
Book Review

Genetics of Natural Populations. The Continuing Importance of Theodosius Dobzhansky. Edited by LOUIS LEVINE. Columbia University Press. 1995. 299 pages. Price £52.75, US\$79.00 hardback.

Theodosius Dobzhansky died 20 years ago, but he continues to exert a considerable influence on contemporary evolutionary geneticists, as evidenced by the reprinting of his monumental series of papers 'The Genetics of Populations', and by books such as this, which commemorate his life and work. The first part of this book consists of personal reminiscences by C. C. Tan, Ledyard Stebbins and Howard Levene, and a discussion by Costas Krimbas of Dobzhansky's personal influence on the work of scientists in the U.S.A. and overseas. Krimbas makes the point that this influence outside the U.S.A. was greatest in countries with the weakest traditions of neo-Darwinian evolutionary work. For example, the flourishing state of evolutionary genetics in both France and Spain at the present day clearly owes a great deal to Dobzhansky's contacts with scientists in these countries, whereas British evolutionary geneticists or their intellectual antecedents had little direct contact with Dobzhansky.

The next section examines Dobzhansky's intellectual influence, with chapters by Bruce Wallace, Timothy Prout, Hampton Carson, Jeffrey Powell and Richard Lewontin. Lewontin's article, entitled 'Theodosius Dobzhansky – a theoretician without tools' is characteristically the most provocative of these. His argument is that Dobzhansky used his experimental and observational work to exemplify theoretical principles, rather than to test hypotheses. The use of real organisms rather than equations was forced on Dobzhansky by his mathematical illiteracy,

according to Lewontin. For example, the action of selection on polymorphic inversions in *Drosophila pseudoobscura* was essentially proved by Dobzhansky's observation of cyclic variation in inversion frequencies. The famous population cage experiments, which demonstrated convergence of inversion frequencies to stable equilibria, simply illustrated the general principle of balancing selection in an artificial context. I am not wholly convinced by this thesis, but it makes interesting reading.

Unfortunately, this is more than can be said for much of the rest of the book. This consists of research articles and review papers by former students and associates of Dobzhansky. Many of these are either dated or dull. One of the problems with books of this kind is that people are reluctant to contribute original work of which they think highly. They either present material which has already been published, or original material that they feel to be of lesser significance. Several of the review articles do provide useful perspectives on progress in various areas of population genetics, such as the paper by Galiana, Moya and Ayala on founder-effect speciation and Stephen Schaeffer on DNA sequence polymorphism in the *Adh* gene of *Drosophila pseudoobscura*. Ironically, these two studies do not give much support for some of Dobzhansky's favourite themes, such as the interaction between genetic drift and selection in driving populations to new equilibria, and the major role of selection in maintaining variation.

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