

mation and references. The first, by J. H. Edwards, is on the analysis of pedigree data. It is less a review of work in this field than a formal analysis of the scope and limitations of the method. It is stimulating, and will repay reading by anybody concerned with pedigree data; but they should not expect a practical manual on the techniques available.

The second chapter, by Orlando J. Miller, on autoradiography in human cytogenetics, is a thorough and wide-ranging review, covering almost any conceivable aspect of the application of autoradiography to the study of chromosome identification, structure and replication. Cytogeneticists will find it invaluable.

The third chapter, on the genetics of immunoglobulins, by H. Hugh Fudenberg and Noel E. Warner, is likewise a thorough and highly technical review of the immunoglobulins, and of their chemical, structural and immunological features in relation to their genetics.

The fourth and fifth chapters overlap and complement each other. The fourth, by Charles R. Scriver and Peter Hechtman, on human genetics of membrane transport with emphasis on amino-acids, describes the mechanisms and specificity of such transport, together with a consideration of the genetic loci involved, and includes a section on treatment and counselling. The fifth, by Jean Frézal and Jean Rey, on the genetics of disorders of intestinal digestion and absorption, is a description of the clinical and chemical-pathological findings in genetically deter-

mined disorders of this sort; there is little formal genetics, but much of the ground has already been covered in the previous article.

The quality of production of this book justifies its price. There are few typographical errors considering the technical nature of the material. If subsequent volumes maintain the standard of this one the series will be a memorable one.

E. H. R. FORD

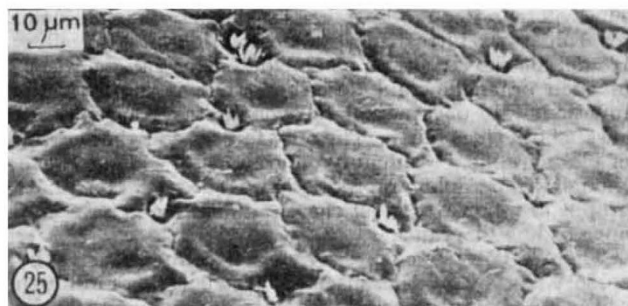
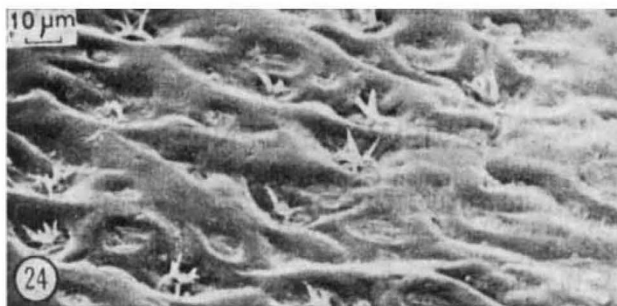
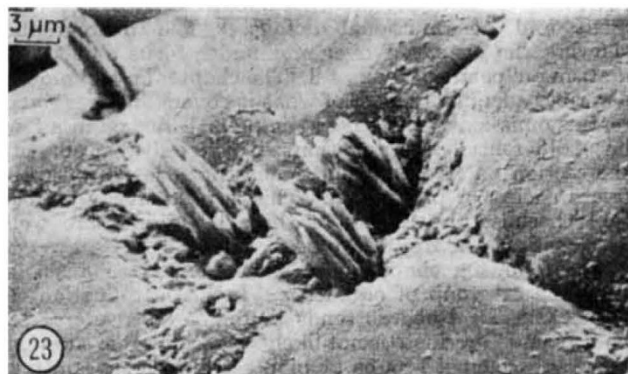
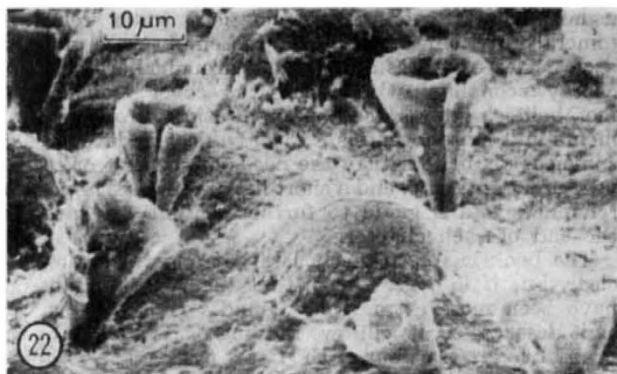
MEANINGFUL MESSAGES

The Molecular Basis of Mutation

By John W. Drake. Pp. 273. (Holden-Day: San Francisco, February 1970.) \$15.00.

"ONE of the most potent mutagens described to date for microorganisms is Adelberg, Mandel and Chen, 1965." This excellent, unintentional example of a deletion mutation resulting in a different but still meaningful message is taken from p. 155 of this book and is rather better than the deliberate examples given on p. 83. Mutations are, in fact, largely rearrangements within an encoded message and consideration of their molecular basis is the author's aim. The time is ripe for such a book, and this one will go a long way to fill the gap which

INSECTS UNDER THE MICROSCOPE



There is strong evidence that the setal receptors found between the ommatidia in the compound eyes of many adult insects are extensions of the receptor system of the head on to the eyes. These scanning electron micrographs, taken from a paper "Some Little Known Surface Structures" by H. E. Hinton in *Insect Ultrastructure* (edited by A. C. Neville for the Royal Entomological Society of London, Blackwell (Scientific): Oxford and Edinburgh, 1970, 70s), show some of the setae found on the head and between the ommatidia of some species of aquatic bugs of the family Naucoridae. In this family different genera have quite different kinds of cephalic sensilla and in each genus the kind of sensillum on the head is also present between the ommatidia. In *Cryphocricos mexicanus*, the cephalic setae are trumpet shaped (Fig. 22) and those between the ommatidia are also trumpet shaped but are smaller. In *Heleocoris mexicanus*, the inter-ommatidial sensilla (Fig. 23) consist of tufts of closely appressed setae that are precisely like those of the head. In *Aphelocheirus aestivalis*, the cephalic setae (Fig. 24) are also tufts of setae but the setae in each tuft are widely divergent. The inter-ommatidial setae are almost similar in form (Fig. 25).