hand and this adds great immediacy to the descriptions of methodology and of the medical conditions. The book is compulsory reading for anyone planning a population genetic study.

MAURICE SUPER

Bioregulators of Reproduction

Edited by G Jagiello and H J Vogel. (Pp xxv + 584; figures + tables. £39.40.) New York, London: Academic Press. 1981.

Advances in reproductive biology are so rapid that by the time any book is published most of its contents are out of date. However, this book has contributions by distinguished authors. It has a foreword by R V Short which attracts attention to the most interesting biological events, such as the effect of light and the role of the pineal gland in reproduction and the contraceptive effect of lactation.

The book covers most aspects of reproduction, with chapters on sex differentiations and determinations, germ cell production, and fertilisation and post-fertilisation. Unfortunately, some aspects of in vitro fertilisation, which interest the reviewer, are out of date. We now know that pregnancy can be achieved successfully following stimulation of ovulation, and the success of in vitro fertilisation and implantation can be maximised by incubation of the pre-ovulatory oocyte 4 to 6 hours before sperm introduction, and finally pregnancy can be achieved by transferring embryos as early as pronuclei development or even before that.

The chapter on interspecific fertilisation raises the question of reliability of zona free hamster egg assay in predicting the sperm function in vivo. However, this assay has a potential place in reproductive research and may have a great clinical value in the near future.

The book is well written and recommended.

O DJAHANBAKHCH

Diagnosis of Organic Acidemias by Gas Chromatography-Mass Spectrometry

Laboratory and Research Methods in Biology and Medicine. Volume 6. By S I Goodman and S P Markey. (Pp xi + 158; figures + tables. £19.10, DM 84.) New York: Liss. 1981.

The organic acidemias may seem to many to be rare esoteric disorders but there is little doubt that they are more common than is generally realised. They may present in many ways and treatment can

be very successful provided the diagnosis is made early. There are few simple diagnostic tests and in almost all cases it is necessary to examine the urine organic acids by gas liquid chromatography using mass spectrometry to identify any unknown peaks. Because of the importance of the analytical methods it is highly desirable for all those concerned with these disorders to have a basic understanding of these techniques. All too often there is a gap between the clinician and the biochemist which this book aims to bridge.

In the first chapter the analysis of the 'acid fraction' of urine using gas chromatography and mass spectrometry is explained with particular emphasis on the latter. In the second the organic acidemias are described individually. The pattern of metabolites in the urine in each disorder is covered fully with useful discussion about those compounds that may be detected in more than one disorder. In the appendices full details of the laboratory methods of gas chromatography are given together with the retention times and mass spectra of many compounds that are commonly encountered.

The authors do, however, gloss over some important difficulties. They list the indications for screening for these disorders in just one paragraph with little discussion. Mental retardation is not mentioned and "acute disease of infancy" is one indication which, even when qualified "especially when associated with metabolic acidosis or hyperammonemia" is too vague. The numerous difficulties of interpretation of chromatograms are discussed rather superficially. For example, the significance of small quantities of compounds that are not usually present in the urine but which may be present, albeit in larger quantities, in organic acidemias is not covered. Maple syrup urine disease does not receive a mention and the discussion about lactic acidosis is inadequate even for this short book since it is a common problem in clinical practice.

In the details of the laboratory aspects the authors quite rightly described their preferred methods but they clearly come from a laboratory with excellent facilities for mass spectrometry. For many laboratories such facilities are still not immediately available and for the initial identification of compounds they have to rely on comparing the retention times using two columns with different properties. Unfortunately the two columns listed in the appendices are not sufficiently different to be of any value for this purpose.

Despite these criticisms this is a useful book and would certainly provide a sound introduction to anyone wishing to find out more about the disorders.

J V LEONARD