Medical Cytogenetics. By Mihály Bartalos and Theodore A. Baramki. (Pp. xxiii + 419; illustrated. 100s.) Baltimore: Williams and Wilkins; Edinburgh: E. & S. Livingstone, 1967.

This book aims high in attempting to provide information of use to the student, the clinician, and the cytogeneticist. Much information is presented, but unfortunately for the purposes of the three types of readers much misinformation is also presented. This detracts considerably from its value.

The volume is set out into discussions of general cytogenetics, sex chromosome aberrations, autosomal anomalies, and problems of human biology which are relevant to the chromosomes. The illustrations, obtained from a number of other sources, are informative, though reproductions of histological sections and some cytological preparations often lack detail enough to add much to remarks in the text. There are many explanatory diagrams which generally amplify the text, though some are complex enough to add only confusion. The printing layout is excellent and readable.

A detailed reading of each of the sections quickly reveals the pros and cons of attempting a survey of a rapidly changing and complicated discipline. The section on general cytogenetics is a very brief, reasonable introduction to some pertinent ideas on Mendelian genetics and techniques of chromosome culture and classification. It tends to rankle the cytogeneticist by presenting as facts some important ideas which are not yet proven (i.e. effect of Colcemid on meiosis) or by non-specific use of terms such as 'supernumerary' which have certain long established definitions which do not coincide with the authors' usage. Methods for detecting abnormalities of mitotic chromosomes are oversimplified to a dangerous degree, and some easy parallelisms are presented which do not define the facts to any extent (relationship of translocations and crossing over, p. 57).

The chapters on sex chromosome abnormalities are largely catalogues of these aberrations. Much clinical data are set out, as well as cytogenetic lists of the many variants found in these relatively common conditions. It is perhaps inaccurate to state that mental retardation is a frequent finding in Klinefelter's syndrome, particularly the mosaic Klinefelter's. Of more use to the clinician who manages these patients would be a note on the incidence of diabetes mellitus and chronic lung disease. One may carp at the preference for the 'Russell-Lyon hypothesis' phrase for ideas of X-inactivation which are more accurately titled the 'Lyon hypothesis', or take issue with remarks, such as on page 98, that 'the fact that the X and Y chromosomes are morphologically different suggests that they carry different genes', as a superficial extrapolation, but such statements need not detract from the amount of information available to the critical reader on problems of sex chromosome aberration. The material on autosomal abnormalities is relatively comprehensive and well presented. The final section on problems of human biology and chromosomes covers very briefly some data on ionizing radiation, tumours, abortions, and viral or drug effects on chro-

mosomes. Apart from alerting the reader to the relevance of these subjects to human cytogenetics, particularly the work on findings in the leukaemias, this section does not have any of the redeeming features of earlier ones.

The volume as a whole reflects the problems confronting authors who try to keep pace with all aspects of this complex, changing field. It can be recommended as a quick reference to each category of reader for whom it was intended, with the reservation that any information acquired from it might require supplementary confirmation or explanation.

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Human Radiation Cytogenetics. Proceedings of an International Symposium held in Edinburgh, 12-15 October, 1966. Edited by H. J. Evans, W. M. Court Brown, and A. S. McLean. (Pp. 218; illustrated + tables. 70s.) Amsterdam: North-Holland Publishing Co. 1967.

This volume brings together papers read at a conference held in Edinburgh during October 1966, to discuss problems of human radiation cytogenetics. The papers deal almost exclusively with the effects of radiation on the peripheral blood lymphocyte, both *in vitro* and *in vivo*. The book is divided into two parts, first dealing with the *in vitro* aspect of this work, including problems of blood culture, the importance of sampling times, and the dose response relationship in this particular *in vitro* system. Two useful papers at the end of this section review the present status of automated chromosome analysis and the requirements in this field if it is to replace the manual analysis of chromosomes in large-scale studies, as it no doubt will for certain types of work and within the foreseeable future.

The second part contains the results of studies on various groups of subjects who have at one time or another received various doses of radiation, either accidentally or deliberately, for radiodiagnostic or therapeutic purposes, and provides an excellent summary of the present status of this work. The cell studied in all this work is the lymphocyte, and problems of lymphocyte life span and immunological memory are also considered. Among the groups that are considered in the various papers are subjects who received radiation for the treatment of ankylosing spondylitis, atomic bomb survivors, occupationally exposed subjects in a Radiotherapy Department, in UKAEA establishments, as well as such groups as luminous dial painters and persons with thorium dioxide, ^{226}Ra , or ^{90}Sr burdens.

From the point of view of the reader, it is a pity that none of the discussions were published; no doubt however, they were freer and of greater value to the participants in the certain knowledge that they would not be published. The editors review some of the points made in discussion briefly at the end. They pinpoint the importance of sampling time, differences in dose response kinetics, the importance of technical differences