unnecessarily or precipitately transgress established beliefs and morals, and which are based on the fullest possible understanding of the issues involved.

This book therefore performs a valuable function in recording discussions by a diverse, authoritative group about the moral status of the human embryo. Meeting at King's College, London, the group comprised three medical practitioners, a research scientist engaged in experimental biology, and three theologians working on moral questions. The religious traditions included Anglican, Roman Catholic, and Jewish, the last represented by the Chief Rabbi of Britain and the Commonwealth.

Early chapters provide a simple outline of the early development of the embryo and what ends might be served by research on the developing embryo. The first ethical problem to be considered involves the pros and cons of sex selection in the absence of disease. The book then traces the moral tradition from the civilisations of ancient Mesopotamia through Jewish, Greek, Arabic, and European cultures, and leads to chapters on Jewish Rabbinic teaching and on contemporary Roman Catholic teaching.

The proposition that protection of the embryo might be delayed until it has the capacity for feeling is critically examined. Finally, a philosopher examines the various arguments advanced and tries to discern consistency or inconsistency between them and with contemporary philosophical reasoning.

This is an elegant, well informed, and straightforward book which sets out the facts and the philosophy and provides essential background reading for anybody who, for whatever reason, is drawn into the present debate on the status of the human embryo.

RODNEY HARRIS

Heterochromatin: Molecular and Structural Aspects
Edited by Ram S Verma. (Pp 301; £30.00.) Cambridge: Cambridge University Press. 1988.

The rationale behind this volume, given in the

preface, is to provide a comprehensive review of new information regarding heterochromatin which has accumulated over the last three decades. The proliferation of new staining techniques, the use of electron microscopy, in situ hybridisation, and recombinant DNA technology have all contributed in a major way to a detailed exploration and understanding of the components of chromosomes. Today, eukaryotic chromosomes are primarily described according to the structural and functional aspects of euchromatin and heterochromatin.

In eight chapters, the topics covered include the evolution of satellite DNA sequences in *Drosophila* (A Lohe and P Roberts), the mammalian kinetochore, its structure, function, and evolution (D A Pepper), and the organisation of the centromere and centromeric heterochromatin (J B Rattner and C C Lin). Detail is given of nuclear architecture and the three dimensional organisation of chromatin (C Nicolini) and the heterogeneity of human heterochromatin as shown by restriction endonuclease treatment (A Babu). The results of basic cytogenetic study into heteromorphisms of human heterochromatin are described by R Verma. But almost one half of the book is written by Bernard John in a thoroughly comprehensive first chapter dealing with the biology of heterochromatin. This provides the reader with definitions, detail of function in somatic and germ line chromosomes, evolutionary perspectives, and species differences. For me, purchase of the book would be made worthwhile for this chapter alone, notwithstanding the contributions made by the other authors.

In spite of all the research endeavour, it is, however, the conclusion of several of the authors that the biological significance of chromosome heteromorphisms and the role of constitutive heterochromatin in the cell remain major unsolved problems in biology. For cytogeneticists, geneticists, and molecular biologists the book should provide a useful source of reference.

ANN C CHANDLEY

Announcement

EMBO WORKSHOP. CHROMOSOME 21: IMPACT OF THE NEW GENOME TECHNOLOGY IN HUMAN GENETICS

This workshop, sponsored by The European Molecular Biology Organization, The International

School of Pediatric Sciences, will be held at Santa Margherita Ligure, Italy, on 18 to 20 May 1989. For further information contact International School of Pediatric Sciences, Istituto Giannina Gaslini, Direzione Scientifica, Via V Maggio 39, 16148 Genoa, Italy. Tel: 039-10-38.36.28, 039-10-56.36.324, 039-10-56.36.326.