and subsistence. Site proximity to lakes and marshes is variously interpreted in terms of the grazing potential for herbivorous prey (Bay-Petersen) or of the concentration of plant and fish resources (Welinder). In a stimulating study, Mellars and Reinhardt examine the distribution of three different artifact types in southern England in relation to resources, lithic raw material outcrops, and transportation routes. Their interpretations could, in addition, take into account the probability that such tools as axes would be curated and reworked to a greater extent than microliths not only because of limited distribution of suitable raw materials but also because of the greater labor investment in making an ax.

Because of the many theoretical issues raised and the emphasis on developing hypotheses about prehistoric behavior rather than a history of artifacts, this is an exciting book. It is a welcome addition to the archeological literature and an outstanding contribution to European prehistoric research.

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Developmental Biology

Maternal Effects in Development. Papers from a symposium, Exeter, England, Sept. 1978. D. R. NEWTH and M. BALLS, Eds. Cambridge University Press, New York, 1980. viii, 420 pp., illus. $77.50.

This volume contains 18 papers that were presented at the fourth symposium of the British Society for Developmental Biology. The book begins with a felicitous essay by J. Cohen, which is partly a history of and commentary on the kind of attention that biologists have paid to the possible roles of maternal constraints on development and partly a survey and classification of the diverse ways maternal factors can influence the course of development. The other papers in the volume describe the effects these factors have on development.

Eight papers deal with various aspects of oogenesis and early development in laboratory amphibians. These stages of development have probably been studied in more detail in amphibians than in any other group of animals. The papers provide a review of much of this material; the topics covered include transcription during oogenesis, stockpiling of proteins and organelles used during early development, the action of maternal-effect genes, and the function of cytoplasmic determinants laid down during oogenesis. As one reads through these papers one is struck by the paucity of experimental work that relates events that occur during oogenesis to the early development of the embryo. However, a paper by M. R. Dohmen and N. H. Verdonk on cytoplasmic localization in mosaic eggs and one by A. D. Lees on the maternal environment and control of morphogenesis in insects describe several situations in various animals where special features of development make them amenable to experimental studies linking a particular feature of oogenesis to embryogenesis. One situation that Dohmen and Verdonk describe concerns an RNA-rich structure called the vegetal body, which becomes located at the vegetal pole of the oocyte during vitellogenesis in the snail *Bithynia*. During the first cleavage of the egg the vegetal body is incorporated into a small polar lobe and segregated to only one of the blastomeres. If the polar lobe containing the vegetal body is removed during the first cleavage development does not proceed normally, but if the vegetal body is displaced from its original site by centrifugation prior to the first cleavage deletion of the polar lobe has no effect on development. One situation that Lees describes concerns maternal control of polymorphism in aphids. In these animals, maternal effects frequently cause progressive changes that can be followed over two or more generations.

The last five papers deal with mammals. British developmental biologists are currently doing much of the best and most imaginative work on mammalian development. Because of the special environment in which mammals develop they are a natural in any symposium on maternal effects. One particularly interesting paper in this group is by the late E. M. Deuchar on the effects of maternal diabetes on embryonic mammals. Her review of the work on animal models that have been used to study the subject points up the subtlety of this nutritional effect. The other papers on mammals are concerned with utero-placental circulation, teratogenesis, and immunological interactions between mother and fetus, in addition to the more traditional oocyte-mediated maternal effects.

The book has a feature that is rapidly disappearing from the scientific literature; the full title of each paper cited is given.

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Books Received

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Advances in Digital Image Processing. Theory, Application, Implementation. Proceedings of a symposium, Bad Neuenahr, Germany, Sept. 1978. Peter Stucki, Ed. Plenum, New York, 1979. x, 332 pp., illus. + plates. $37.50.

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Aquatic Plants, Lake Management, and Ecosystem Consequences of Lake Harvesting. Proceedings of a conference, Madison, Wis., Feb. 1979. James E. Breck, Richard T. Prentki, and Orie L. Loucks, Eds. University of Wisconsin Institute for Environmental Studies, Madison, 1979. 436 pp., illus. Paper.