

## REVIEWS

**TREASURY OF HUMAN INHERITANCE, Vol. V, Part II. On syndactyly and its association with polydactyly.** By Julia Bell. Cambridge University Press. 1953. 10s. 6d.

This is the latest addition to the valuable collection of human pedigrees featuring pathological and abnormal conditions which during some forty years have been brought together in the *Treasury of Human Inheritance* under the sponsorship of the Galton Laboratory. From an exhaustive study of the genetical and medical literature, Dr Bell has assembled 63 pedigrees which include some 700 predominantly syndactylous digital anomalies. The varied manifestation of syndactyly, the association with polydactyly, differences in its sex incidence and the difficult problem of its inheritance, these are questions considered in a preliminary note. The genetical analysis of this material would certainly be of great interest. Dr Bell has classified the pedigrees on the basis of the varied manifestation and whilst this may be convenient, it can be only tentative for it is not demonstrated that these correspond with different genetical types. However, it does focus attention on interesting sex differences in the incidence of the various forms of this defect. Noteworthy amongst the collection is Schofield's unique pedigree (fig. 125) in which webbed toes are limited to males, being transmitted only from father to son, completely in accordance with the inheritance of a single gene on the Y-chromosome. One normal sister has been lost from this pedigree in transcription. J. H. BENNETT.

**NUCLEO-CYTOPLASMIC RELATIONS IN MICRO-ORGANISMS.** Their bearing on cell heredity and differentiation. By Boris Ephrussi. Oxford: Geoffrey Cumberlege, Clarendon Press. 1953. Pp. 127. 18s.

For forty years or so people have been studying the relations of nucleus and cytoplasm in animal and plant cells. The work has fallen into five main sections. First, there are the connections of nuclear and cytoplasmic heredity, chiefly in the higher plants. Secondly, there are the observations of bodies in the cytoplasm, primarily the chloroplasts of the higher plants, whose action in heredity could be traced. Thirdly, there are the relations of nucleus and cytoplasm under a variety of developmental and experimental conditions: they concern competition and co-operation of nuclei following abnormal chromosome and cell division induced by treatment, by cancer, by hybridity or by genotypic control. Fourthly, there are the chemical relations of nucleus and cytoplasm as determined both microscopically and also macroscopically in genetical experiments in a variety of organisms. Finally, it has become clear that the viruses of higher plants and animals—some multiplying in the cytoplasm, some in the nucleus, some spontaneous, some induced, and some natural, and all influenced by the character of the nucleus—all of them provide evidence on this problem.

During the last ten years most of these kinds of study have been transferred with prodigious success to micro-organisms. The more rapid and