

Book reviews

Mohr, H.: Natur und Moral; Ethik in der Biologie. Darmstadt: Wissenschaftliche Buchgesellschaft. 191 pp. Hard bound DM 39,00.

This provocative book consists of 12 chapters, the first and the last of which are respectively an introduction and an epilogue. The ten remaining chapters deal with (1) teleological thought and action, (2) evolutionary epistemology, (3) scientific ethic, (4) the problem of the normative character of knowledge, (5) evolutionary ethics, (6) the biological limitations of man, (7) the problem of justice, (7) the relation between science, ethics and openness and (8) qualitative growth, an ethically defensible survival strategy.

The book rests upon two basic assumptions: (1) that evolution is a theory which irrefutably demonstrates how our knowledge and our moral prescriptions came about, and (2) that the problem of matter-spirit, body-mind, etc. is an "aporia", a difficulty which blocks any possibility of an answer. The latter assumption is stated, but not developed; the former constitutes the great pillar of the author's argument. In that sense the work shows a great similarity to treatises in moral theology based upon the dogma that God is the cause and explanation of everything, and that all problems arising from the dogma are either pseudo-problems issuing from a misunderstanding of the dogma, or problems that can be explained away. Here the dogma of the existence of God is replaced by the dogma (for the theory is irrefutable) of evolution. The most interesting part of the book is to be found in the idea that the ethical code of the scientist as scientist is the paradigm of all morality, although this does not imply that morality in general can be deduced from the scientific moral code.

Although the book might be used as a useful case study illustrating what ethics as a philosophical discipline is not, it adds to the growing mass of literature which confuses ethics with a defense of survival-morality.

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Patterson, C. (ed.): Molecules and Morphology in Evolution: Conflict or Compromise? Cambridge: Cambridge University Press 1987. 229 pp., 39 figs., 17 tabs. Hard bound \$ 49.50.

As early as 1958, Crick proposed that "... before long we shall have a subject which might be called 'protein taxonomy' ...". Indeed, evolutionary trees which have traditionally been based on morphology are now often constructed using data at the molecular level: immunological distance, amino acid sequences, DNA-DNA-hybridization and nucleotide sequences. Controversies between the morphological and molecular approaches rapidly emerged. For example, Goodman argued more than 20 years ago that, on the basis of their

serum proteins, the *Pongidae* should only comprise the orangutan, whereas the *Hominidae* should consist of, not only us humans, but also the chimpanzees and gorillas. Traditionally, the apes had been placed in the *Pongidae* family, and humans in the *Hominidae*. Although such controversies have been solved at least partly, the basic controversy still exists. Since molecular data can be measured unambiguously, and since they reflect mutations and consequently indicate evolutionary distance, the molecular approach would appear to be the most reliable one. This was confirmed experimentally in a study of inbred strains of mice. In this study, which is summarized in the last chapter of the book under review, the molecular and morphological trees are compared with the known history of the mice strains. The molecular data retrieved the correct phylogeny, whereas the diagram based on morphological data was very different. Things might be more complicated, however, and the authors take great pains to temper the obvious conclusion by a number of caveats, including the fact that they had used quantitative morphological data (length, width), whereas usually qualitative data (absence/presence) are used. Nevertheless, their results show that molecular data correctly indicate relationships in microevolutionary changes.

The other chapters of the book comprise an excellent general introduction and specialized chapters on hominoids, mammals, birds, tetrapods, vertebrates, and bacteria. As advanced techniques now allow rapid DNA-sequencing, we may expect a large quantity of new data within the next couple of years. This book excellently takes stock of our present knowledge and directs further studies. It should be read by anyone interested in evolutionary theory.

G. J. de Klerk, Lisse

Bautz, E. K. F.; Zachau, H. G. (eds.): Organization and Function of the Eucaryotic Genome. Abstracts of the 7th German-Soviet Symposium, April 2-4, 1987, in Heidelberg. Sitzungsberichte der Heidelberger Akademie der Wissenschaften, Mathem.-naturwiss. Kl. Jg. 1987, Suppl. 23 pp. Berlin, Heidelberg, New York: Springer 1987. Soft cover. DM 12,-.

Since 1987 molecular biologist from the USSR and the Federal Republic of Germany have visited each other's country and held joint symposia at regular intervals. The abstracts of the 1987 meeting (each 25 lines long on average) provide the reader with an up-to-date overview of current research into DNA in both countries, although in a rather patchy fashion. One can not fail to get the impression that it was a rather heterogenous meeting. Interestingly enough, yeast, corn and *Drosophila* are still being used. Some abstracts are, as usual, enigmatic. A synopsis would have been helpful to the reader, but apparently no one was willing to provide one.

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