

Book Reviews

Advances in immunology. Volume 36, Edited by F. J. Dixon. Academic Press Inc, Orlando, Florida. 1984. Pp. xi + 248. Price: £26.00, \$36.50 (U.S.).

This review series in immunology has been running since 1961 and it has always provided the most academic and thorough of review articles available in immunology. The present volume is no exception. The 5 articles cover very diverse areas of immunology, and in most cases are extremely comprehensive with a lengthy reference list. The information they contain is reasonably up to date with many 1983 references and a few 1984. *Advances in Immunology* has avoided the journalistic style associated with some other review series, but has established its reputation by providing comprehensive reviews covering relatively narrow areas of immunology.

In this volume the article of most general interest is that on "Antibodies of predetermined specificity in biology and medicine" by R. A. Lehner which covers the research in the use of short polypeptides to raise antibodies that react with defined sites on native molecules. This is an area of research which has considerable potential in identifying the products of cloned genes and in constructing vaccines. The article contains pairs of coloured stereo pictures which are spectacular but can only be appreciated by those fortunate individuals with cyclopean vision or by using a stereo viewer.

The other 4 articles cover aspects of cellular immunology and make ideal reading for any researcher wishing to be brought up to date with the aspects of immunology covered by the review. These include two articles on more conventional aspects of cellular immunology; one on "Human thymic microenvironment" by B. F. Haynes and one on "A molecular analysis of the cytolytic lymphocyte response" by S. J. Burakoff *et al.* Finally, there are two articles of a more specialised nature; one on "Aging, idotype repertoire shifts and compartmentalization of the mucosal-associated lymphoid system" by A. W. Wade and M. R. Szewczuk and the other on "A major role of the macrophage in quantitative genetic regulation of immunoresponsiveness and anti-infectious immunity" by G. Biozzi *et al.* This latter article is perhaps the most specialised dealing with the innate and immuno-resistance to infections in two lines of mice developed by Biozzi and his co-workers selected for their ability to give a high or low antibody response following challenge with any antigen.

The series "Advances in Immunology" is one which any library covering the immunology literature ought to take. It is questionable whether it is a series that many private individuals would wish to purchase. One great asset with this series is that at the end of each volume

they print the contents of all the previous volumes, thus making it very simple to find a comprehensive review in many aspects of immunology.

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The phenomenon of man revisited. A biological viewpoint on Teilhard de Chardin. Edward O. Dodson. Columbia University Press, New York. 1984. Pp. xix + 257. Price: \$32.50 (U.S.).

Emeritus Professor E. O. Dodson has replaced Teilhard de Chardin's Lamarckism with elementary Mendelism, and added a brief survey of the course of evolution in the main groups of animals. He attempts thereby to make *The Phenomenon of Man* more acceptable to present-day scientists. He also points out what in Teilhard de Chardin's theories is open to experimental approach and what is not.

It is doubtful whether such cosmetic action can do much for Teilhard de Chardin, and characteristic of this general school of thought that evil should not appear in the index, and should be dismissed in the text (pp. 223-224) as something we all know enough about. The book has strong affinities with Pope's *Essay on Man* (1733) which (in part) provoked Voltaire's *Candide* (1759), and Soame Jenyns's *Free Enquiry into the Nature and Origin of Evil* (1757) which was pulverised by Dr. Johnson. No, it will not do; if individual persons are as valuable and as directly the subjects of providential care as Christianity asserts, the fates of too many of them are too appalling. A genetically correct account of evolution does not help, even when combined with a Christianity allegorised beyond belief.

This whole problem is simply passed by. While "struggle for survival" does appear in the index, referring to a remark by Teilhard de Chardin that there is a great deal of biological efficiency in it, waste is not mentioned at all. The "prodigality of nature", which also appears "is a simple result of the fact that reproduction is a geometric process rather than an arithmetic one"—a choice example of that mathematical fallacy in explanation which is the opposite to the pathetic fallacy—and there is a brief reference to Teilhard's indifference of life; "Life passes over a bridge made of accumulated corpses, and this is a direct effect of multiplication" (p. 133). On the next page we read "Only with the appearance of mind can this indifference be replaced with solicitude" (another word not in the index). But

has it been so replaced? That is the whole question. Teilhard certainly did not show that man is in any way exempt from 'indifference'. If indeed (p. 201) "the universe is a collector and conservator . . . of persons" it must be added that many are produced, and few chosen.

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Efficiency in plant breeding. Edited by W. Lange, A. C. Zeven and N. G. Hogenboom. PUDOC, Wageningen, The Netherlands. 1984. Pp. 383. Price: Dfl 110.

This handsomely produced volume is a curate's egg of a book as, alas, is usually true of symposium proceedings; the occasion was the 10th Eucarpia Congress, held at Wageningen in 1983. Roughly 40 per cent of the text is relevant to the title, under the heading *Improvement of selection methods* and the rest is taken up by papers on *Breeding at the cell level*, abstracts of posters (78 wasted pages there, cost about 22 Dfl) and miscellaneous formalities, including an index (curiously entitled *Index of descriptors*).

On the main theme, no coherent view emerges, which is hardly surprising because economics does not intrude. We shall only be able to talk sensibly about "efficiency" in plant breeding when we can talk about an, in some practical sense, optimal allocation of resources. (Finney wrote about one aspect of this problem in 1958 and his paper is not even cited!). The papers in this section are very uneven; they range from a useful review by Gallais of indirect selection and a crisp survey by Snape and Simpson of early generation selection in inbreeders to the vaguely physiological and the genetically trivial. Several papers bear upon the problem of intergenotypic competition; conventional wisdom has it that competition between unguarded plots tends to bias means and inflate errors, thus impeding efficient selection. No one seems to remark on the flatly contradictory conclusion reached by Spitters on the basis of physiological modelling assuming multiplicative interaction.

The *Breeding at the cell level* bit is equally heterogeneous. It contains a weighty and well balanced review by Schilperoort of biotechnology and genetic engineering but several trivia too. Of general interest is the mounting evidence, adduced in several papers, that *in vitro* selection at the cell level can, sometimes at least, produce putatively useful mutants after regeneration. Plant breeders will watch with interest for signs of practical impact. A few years ago some of the molecularologists were saying that genetic engineering was about to revolutionise that fuddy-duddy, old fashioned plant breeding. I found it encouraging that such views are no longer heard; a certain realism now seems to prevail. Schilperoort doesn't believe in revolutions and King disavows any "intention . . . to sell anybody anything".

As to the posters, some were obviously interesting and no doubt they enlivened the coffee-breaks and generated useful personal contacts. The best will no doubt be published ultimately in ordinary, refereed papers but many will be decently buried. What is the point in cluttering an already over-crowded literature with 78 pages (prodigally wasteful of space, too) with stuff that either *will* be published or should *not* be?

All in all, I enjoyed this book and am glad to have the review copy for occasional reference. But the curate's-egg-symposium is an expensive way of doing things.

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Mendel. Vitezslav Orel (translated: S. Finn). Oxford University Press, Oxford. 1984. Pp. 118. Price £7.95 (HB), £1.95 (PB).

This wee book is certainly an excellent corrective to the usual student text book hagiography with which we are so often regaled—the "Mendel got there first but then missed the boat" presentation.

Orel carefully documents the active scientific milieu into which Mendel came, and describes the international science to which he was exposed during his time at the University of Vienna. He expounds the history of involvement in horticulture and natural science at the monastery in Brno before Mendel's entry and then describes the experiment on *Pisum* in great detail, but with the use of modern technical terms which I find unhelpful. It is a pity that more space is not given to his work on the constancy of hybrid forms in the hawkweeds, because, as his overriding interest was in the origin and generation of hybrids, it is likely that it was of as much importance to him. The book covers his period as abbot and concludes with a pious tribute to the influence of his work on science up to the present day.

There are some omissions to irritate the historian of science; for instance, nothing on the question of why Mendel did not seek to disseminate his work more widely, since he clearly had the means and the contacts.

However, a geneticist could do worse than read Orel and follow it up with Olby (*The Origins of Mendelism*, pub. Constable). The exercise should at least raise questions as to the prudence of rewriting scientific history in our text books to accommodate the latest fads and fashions.

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