Suggested testing methods, which are only briefly discussed, include bacterial systems (reverse or forward mutation using nutritional, resistance, and fermentative markers), *Neurospora* (forward-mutation at the *ad*-3A and *ad*-3B loci), transforming DNA (fluorescent mutants in the tryptophan operon), phage (forward and reverse mutation at the rII cistron), *Drosophila* (sex-linked recessive lethals, translocations, X chromosome loss, and chromosome aberrations as detected by the bithorax method of Lewis). Screening systems in plants are those for mutation of barley seeds, chromosome aberrations in root-tip cells of *Allium*, *Tradescantia*, or *Vicia*, specific-locus mutation at the Waxy locus in the pollen of maize, barley, or rice, and somatic mutation in *Tradescantia*. Possible mammalian systems are represented by cytogenetic effects on Potorous or Chinese hamster cells (including 8-azaguanine resistance) in tissue culture, human leukocytes and fibroblast cultures, host-mediated assay of chemicals utilising *Salmonella* or *Neurospora* as indicator organisms, and the specific-locus and dominant lethal tests in mice. A recommended programme is suggested for the screening of all the current 400 substances in use for the control of weeds, insects, nematodes, rodents, and plant diseases.

The final section reviews the structure-activity relationships of pesticides, which is followed by an appendix which tabulates each compound under its proprietary name together with its proper chemical name and formula, its major uses, and its commercial manufacturer. A cross-index of names is included. The book is concluded with a table of the known biological effects of some pesticides gathered from a rather inadequate literature survey.

The book is unlikely to be other than of cursory interest to geneticists whose interests lie outside the field of mutagenesis. The price is unnecessarily high for a publication of its kind. It would be far better received as a cheap pamphlet with a conventional format rather than with its rectangular shape which causes it to protrude awkwardly out of a bookshelf.

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COMPARATIVE GENETICS IN MONKEYS, APES AND MAN. Edited by A. B. Chiarelli. London and New York, Academic Press, 1971. Pp. x+346. £5·50.

When, 30 years ago, Hooton declared himself abashed at his own effrontery in writing a book about primates, in the then body of knowledge there was much anatomy, some physiology, an increasing amount of behaviour (mainly under conditions of captivity), and almost no genetics. Out of some 150 references quoted by Hooton there are only five on genetic topics. Primate studies have profited from the great advance in human genetics since the war, and today the genetic papers in the literature number hundreds. This book is therefore a timely review. In it are published papers discussed at a symposium held at Ernice, Sicily, in July 1970, and they summarise the state of knowledge of selected genetic topics as they apply to primates. And what a useful volume it is. It shows how irregular is that knowledge—commendable in some topics, non-existent in others; how different are the opinions of contributors—Chiarelli notes (p. 2) that in the primates there is opportunity to trace the evolution of genes, whereas

Kalmus (p. 5) holds that evolutionary speculations based on genetical material suffer from the same conceptual difficulties as those based on morphological characteristics, with a difference that as genetics lends itself to mathematical treatment the " insidious pitfalls of mathematical confabulation are added ".

In the introductory paper Kalmus notes that comparative studies are of interest for " exploring the range of mutability which can pass the sieve of selection and in a more general way biochemical and other ... potentialities of an animal group ". The paper by Berry and Berry uses the apparently trivial anatomical variations that occur in the primate skull in the same way as genetical markers, with the different frequencies in populations acting as indicators of genetical difference; their results for example on populations of the western gorilla suggest that a mountain range operates as a barrier to gene flow. In Mavalwala's paper on dermatoglyphics, of 21 pages including four of bibliography, only 25 lines mention non-human primates; it is not well organised. The papers by Kalmus on the PTC taste polymorphism and Wiener and Moor-Janowski on ABO, MN and Rhesus blood groups are of course competent, but the real value of the book lies in the later papers on newer topics—on leucocyte groups by Balner and his colleagues, on the phylogeny that is suggested at the molecular level by Goodman and his colleagues, on the haemoglobins by Sullivan, on the immunoglobulins by Carbonara, and on cytogenetics by the organiser of the symposium, Chiarelli. Barnicot in his concluding remarks picks out three reasons for comparative work—reconstruction of phylogeny; the study of variability—by seeing many variations on a theme one may appreciate what is essential to the system and the extent to which it can be modified to cope with special circumstances; application in medical experimentation, with recognition of the threat to primate survival that this poses.

The majority of the contributions are excellent, and the differing perspectives they give on primate evolution repay careful comparison. The vigour in some fields of study is impressive. Yet almost all the information in the book is cross-sectional, and very little advantage has been taken of the opportunity for family investigations; this is particularly remarkable when one considers the detailed records that must be in existence in various centres where breeding of primates occurs. Here there is obviously much scope for future activity. The content then of the book is good. Unfortunately, however, its rapid appearance has been bought at the price of accuracy. Typesetting errors occur on page after page, in particular the formula on p. 28 for measuring the divergence between two populations in terms of angular transformations of frequencies is nonsensical; on p. 67 the omission of hyphens has reversed the meaning. This carelessness greatly detracts from what would otherwise have been rated as an excellent book.

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STADLER GENETICS SYMPOSIA, VOL. 3. G. Kimber and G. P. Redei, Editors. University of Missouri College of Agriculture, 1971. Pp. 116. $4.00+postage.

This is the published version of the third of a series of Symposia in memory of the late L. J. Stadler, held at the University of Missouri where he made so