new look at the composition of cardiac jelly in the embryonic heart tube and another dealing with vascular birth marks (angiodysplasia).

The book is recommended to investigators with an interest in the differentiation of small blood vessels and lymphatics. They should enjoy not only the set pieces but also the sharp interaction of ideas revealed in the discussions.

V. NAVARATNAM

**Neural Origin of Rhythmic Movements.** Edited by A. ROBERTS and B. L. R. ROBERTS. (Pp. vii + 503; many figures; £37.50.) Cambridge: Cambridge University Press. 1983.

This is the *Proceedings of the 37th Symposium of the Society for Experimental Biology* held at the University of Sussex in September 1982. The main theme of the meeting was the role and mechanisms of central pattern generators in the origin and control of rhythmic movements.

The scope of the nineteen papers is wide, ranging from ionic mechanisms of cardiac rhythmic firing to the control of breathing rhythmicity in mammals. The range of experimental animals is also wide, including the sea-slug, the lobster, the leech, the lamprey, the dogfish, various insects and the cat. The connecting link is the central pattern generator.

The individual chapters are clearly written and pitched at a level where they can be understood by the non-physiologically orientated reader. Despite the wide variety of experimental animals the chapters fit well together, either as a result of careful editing or considerable good luck. For non-specialists in the field this is an interesting book to dip into, particularly for the insights it gives into vertebrate neuroanatomy and neurophysiology. For those who are working in this field this volume will be invaluable.

R. R. STURROCK


Just occasionally one has the pleasure of reviewing a book for which one has nothing but praise. *Hormonal Control of Reproduction*, a second edition of Book 3 of *Reproduction in Mammals* is such a book. The first edition of this volume was produced in 1972; it was a workman-like account of the role of hormones in certain areas of mammalian reproduction. In its second edition the book is less patchy than its predecessor. It fulfils its remit of being "readily comprehensible to undergraduates in the biological sciences, and yet with sufficient depth to provide a valued source of information to graduates engaged in both teaching and research". The chapter authors are masters in their field and thus have the ability of summarising a daunting amount of factual material for presentation as a series of balanced reviews.

From the beginning one realises the huge advances which have been made in reproductive biology within a decade. The first chapter by Dr Karsch introduces the hypothalamo-pituitary axis. Based upon the necessary morphology it leads the reader to an understanding of the control of gonadotrophic secretion. The hypothalamic pulse generator, various feedback loops and the essential difference between tonic and surge modes of secretion are fundamentals in this excellent essay. Dr Lincoln deals with the posterior pituitary as a separate chapter. This is an area in which steady advances in knowledge have increasingly been based upon the molecular biology of the hormones concerned and the cell biology of neural function. We now know a great deal about the rat posterior pituitary and its control but wait to appreciate the general context into which this knowledge can be placed.

The pineal gland has come of age. Its involvement in the regulation of hormones secreted by the anterior pituitary gland, particularly in seasonally breeding species and at puberty, is widely accepted. But precisely how it does its work is not yet clear. Some would contend that its major hormone products have not yet been isolated. Dr Lincoln's chapter constructively presents the current situation. An understanding of the control of function of both ovary and testis has been available in general terms for some time now. In this sense the chapters by Drs de Kretser and Baird do not have the dramatic impact of those preceding them. As soon as one looks at them in detail, however, a different picture emerges. New areas, for example the interaction between