cial goals. Moreover, the noneconomist student may benefit from the frequent reminders that education is not immune to economic analysis: scarce resources are required, and, as a result, decisions about public expenditures should be made with an awareness of the costs and benefits of alternative allocations of funds.

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Russian Translation

Monogenetic Trematodes. Their systematics and phylogeny. Boris E. Bychowsky. Translated from the Russian by P. C. Oustinoff. W. J. Hargis, Ed. American Institute of Biological Sciences, Washington, D.C., 1961. 627 pp. Illus. Members, $9; $10.

This work is divided into three parts. Part 1 is concerned with the morphology, biology, and life cycles of monogenetic trematodes. Part 2 discusses and lists Monogenea and related hosts in a variety of ways. Part 3 treats the systematics and phylogeny of the Monogenea.

The chapter on morphology (in part 1) admirably summarizes scattered information but offers little that is new. The discussion on musculature is general to the point of being incomplete, and the information on the excretory system follows the traditional pattern for flatworms but does not mention that flame cells have not been demonstrated in many Monogenea. Contradictory statements are exemplified by ". . . at the time of development of the animal, the basic chitinous elements of armament are formed, not directly in the cuticle, but in the mass of parenchyma" (p. 37) *versus* ". . . in spite of the fact that the chitinous elements of the disc are incepted in the parenchyma, they are undoubtedly of cuticular origin . . ." (p. 424). The chapter on the biology of the Monogenea is very good. Chapter 3 and the supplement (part 1) are entitled in the table of contents (in order) "Embryology of monogenetic trematodes," and "Materials on embryology of monogenetic trematodes," but the corresponding chapter headings in the text are "Development of monogenetic trematodes" (p. 85), and "Data on the development of monogenetic trematodes" (p. 146). The chapter headings are more correct, for embryological studies are virtually nonexistent. Apparently the author meant postembryonic observations on developing larvae, which are discussed in chapter 3 and the supplement (part 1). These are extensive, sound, and contain much original information.

The discussion in part 2 is concerned with (i) the hosts of Monogenea, (ii) the occurrence of species, genera, and families of Monogenea on the species, genera, families, and orders of fishes, (iii) the occurrence of Monogenea on Amphibia and reptiles, (iv) general considerations concerning occurrence and specificity, and (v) Monogenea belonging to separate groups of hosts. This interesting section is encyclopedic in scope. However, some of the tables are misleading and very difficult to interpret.

Part 3, on the systematics and phylogeny of monogenetic trematodes, is extensive but fraught with inconsistencies and omissions. Substitution of the term Monogenoidea Bychowsky, 1937, for the established one, Monogenea Carus, 1863, as the designation of a class is unwarranted and violates a long-established usage of the suffix -oidea for superfamilies. This apparently was largely responsible for the recommendation (29A, 1961) that this suffix be recognized as such in the International Code of Zoological Nomenclature. The two subclasses, Oligonchoinea and Polyonchoinea, which were proposed by Bychowsky in 1937, are based on the number of haptoral hooks in the larvae. Two serious difficulties are immediately suggested in this separation: (i) there is a greater difference in the number of larval hooks found within each subclass than the difference found between the subclasses; (ii) the life histories necessary for the assignment of species to these subclasses are known for representatives of less than one-half of the families of the Monogenea.

Unfortunately, Bychowsky did not list species of any genera, although he had the information at hand (p. 242). Further, he failed to provide keys, which are always invaluable, and he also avoided the use of established nomenclature for the Monogenea.

Mistakes, clumsy and inept usage, misspelled words, and the lack of strict adherence to the *International Rules of Zoological Nomenclature* are conspicuous. The participation of author, translator, and editor in the present production makes difficult the assignment of errors. Awkward statements can be assigned to the translator and the difficulties inherent in the two languages. Inept and unconventional biological usage, misspelled words, careless mistakes, and some inconsistencies are the fault of the editor.

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New Methods and Techniques

Transplantation of Tissues and Cells. R. E. Billingham and Willys K. Silvers, Eds. Wistar Institute Press, Philadelphia, 1961. vi + 149 pp. Illus. $7.50.

Transplantation of Tissues and Cells deserves a special place on the bookshelf of anyone interested in problems of tissue transplantation. As the editors point out, the book is designed to present, in detail, certain procedures and principles used in experimental transplantation of tissues and cells. It is particularly valuable because each author attempts to stress the problems encountered in learning new techniques. These problems are rarely mentioned in individual publications, but they often account for the great difficulty encountered in mastering new methods. The book contains chapters on various techniques of skin grafting in birds (Billingham) and mammals (Billingham; Steinmuller); in addition to these technical problems, it includes a discussion of the principles of skin transplantation (Billingham), a chapter on the immunogenetic aspects of tissue transplantation (Palm), and one on the method by which transplantation antigens can be extracted (Billingham).

Other chapters deal with the transplantation of endocrine tissues (Palm; Russell), the transplantation of tissues to the chorioallantois of chicks or to the cheekpouch of the hamster (Billingham), and an experimental procedure for establishing parabiosis between animals (Wilson). A detailed account is presented of the materials, methods, and possible problems involved when tissues are transplanted in diffusion chambers (Amos). Another section is devoted to the induction of acquired tolerance to tissue homografts and the transfer of transplantation immunity