Cytogenetics of Mammalian Embryonic Development

By A P Dyban and V S Baronov. (Pp 362; £35.00.) Oxford: Oxford Science Publications. 1987.

This is a second edition, in English, of a book originally published in Russian in 1978 by two leading developmental biologists, A P Dyban and V S Baronov. As they point out in the preface, preparation of the monograph for the English edition has presented some serious difficulties. For example, many comprehensive reviews on topics covered in the book are already available in English and original copies of these can easily be obtained by readers in the West. Moreover, owing to the language barrier, Russian scientists are much better informed of the work of colleagues in the West than is true in reverse, and many conclusions reached in laboratories in the West have in fact been found to be in line with conclusions reached much earlier by the Russian scientists. This imbalance of information exchange stimulated the authors to extend their descriptions of experimental results to the English speaking readership.

The book is impressive in covering a wide range of topics in developmental biology for a variety of species. One feels when reading each chapter that here are two authors who really know their material and are masters in the technical procedures described. The book is illustrated throughout with their own high quality cytogenetic preparations of embryonic tissues, the latest techniques of staining and banding having been applied.

Among the 13 chapters are given detailed descriptions of haploidy, triploidy, tetraploidy, their modes of origin, and consequences for development. There are accounts of numerical and structural chromosome abnormality, their mechanisms of origin and experimental production. Also included are details of the developmental defects in duplication/deficiency embryos arising as products of reciprocal translocation heterozygosity in the mouse, and in autosomal monosomies and trisomies arising out of Robertsonian translocation. Comparison of karyotypic anomalies in human and animal embryogenesis, the influence of genes on early mammalian development, and the chromosomal control of early embryonic development are given in other important chapters.

The book is very well prepared, is easy to read, and should provide a wide cross section of readers, from cytogeneticists, to developmental and behavioural geneticists, through to medical geneticists, with a very worthwhile text.

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Sickle Cell Anemia and Thalassemia.**A Primer for Health Care Professionals**

By R G Huntsman. (Pp 223; £5.00.) St John's, Newfoundland: The Canadian Sickle Cell Society. 1987.

This is a slim little volume (almost pocket sized) which is written, according to the author, for health care professionals who care for people who have sickle cell disease or thalassaemia. The author, a haematologist, is the medical director of The Canadian Sickle Cell Society.

The book is conveniently divided into sections. The first part deals with the clinical aspects of the conditions, their diagnosis, and treatment. Part two contains an account of the advances in molecular biology of recent years which have provided the key to the present level of understanding about these genetic disorders. This section also refers briefly to the state of current research into new treatments for sickle cell disease and thalassaemia. It is well indexed to enable the reader to select a particular piece of information easily, such as, for example, one or more of the range of possible symptoms associated with sickle cell disease systematically listed and described. There is a comprehensive glossary of the terms of the language of molecular biology at the back of the book, essential to any reader unfamiliar with this science.

The emphasis of the book is at once scientific and practical. It is at its best as a diagnostician's guide to the haemoglobinopathies in that much of the book is devoted to their diagnosis, from the carrier screening stage through to the diagnosis of the clinical conditions. Included also is an account of the less common abnormal haemoglobins and the author deals clearly with the sometimes difficult differential diagnosis of the α thalassaemia traits and silent β thalassaemia trait and suggests courses of action to resolve them.

My one quarrel with this book is with the manner in which the author describes the inheritance of the disorders. He emphasises the statistically average outcome for a family in which both parents are carriers and therefore at risk of having children affected by the symptomatic disorders. He says that "... on average, one in four children of a marriage of a sickle cell carrier (AS) to a sickle cell carrier (AS) will have sickle cell anaemia". This emphasis (statistically correct as it is) can be misleading in my view. The experience of the well established Brent Sickle Cell Centre suggests that if it is not emphasised to heterozygote couples at risk of having a child affected by sickle cell anaemia or thalassaemia that the 25% risk applies to *each* pregnancy, there is a danger that they can assume that if they have had