
Book review

Zimmerman, B.K.: Biofuture. Confronting the Genetic Era. New York, London: Plenum Press 1984. xi + 305 pp., 22 figs. Hard bound \$ 16.95.

The development of recombinant DNA technology a decade ago marked a turning point in the research on genetic manipulation of organisms. Since then, molecular biologists have transferred genetic material from one species to another on many occasions. From the start, many people have pointed out the possible dangers of these experiments. During the first years of the recombinant DNA debate (or the "recombinant DNA war" as Zimmerman prefers to call it because of its irrational nature) most attention was focussed on the risk of adding particular recombinant inserts, such as the genes of tumor producing animal viruses, to *E. coli*. At present, it is clear that these dangers were largely overstated and now the long-term effects of the recombinant DNA technique attract more attention.

In the larger part of the book under review, Zimmerman's *Biofuture*, the author deals with the biological background of recombinant DNA, its applications, the biotechnology companies, the recombinant DNA debate and legislation. However, his main goal seems to be to outline the long-term effects of such technology. For example, according to Zimmerman it will be possible in the near future to eliminate defective genes in the human genome and to insert "normal" ones. This is probably justified in the case of genetic diseases such as sickle-cell anemia, but what about such traits as a low IQ, selfishness or aggressiveness? However, Zimmerman only provides the

questions and as he confesses in the epilogue, wishes only to disturb his readers.

Zimmerman states that "good is a term everyone must define for himself" (p. 72) although he has, of course, his own ethical viewpoints which permeate onto many pages of the book. He, in fact, endorses the philosophy of The Enlightenment maintaining that knowledge itself is good and that the cultural value of knowledge ranks well above any of its practical expressions. Zimmerman recognizes that this is probably not sufficient for the taxpayer and also stresses the secondary goal of science, i.e. the production of new, useful things. However, his more philosophical opinions must be read between the lines and in this area his argueing is mostly causal and sometimes unfair. Also, his knowledge of biology is sometimes insufficient, for example when he maintains that there is a very strong drive to survive as a species (p. 194) which is, to an evolutionary biologist, nonsense.

In conclusion, *Biofuture* is a readable book and informative about the recombinant DNA debate. Zimmerman correctly marks the ethical problems with which mankind will have to struggle in the decades to come. In the epilogue he states that his book is a book of questions, not of answers, but many readers will feel that he could have dealt with these questions in greater depth without having to give answers.

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