Book Reviews

Frolow, I. T.; Pastusny, S. A.: Der Mendelismus und die philosophischen Probleme der modernen Genetik. Berlin: Akademie-Verlag 1981. 340 pp. Soft bound DM 12,50.

This book, a translation from the Russian, was originally published in 1976 and treats the philosophy of genetics from a dialectical materialist point of view. Formerly, this meant that the social and economical roots of science were analysed as in Bernal's "Science in history". Present dialectical materialists, however, stress the methodology of science. They pretend that only dialectical materialism can tackle complex problems because it is able to handle opposites like whole and part, the experimental and the historical method, etc. According to the authors, dialectical materialism is not confined to marxist scientists, but also emerges many times spontaneously among other scientists.

The first part of the book is historically oriented and deals with three stages that may be distinguished in the development of genetics. First, the discoveries of Mendel are treated. Mendel's particulate theory of inheritance as opposed to the blending theory is mentioned. But another important, novel element in Mendel's approach, the introduction of a simple symbolic representation of characters, is not recognized by the authors.

The second stage in the history of genetics is the relation of the geneticists of the first decades of this century with the Darwinian theory of evolution. From the present point of view, it is surprising that they were very opposed to natural selection. According to the authors, this was because the geneticists were interested in the constancy of characters during generation and not in change. In addition, they were experimentalists and therefore opposed to the speculations of the historically oriented geneticists.

The rise of molecular genetics is the third stage of genetics. Although the relation of classical and molecular genetics is one of the main topics in the philosophy of biology, it is only treated very poorly in the book. For example, Avery's paper on DNA as the material basis of heredity is mentioned, but nothing is told about the initial failure of geneticists to see its importance. Also nothing is said about the methodological impact of the migration of physicists into biology.

In the second part of the book philosophical problems of genetics are treated systematically: Determinism, methodology (e.g. reductionism), eugenetics and genetical engineering are discussed and, finally – as in all other marxist books on the philosophy of biology-Monod's "Chance and Necessity" is criticised. The second part of the book is far less interesting than the first and rather old-fashioned.

In the book Lysenko is only mentioned incidently and is then called "left-doctrinaire", "antiscientific" and "pseudo-dialectic". Western scientists are told not to take him as an example of a dialectical materialist.

Concluding, the authors' stress on history and methodology offers the best way of analysing the philosophical problems of genetics. There are some good sections, especially in the first part of the book, but in general the authors overlook too many important issues and fail to place their analysis in a broad context. In addition, their dialectical materialism will irritate some readers. However, it may amuse others. I think it will not convince non-marxists.

G. J. M. de Klerk, Nijmegen

Kelly, T.E.: Clinical Genetics and Genetic Counseling. Chicago, London: Year Book Medical Publ. 1980. 425 pp., 69 fig., 31 tabs.

Clinical Genetics and Genetic Counseling is a good text for practising physicians to catch up on newer developments in medical genetics. Chapter 1 on the history of medical genetics is written by Victor A. McKusick. Chapters 2 till 6 inclusive are more or less classic (Mendelian Genetics, Multifactorial Causation, Mathematic Aspects, Cytogenetics and The Human Gene Map), but lively interspersed with clinical examples. Much space is devoted to Approaches to Clinical Diagnosis (7), Genetic Screening – Eugenics – Ethics (8), Genetic Counseling (9), Prenatal Diagnosis (10) and Case Illustrations of Common Problems in Genetic Counseling (11).

Many paragraphs are too long and sum up too many facts or theories to grasp easily the importance of a specific remark ("an infectious cause of non disjunction as well as seasonal variation in the mother's endocrine system" p. 126). Some statements are ambiguous ("Mendelian traits are those ... which segregate in an unilocal (single gene) fashion", p. 62).

Is the "Haldene principle" named after J.B.S. Haldane? Many enzymes (hexosamidase, G-6-P-D, H-G-P-R-T) are not indexed. Neither the author nor McKusick (chapter 1) clearly distinguish between medical and clinical genetics. Kelly uses both interchangeably in the preface. In chapter 1 Clinical Genetics is part of Medical Genetics. Are the topics of the chapters 7 till 11 inclusive no part of Clinical Genetics? If so, the title of the book is a pleonasm. There is not much difference in contents of books on Medical Genetics and on Clinical Genetics.

Among many of those books this one is rather stimulating.

S. J. Geerts, Nijmegen

Hennig, W.: Phylogenetische Systematik. Berlin, Hamburg: Parey 1982. 246 pp., 69 figs. Soft bound DM 64,–.

In 1950 Hennig saw his "Grundzüge einer Theorie der phylogenetische Systematik" published, but his ideas remained largely unobserved until, in 1966, "Phylogenetic systematics" was published. This contained an entirely new version, which was concluded in a German manuscript by 1960, to be translated into English and published six years later. Hennig did not see the translation before publication and so could not authorize it; in fact, he had some reservations. Moreover, some parts of the original manuscript were not included in the translation. The book now to be reviewed is the original German text, edited by Hennig's son Wolfgang, who in his introduction mentions the historical details given above. It is to be regretted that Wolfgang Hennig did not indicate the parts left out and also did not elaborate on the reservations his father had to the English edition. On a comparative perusal of both texts, I did not miss any portion in the text of 1966.

Two shortcomings did appear. First, it is odd to see that the numbers in fig. 39, so obviously wrong (3, New Hebrides; 5, Samoa; also the arrows connect the wrong patterns) are still not corrected! Then, but this is a shortcoming of the English text: "Wie dem auch sei, sicher scheint mir jedenfalls, daß" to me is not the same as "In any case it seems certain, to me at least, that".

The publication serves two goals viz., to facilitate the discussion of phylogenetic systematics among German-speaking scientists and to complete the record, so as to allow of a full reconstruction of Hennig's ideas. This is of paramount importance, because "l'oeuvre hennigienne forme un tout dont chaque étape compte" as Dupuis wrote in his authorative review of 1978 (Cahiers des Naturalists, Paris, n.s. 34, 1).

I applaud the publication of this book and I recommend it to all taxonomists.

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