

ical concepts into clinical problems, thus bridging the intellectual gap between pure and applied research.

Part II is the 1950 original, complete with figures; only the page numbering is different, this being necessary to facilitate cross-referencing from Part I. The 50-page bibliography combines original and new references and is improved, for all items now contain complete titles.

Only an author inspired by the original classic, who has been directly involved with the subject matter, and who possesses the appropriate flair, could have achieved such a book. It is an obvious labor of love, flavored with personal insight and humor, and should be read by all vertebrate biologists, whatever their personal research orientation. It could be valuable in advanced tutorials and seminar groups for several reasons. Not only can it serve to instruct students concerning this “. . . very peculiar structure” (Hörstadius, 1950; p. 137, this volume), it also can offer a dramatic view of the technological and conceptual advances made over 120 years of developmental biology. Last, but certainly not least, it provides a much needed contribution to the literature of the currently fashionable theme of “development and evolution,” a theme of implicit, but rarely acknowledged, import in the original work.

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OOCYTE GROWTH AND MATURATION.

Edited by T. A. Dettlaff and S. G. Vassetzky; translation edited by Frank Billett. Consultants Bureau (Plenum Publishing), New York. \$95.00. xix + 443 p.; ill.; subject index. ISBN: 0-306-11013-X. 1988.

This translation from the Russian original by the authors themselves with subsequent English editing is the first in a series of translations of the comprehensive Russian series “Problems of Developmental Biology.” This translation effort is to be admired since it brings to light for a Western audience a vast Russian literature on developmental topics that is rarely glimpsed. The original Russian work is dated (Sovremennye Problemy Oogeneza, 1977), but several of the authors of the translated version made the effort to update the references and content to recent vintage. Thus of the seven chapters, three chapters (III, IV and V) include a large proportion of 1980 through 1986 articles. Three of the chapters add a minority of post-1976 articles. One chapter (VII) seems to have had no new material added since the original publication.

The three central chapters provide a valuable review of the literature on maturation, activation and meiosis of a variety of invertebrate and vertebrate oocytes. Since a major fraction of these references have been added since the original edition, these chapters provide the reader with valuable insights

into the current focus of Soviet researchers as they relate to the world literature on their subject. In Chapter III, for instance, we are treated to an extensive review of the descriptive and experimental embryology of the sturgeon oocyte, much of which is derived from Russian journals. The techniques that predominate are classical such as light microscope and ultrastructural cytology or developmental observations after treatments with hormones, cytoplasmic factors, heat shock, hydrostatic pressure, ionizing radiation, and pharmacological agents of microtubules and microfilaments. Chapter V reviews the literature on in vitro culture of mammalian oocytes. Relatively few immunological or biochemical approaches are emphasized. The major molecular aspect covered, richly developed, is amplification during oogenesis of the ribosomal cistrons, a hot topic in the dawning phase of molecular biology.

The issues covered in Chapters I (oocyte growth and vitellogenesis) and II (the nucleus during oogenesis) are covered well up until about 1980. I found Chapter II to be particularly helpful in understanding the geometry of the follicle cell and oocyte from a comparative perspective. Beyond 1980 these chapters are seriously out of date. For instance, that cephalopods are the only example of the involvement of follicle cells in vitellogenesis is no longer true. In the past decade an endogenous ovarian origin of a major fraction of yolk proteins for both dipteran and lepidopteran insects has been established. An old assertion of a hemocytic origin of vitellogenin in cockroaches is erroneous. The role of ionic currents in the early organization of oocytes, which has been a topic of great interest in the past decade, is not mentioned, even though *Xenopus laevis* and *Drosophila* are dealt with prominently in other respects.

Given that the original work was an assemblage of topics that were of continuing interest in the mid-70s it is not surprising that some of the topics have lost their currency in the late 80s. For that reason I cannot recommend this book as an up-to-date discussion of the subject, in general, nor to the novice who wants to know the latest on frontier topics. I do recommend the book for the biological library and for the specialist. It is a valuable annotated bibliography, interleaving Western references with Soviet references on topics that were of principal import in the 1970s.

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MICROBIOLOGY

AEROBIC PHOTOSYNTHETIC BACTERIA.

Edited by Keiji Harashima, Tsuneo Shiba, and Norio Murata. Japan Scientific Societies Press, Tokyo; Springer-