

## Book reviews

**Frankel, R. (ed.): Heterosis. Reappraisal of Theory and Practice. Monographs on Theoretical and Applied Genetics, vol. 6.** Berlin, Heidelberg, New York, Tokyo: Springer 1983. IX/290 pp., 32 figs., 60 tabs. Hard bound \$ 50.90.

Certainly a gap is filled by this book as it has been a long time since a comprehensive review of the phenomena of heterosis, or hybrid vigour, has been published, at least as far as its practical use in crop plants is concerned. This monograph will be very useful. The striking discordance between our limited understanding of the causal mechanisms of heterosis and its extensive utilization in plant breeding is also reflected by this book. Of the ten chapters, only two deal with basic problems: one on biometrical genetics of heterosis (J.L. Links), the other on heterosis and intergenomic complementation (H.K. Srivastava), notwithstanding that theoretical aspects are also included in the chapters on crop-specificity, especially in the chapter on maize. These general sections show that, in spite of much descriptive detailed knowledge, we are not yet on safe ground.

The eight more specific chapters are most informative and have been written, just as the above-mentioned ones, by very competent authors. They cover not only plants where heterosis is already widely used economically but also other plants where several problems are still unsolved. These chapters are on maize (G.F. Sprague), barley (R.T. Ramage), wheat (P. Wilson and C.J. Driscoll), fodder grasses (G. Kobabe), vegetable crops (garden asparagus, *Brassica oleracea*, carrot, cucumber, muskmelon, squash, eggplant, pepper, spinach; O.H. Pearson), tomato (M. Yordanov), onions (B.D. Dowker and G.H. Gordon), and ornamentals (R. Reimann-Philipp). Unfortunately, a number of crop plants where hybrid breeding is promising or already practised are not included (sugar beet, sorghum, rye, and rice).

It can particularly be noted that, in general, the cited literature comprises also many papers written in languages other than English. Variations in style and clearness is certainly inevitable in a book by many authors. The very different arrangements of the individual crop-specific chapters is to the books' disadvantage and obviously uninfluenced by the editor. Misprints (or mistakes in the manuscripts not observed by the editor and the publisher's reader) are not rare and the cost of this volume, with really not too many pages and figures, is indeed high. All in all, however, a very good book. It gives a comprehensive survey on results, motivations, and the diverse specific problems. It is stimulating reading.

F. Scholz, Gatersleben

**Hübner, K.; Holzner, J.H.: Die heutige Rolle der Genetik in der Krankheitsätiologie.** Stuttgart, New York: G. Fischer 1983. vi + 278 pp., 169 figs., 64 tabs. Hard bound DM 98,—.

In twenty-eight chapters of varying length and quality the presentations of a meeting of the German Society for Pathology are published. This exchange of different approaches and views between geneticists and pathologists is very fruitful. For

the geneticist the elucidation of fetal autopsy data and of detailed studies on congenital malformations is stimulating. "The theory of congenital disorders has left the shadow of the past" (Födisch, page 36). On the other hand, pathologists can have no better introduction to genetics than the article by Vogel. Discussions on the pre- and post-natal manifestations of the Potter syndrome (3 chapters), on the chromosomal etiology of internal malformations in fetal material, on the cytogenetics of cancer, leukemias, etc. (comparative data inclusive), and on disturbances of sex differentiation and amenorrhea, are all clear examples of these collaborative efforts. One can only wonder, however, if a pathologist is the most authoritative person to discuss inborn errors. Possible exceptions are when the cellular or histological inclusions in storage diseases are treated, light and electron microscopical findings in the central nervous system of patients with neurological diseases and autopsy data in mucopolysaccharidoses. A chapter on bioethics has not much to do with the collaboration ("Einer besonderen Bioethik bedarf es sicher nicht!", page 266). This book is strongly recommended to all human geneticists as it shows what can be done in an intensive collaboration with pathologists. Human syndromology is indeed coming out of the shadows of the past.

S.J. Geerts, Nijmegen

**Katzman, R. (ed.): Biological Aspects of Alzheimer's Disease – Banbury Report 15.** Cold Spring Harbor: Cold Spring Harbor Lab. 1983. 375 pp., several figs. Hard bound \$ 66.00.

This is an excellent monograph that should be studied by all who are engaged and interested in gerontology, dementia and the study of the etiology and pathogenesis of the Alzheimer disease (McKusick recommends avoiding the use of the possessive form of eponyms). The book contains the proceedings of a meeting held in Cold Spring Harbor in 1982 in nine sessions: 1. The human dimension; 2. Cell and tissue changes; 3. Fibrous proteins; 4. Genetics and biochemistry; 5. Neurotransmitter changes; 6. Triogenic factors and metabolism; 7. Behavioral correlates; 8. Viral and environmental agents; 9. Therapeutic interventions, with 38 lectures and several discussions.

The human dimension (session 1) which introduces the clinical aspects of the disease makes it a well balanced monograph. The following eight sessions discuss all available knowledge on this, one of the most embarrassing diseases of old age. No one who directly or indirectly has something to do with this field can neglect this monograph, neither in his research nor in his cure or care. It is clear that one has to be cautious on deciding upon a simple mode of inheritance in a disease in which clinicians and laboratory workers have quite diverging operational diagnoses. This book will be a major reference in all future research on dementias, "concomittant with, yet not intrinsic to the aging process" (cited from the preface by Shodell).

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