shall speculates on the convergence of natural and man-made systems and makes some sketchy remarks about symbols and processes in nature and culture. One may throw out interesting asides about such matters in a lecture, as Marshall obviously did, but in print a three-page treatment of these matters is not adequate. Apart from this, he deals with his large and complex subject in a lively fashion; there are many terse descriptions, and the style is such that fairly complex details are conveyed with ease. The illustrations are well worth mentioning; they are mostly fine-lined drawings on the margins of the pages, an arrangement which makes for a particularly attractive book. *Explorations in the Life of Fishes* certainly should be in the libraries of skin-in and skin-out biologists alike.

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Mollusca

Terrestrial Slugs. N. W. RUNHAM and P. J. HUNTER. Hutchinson University Library, London, and Hillary House, New York, 1971. 184 pp., illus. Cloth, $6; paper, $2.50. Biological Sciences series.

Although mollusks are one of the largest groups among the invertebrates, there are few books on them that would interest and assist the reader with broad or general interests. This small volume on the widely distributed group called "slugs" should serve to stimulate interest in the use of slugs for teaching and research purposes. Well organized and informative, it brings together much salient information on these animals—information that has been somewhat buried in scattered papers and volumes not readily available to most persons. The text covers a wide range of topics, such as general features of the animals; their classification; foods and feeding habits; respiration; blood composition and circulation; excretion, reproduction, development, and growth; locomotion and mucus production; sensory and nervous anatomy with their functional relations. All of the morphological material is illustrated with good text figures. The ecology section includes a description of methods for sampling, discussions of the responses of the animals to humidity and temperature and of seasonal variation in aggregation and dispersal, and an analysis of what factors are important in their ecology.

A concluding chapter discusses "slugs as pests." Useful information, much of it dealing with the more recent literature, is reviewed. In England slugs are a serious garden pest, and they are not welcome in areas under cultivation in many other parts of the world. On the whole, this chapter is well written and contains pertinent material. Some helpful citations are missing, for example an excellent review of methods of snail control in A. R. Mead's *The Giant African Snail* (University of Chicago Press, 1961), but after all the book is not a manual on slug control and actually there are as yet no good methods, as the authors clearly indicate.

One of the noteworthy features of the book is the excellent series of well-integrated references. The 21 pages of citations will serve as a useful tool for anyone wanting to work in a wide field of interests in which slugs would serve for field and laboratory studies. It seems almost pedantic to point out that there are references that might have been added to assist those wanting additional information. A few that come to mind that could be helpful are as follows: The veronicellids, as is stated, are poorly known, but they are widespread in the tropics; some of a series of papers by Hans Hoffman could have been cited. The preservation of slugs is important and should at least have been mentioned; among others a paper by Hubricht (*Nautilus* **64**, 90 [1951]) would be helpful. The role of galactogen is discussed, and in this connection a reference to the work of E. M. Goudsmit and G. Ashwell (1965) would be timely. With regard to the parasite and predator relationships, the compilation of S. V. Wild and A. E. Lawson (*J. Conch.* **20**, 252 [1937]) on the enemies of land and freshwater mollusks of Britain would be a useful reference; also, an account of the more recent serious spread of rat lungworm (*Angiostrongylus cantonensis*), which also has slugs as hosts in many regions, was published in 1969 in a book by Alicata on parasites of man and animals in Hawaii.

Terrestrial Slugs will be helpful not only to those involved in classroom and laboratory programs; agencies concerned with control of slugs also will find a wealth of useful basic information in it.

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Crucial Numbers

Geography and a Crowding World. A Symposium on Population Pressures upon Physical and Social Resources in the Developing Lands, University Park, Pa., Sept. 1967. WILBUR ZELINSKY, LESZEK A. KOSINSKI, and R. MANSELL PROTHERO, Eds. Oxford University Press, New York, 1970. xvi, 602 pp., illus. $10.95.

Ironically, a three-year delay makes the publication of these conference proceedings more timely. The book outclasses this year's hundred bad books on the subject of a crowding world. It is coherent and broad-minded —better still, mind-stretching.

The conference topic, "population pressure upon resources," eluded the attempt at a single definition, but the participants did arrive at a consensus that it entails not one worldwide threshold of overpopulation, but three thresholds, each of them now critical somewhere. There is a lower threshold of insufficient population: "A certain degree of demographic pressure is necessary for man to seek to improve the utilization of his resources" (Tricart). There is an intermediate threshold above which one goes from extensive exploitation (long fallow) to intensive systems of cultivation which conserve or enhance environmental possibilities (soil fertility, streamflow processes, variability of species, and so on—see the contribution of Boserup or Mabogunje); and there is a more widely discussed upper threshold beyond which food crises recur, and at which urban assimilation capacities become critical (Beaujeu-Garnier, C. G. Clarke). As societies move along this path of development, they seem to go through an "optimum period" between the middle and upper thresholds, "in which one may have the impression of prosperity for one or two generations" (Pierre George).

The thresholds of population density or carrying capacity are not everywhere the same, and some geographical environments are more tolerant or more resilient than others. Many regions of "population pressure" are at the intermediate threshold, where a cultural and technical transformation must take place. "The passage from one equilibrium to another is precarious and always accompanied by serious tensions" (Tricart).

The conference was an attempt to restore a sense of priorities among geographers, by focusing on the interaction of fundamental human problems