multi-locus enzyme systems and a revised introductory section on genes and proteins. The only regret is that some of the more recent advances in knowledge about gene structure and RNA processing are not included. An account of processing and packaging of enzymes and other proteins, and of the application of monoclonal antibodies for the detection of genetic variation, will also have to wait until the fourth edition. In the meantime this new work by Harris will be an invaluable guide and source of reference for students and senior workers in the subject. It is highly recommended.

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THE THEORY OF PLANT BREEDING. O. Mayo. Oxford University Press, 1980. Pp. 293. Price: £24.00.

This book contains 17 chapters, glossary, bibliography and subject and author indices. Essentially it is about population and biometrical genetics in relation to plant breeding and the title is, I think, somewhat deceptive. The biometrics is generally expounded as the necessary algebra, without numerical examples, so it is not for beginners; in fact the book makes considerable demands on the reader's previous knowledge and it is not, as some might have hoped, a sort of "plant-breeder's Falconer". So the plant breeder with little biometrics at his command will be disappointed; and so, I fear, will be the biometrician who hopes to learn about plant breeding because the treatment of the subject is sketchy and not well organised. There is very little feel for what plant breeding is really like.

For an audience limited to those with sufficient knowledge of both plant breeding and biometrics, the book will have its uses. I found references to a number of papers that I should have known about but did not and there are diverse interesting speculations provocative of further study. I am glad to have had occasion to read it carefully and shall find it useful for reference. I'm sorry it cannot be generally recommended; maybe the author attempted an impossible task.

The book is well made, expensive and marred, alas, by some textual mistakes (p. 47, movements for moments), confused or undefined symbolism (pp. 91, 115), poorly drawn figures (pp. 106-8), even wrong formulae (p. 108).

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ANIMAL MODELS OF OBESITY. M. F. W. Festing (Ed.). Macmillan Press, London, 1979. Pp. x+258. Price: £17.50.

This volume presents some interesting papers given at a Symposium on animal models of obesity. More particularly it is a book about fat rats and fat mice, which are the subject of thirteen of the fifteen papers. The other two papers relate findings on animal models to problems of human obesity. Parts of the review copy of the book were obscure because of uneven impression and blurring of the print. This, together with the choice of typeface and unjustified lines made the book difficult to read.

J. C. McCarthy discusses variation in the amount of body fat amongst ordinary mice that has been revealed by selection experiments. Mice selected for rapid growth rate become very fat as adults. Mutants resulting in obesity in rats and mice are reviewed by M. F. W. Festing and D. A. York. Chief of these are the obese and diabetes mutants of the mouse and the fatty mutant of the rat. It is clear that the phenotype and expression of such mutants depends strongly on genetic background yet the great majority of work with obese mice has used a strain in which the non-mutant sibs tend to become fat as they age, even when offered only ordinary mouse food to eat. It would be interesting if more could be discovered about genes that distinguish strains in which obese mutations produce maximal and minimal phenotype effects. D. S. Miller, in his contribution on non-genetic models of obesity, points out that an understanding of leanness may be necessary for an understanding of fatness, even as the study of leanness is of great concern to livestock breeders. Environmental methods of inducing obesity in rodents that are described in the volume include increases in the energy content of the diet, disturbances of endocrine and hypothalamic function, and alterations in feeding behaviour and meal patterns. Training mice to eat all their food in one daily meal leads to obesity even though, at least in the strain tested, eating the same amount of food throughout the day does not.

Several contributions seek to throw light on the metabolic, hormonal and cellular mechanisms by which obesity is established and maintained. All of them lead one to the conclusion that the basic defects that cause obesity still await identification. However a number of relevant areas have been opened up for study and the combination of genetic and environmental approaches should, in time, lead to a better understanding of fatness in man.

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