

In the five great Pazyryk barrows the peculiarity of construction, the climate and the altitude caused the contents to freeze up after burial. Subsequently, robbers broke into these tombs, just as robbers have broken into allegedly rich tombs in Egypt and elsewhere; they took away much of the contents, but they never got to the accoutred horses outside the burial chambers. The skins of these horses survived intact and show us their colours and breeding. The condition of the human bodies was so good that it is possible to study the tattooing and to make one wonder again whether classical writers, describing the ancient Britons, were describing painting in wood or Pazyryk-like tattooing.

The artefacts of bone, wood and horn are remarkable as one might expect from the graves of important persons. There were found many bridles and saddles as well as an elaborate carriage. Perhaps the most exciting finds were pieces of Chinese silk, a Chinese mirror and a Persian carpet and a complete apparatus for inhaling the fumes of Indian hemp.

In his preface Thompson writes "the refrigerated objects . . . not only throw a flood of light on aspects of the life of the people who used them which have normally left no trace: but also throw some light on the civilized areas with which these people were in contact: the Persian and Chinese textiles at Pazyryk are older than any surviving examples in Persia or China".

These were the tombs of semi-nomadic people, pastoral ancestors of the Kazakhs and other peoples who lived from the Caspian to the Altai mountains: people who practised little cultivation but kept herds of horses, cattle, sheep and goats. Carbon-14 dating tells us that these barrows date from between 500 and 200 BC: possibly 400 BC is the most likely date.

This is a remarkable book and we are fortunate in having it available in English in such a lavishly illustrated form. Dr Thompson has not only done the translation but contributed a long and learned introduction that is itself a most valuable essay.

GLYN DANIEL

EVOLUTION AND GENETICS

Evolution and Genetics in Honor of Theodosius

Dobzhansky

Edited by M. K. Hecht and W. C. Steere. Pp. xv+594. (North-Holland: Amsterdam; Appleton-Century-Crofts: New York, 1970.) 152s.

Evolutionary Biology

Vol. 3. Edited by Theodosius Dobzhansky, Max K. Hecht and William C. Steere. Pp. viii+309. (North-Holland: Amsterdam; Appleton-Century-Crofts: New York, 1969.) 147s.

THE inevitable *festschrift* for Dobzhansky has appeared; it is a handsome book with fifteen articles on evolution and genetics and an introductory chapter about Dobzhansky himself. With what trepidation must honoured academics first open the pages of their *festschrift*, scan the titles, and start to read. Will the papers be irrelevant to their life's work; will they be rehashes of previous tired reviews; or will the papers be there simply because they will not be critically refereed? (One has seen them, unfortunately.) The famous must have some tense moments.

Dobzhansky's admirers have, on the whole, done him well. Naturally, most of the articles are reviews. Two are historical or philosophical. The essay by Simpson, on "Uniformitarianism", is a delight to read. Rensch's article on "Panpsychistic Identism" is almost completely opaque, but there are signs that the translation is very unhelpful. The reviews are often long, and can treat the subject to a satisfying depth. In particular, the paper by Carson, Hardy, Spieth and Stone (100 pages long) is fascinating. There are four other reviews on aspects of

Drosophila. Beardmore discusses the relationship between the variability of the environment and the variability of gene pools. Spiess gives a long review of the influence of the genotype on mating ability in *Drosophila*. Brnic discusses Chilean *Drosophila*, and it is interesting to compare the relatively staid evolution of these drosophilids with the florid evolutionary behaviour of the Hawaiian forms. Ayala deals with Volterra's equations in relation to competition experiments with *Drosophila*, and he attempts to discern the effects of competition on the genotype.

Stebbins discusses the progress in plant evolutionary studies since his book was published in 1950. The article by Li on human genetic adaptation, though a useful summary, is somewhat too slight to be very satisfying, but it is amusing reading, particularly for the way he can dispose of opponents with a deft phrase. Two papers, by Florin and Schoffeniels on adapted molecules, and by White on parthenogenetic animals, complete the reviews. The former paper is extremely slight.

Creed, Dowdeswell, Ford and McWhirter have nearly brought up to date their studies of the peculiar "boundary phenomenon" in *Maniola jurtina*. Although some interesting thoughts spring from their paper, it is frustrating not to have a clue as to what selective forces are working on the species. Eiche and Gustafsson report on a massive experiment to determine the hardiness of Scots pine transplanted to more or less climatically unfriendly sites in Sweden. The writers, and the reader, are troubled at times by the interaction of climatic and inbreeding effects. The Rizkis report some peculiar patterns of enzyme activity in *Drosophila* species hybrids. Finally, Wallace, in a short paper, astonished the non-drosophilic reviewer with the very small distances *Drosophila* feels it necessary to move if conditions are right.

All in all we have here a solid, reasonably digestible mass of the kinds of evolutionary study that Dobzhansky and the rest of us will appreciate.

The other book is the third volume of a series edited by Dobzhansky, Hecht and Steere. So far, this series has been a useful one, with a good range of topics. Here there are articles on aspects of evolution in oats, social bees and parthenogenetic weevils. The article on defences against visually hunting predators is interesting but it is rather out of place. Other articles cover sexual selection in *Drosophila* and cancer cells as temperature sensitive mutants, and, finally, there is a long and welcome article by Hopson and Crompton in which they argue for the monophyletic origin of mammals.

J. D. CURREY

THE DROSOPHILA OVARY

Ovarian Development in *Drosophila melanogaster*

By Robert C. King. Pp. x+227. (Academic: New York and London, July 1970.) 154s.

Drosophila melanogaster is probably the commonest experimental animal, and the literature on it increases by more than two papers a day. Most of this output is concerned with genetics, of course, and there is still a surprising shortage of publications on *Drosophila* physiology, even reproductive physiology. Professor King's book is therefore very welcome because it fills one such gap by dealing with the important subject of oogenesis. In essence, it is a summing up of the researches carried out or stimulated by his group during the past fifteen years, and anybody familiar with this work will expect this monograph to be well illustrated with clear line drawings and by relevant photomicrographs; their expectations will be fulfilled. This book will therefore be useful as a convenient standard reference; others will find it a useful review of muscoid oogenesis, as typified by *Drosophila*. The skeleton of the subject is necessarily descriptive morphology, covering everything so far published