E O Wilson's wilder conjectures, which have brought down so much obloquy on sociobiology as a whole. He also tackles Dawkins on the slippery arguments that he has deployed to establish "the selfish gene" as the evolutionary unit, and gives a notably more restrained view of the state and scope of ethology than the more exuberant popular exponents of the field.

We pass from evolution to another battleground of prejudice and dialectic—namely, artificial intelligence. John Searle, in his Reith lectures on the subject, was at pains to show that the very term is a contradiction and in no useful sense could a machine ever be said to think. (The trivial example that he cited was that of a simple bimetallic strip thermostat, which thinks two thoughts: "I think it's too cold in here" and "I think it's too hot in here.") Margaret Boden's position is that a sentient machine can be envisaged and if, for example, it is to see—that is to say, recognise objects against a background of other visual input—it must be based on the human cortex. Patrick Wall and Joan Safran analyse and demolish the argument, step by step, with admirable skill and assurance.

As to medicine, there is little to fuel doctors' egos in Alwyn Smith's dissertation on medicine and public health. He goes into McKeown's well known studies on the decline in mortality from the scourges of earlier generations, such as tuberculosis and smallpox, which showed that clinical advances affected them scarcely a whit and what made the difference was improvements in living conditions. The rising incidence of ischaemic heart disease and various cancers can hardly be attributed to our increased longevity, for this is primarily a consequence of reduced infant mortality: the life expectancy of the middle aged has changed hardly at all in the past 100 years. Moreover, these so called diseases of affluence do not primarily trouble the affluent: it is mainly the poor of the affluent society that succumb to them. It appears then "that they arise from activity involved in the creation of affluence in industrial countries rather than from its self-indulgent consumption." Medicine has besides failed conspicuously to provide for those who need it most, especially the old. The treatments now available for acute infections, Smith observes, have even denied them a peaceful death—pneumonia is no longer the old man's friend. Smith reaches sombre conclusions. All doctors should mull over what he says.

Finally then to feminism, and two fearsome chapters by Janet Sayers and Hilary Rose. They see science as evil because it has been dominated by men from its very inception; it is thus a stockade to be stormed and captured. "The struggle for feminist science . . . depends on women gaining control over science's means of production. . . ." The resonance will not be lost on the historically minded reader. Hilary Rose blames it all on Bacon. She quotes with approval a fellow feminist who first perceived that Bacon's science was "lustfully masculine," for did he not write of "uncovering nature's nakedness" and "wresting her secrets from her"? Indeed, "Bacon's exploitative view of science and nature has penetrated the analysis of both Marxism and labourism in this century." Perhaps,

after all, artificial intelligence is already in our midst. It seems to me that the cause deserves better than this.

I do not suppose that the discussions, which must have enlivened the evenings at the Institute of Contemporary Arts, changed anybody's mind (though then again it was C M Bowra, the most accomplished of all academic politicians, who maintained that scientists should be kept off committees because they were apt to allow arguments to sway their opinions). F E Smith once expounded a complex issue of law in court; "I am afraid, Mr Smith," said the learned judge when he had finished, "I am none the wiser." "No, m'Lud," Smith replied, "but better informed."

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