

Gail Vines grapples with scientific ethics

Gene Genies

Are you troubled by test-tube babies, jumpy about gene therapy or ambivalent over animal experiments? What you need is a Bioethics Council, says the Nuffield Foundation, to deal with all these tiresome 'ethical issues' thrust upon us by scientific research. The foundation is soon to fund a committee of the great and the good to track down the bioethical dilemmas of our day and clobber them with reports emanating from elite working parties.

The idea is to avoid the moral panic that often surrounds the latest shock-horror headlines about virgin births or mutant tomatoes, by deciding the 'right' way to make use of scientific knowledge before the fruits of research reach the clinic or the marketplace.

Of course it's easy to poke fun at the prospect of a council of worthies devoted to charting a true and moral course through today's perilous postmodern seas. But 'bioethics' needs to be taken seriously. For far too long, many feminists, activists on the Left and campaigners for minority rights have adopted an anti-science stance that is remarkably simple-minded. The result is that decisions about science-based technologies are taken without any influential input from the broad Left, and in a context that obscures the important issues of social control and public empowerment.

Underlying Nuffield's venture is the dangerously misleading notion that scientific advances spring ethical dilemmas on an unsuspecting public almost by accident, as a sort of unpredictable side-effect of the search for Truth. In this world view, scientists merely discover things about the world; the ethical choices come in deciding what to do with this knowledge.

It is a convenient view for scientists and one they take pains to promote. 'We are just getting on with our work', say today's gene mappers at conference after conference on the ethics of it all. 'It is up to society to decide what to do with our dis-



coveries.' The boffins by and large genuinely believe this.

Yet generations of social scientists have shown the untenability of this stance. The scientists' view of nature is not value-free, and the prospect of particular applications frequently determines the direction of research.

The bioethics world does



little to bridge the gap between these wildly divergent views because it is inhabited almost exclusively by lawyers, philosophers and theologians. Scientists and clinicians are on hand to inform and guide the moralists of course. But where are the social scientists - the historians, sociologists and an-

thropologists - the very people who are exploring the relationships between science and society? Can their work really be irrelevant?

In the cosy world of bioethics today, moral principles, the meaning of words and the arcane complexities of the law all get an airing. The search is on for moral

absolutes, ethical principles, legal precepts. Excluded from the framework are the social scientists who can bear witness to those effectively excluded from the debate, the 'general public' in all its diversity. Sociologists and their kind are also rather good at exposing the ideological underpinnings of the status quo.

The current fuss about 'the public understanding of science' is a perfect example of the power of a good bit of sociological thinking. Scientists and industrialists are concerned that many people have doubts about the benefits of nuclear power or genetic engineering. This concern has inspired a host of surveys, such as those conducted by John Durant, now at the Science Museum in London. These surveys reveal that the public is largely ignorant about such things as whether the Earth goes round the Sun or vice versa. The conclusion tends to be that such ignorance of 'scientific facts' makes people irrationally fearful and leads them to crave unrealistic certainty about the implications of new technologies. Hence the need to educate the great unwashed: call in the experts to shut them up.

Brian Wynne for one, a sociologist at the University of Lancaster, disputes this explanation of the public disquiet surrounding certain technologies. The scientists' arguments are an attempt to rationalise the fact that people do not accept the underlying social control associated with many technologies, he argues. 'It's just nonsense that people expect zero risk', he says. 'People routinely accept risk in everyday life.'

Risk is all around us, but laypeople's perceptions of it can be very different from the scientists' view. Scientists may find it difficult to acknowledge that risk assessments based on ideal laboratory conditions do not apply in the much more unpredictable setting of everyday life. So people working in agriculture or hospitals, for example, may experience much more risk in

handling pesticides or blood-contaminated products than the experts have catered for.

Wynne has looked at how scientists present information to the public, notably the farmers of Cumbria after the fallout from Chernobyl contaminated their sheep. Scientists from the Ministry of Agriculture gave farmers unhelpful advice in part because they inflated their limited understanding of both practical sheepfarming and the movement of radioactive materials in the environment. 'Scientists often present the public with misinformation', says Wynne. 'They claim too much certainty.'

Overselling science to the public may even be damaging to the interests of the scientific community, argues Simon Schaffer, a historian at the University of Cambridge. It can lead to an anti-science backlash when something goes wrong. Creationism thrives in the US, Schaffer speculates, perhaps in part because American schools have for so long hammered home the message that scientific knowledge is absolute truth. When anomalies in neo-Darwinian theory turn up, say, the whole edifice of belief can readily crumble.

It's not a question of being pro- or anti-science. The crucial thing is to give people a flavour of science in the making - the controversies argued out at the lab bench or in the conference hall, which encompass the uncertainty utterly absent from the 'facts' that fill the textbooks. Ironically, it is a nation's citizens, not its scientists, who most need to have this sophisticated view of how science works. And bioethics needs the social scientists if it is ever to incorporate and promote this understanding.

Scientists, clinicians and government policymakers alike need to begin to understand, rather than patronise, the public. People do not need reassurance; they need the facts, in all their glorious uncertainty, to be able to make their own judgments about which risks are worth taking.