activity (for example, the dilemma of referees who see confidentially an unpublished version of work in their own field); and the obligation of the scientist to communicate to the general public the advances and syntheses of science. (One corollary which Glass and all of us might draw from the last discussion is: "Never publish with a press that does not provide an index.")

The book ends with the following remark: "The problem of the future is the ethical problem of the control of man over his own biological evolution. The powers of evolution are left in his hands." Ominous though the statement is, this book itself should provide many readers with a primer of wise counsel for meeting that future.

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Research Résumé

Solar System Radio Astronomy (Plenum Press, New York, 1965. 428 pp., $17.50) edited by Jules Aarons, contains 18 lectures that were presented at the NATO Advanced Study Institute of the National Observatory of Athens. The lectures were on the following topics: Solar characteristics (by G. Righini; and J. F. Denisse); The quiet sun (by J. Castelli and J. Aarons; M. Pick; O. Hachenberg; and C. Caroubalos); The disturbed sun (by D. J. McLean; J. W. Warwick; A. D. Fokker; O. Elgaroy; M. Anastassiades; and O. Hachenberg); The interplanetary medium (by A. Hewish; and V. R. Eshleman); The moon (by H. Weaver; and G. Pettengill); and The planets (by H. Weaver; G. Pettengill; and an abstract by D. Ilias).

The lectures are essentially an advanced course in solar system radio astronomy, and the book is an excellent reference for students and research workers in this field. The editor of the book, who was also director of the program, has made a remarkable choice of lectures and authors. Outstanding radio astronomers from most of the leading groups working in solar system radio astronomy in Europe and the United States are well represented. Unfortunately research workers from other countries did not participate, but many of their results are presented. Although most of the material in this book has been previously published, it appeared in widely scattered articles. Several of the chapters contain new research results. An attempt was obviously made to emphasize those research areas not covered by recent review articles.

Thirteen of the 18 lectures directly concerned with the radio emission from the sun are well selected and clearly written. The two lectures on the moon and planets, by Weaver, are comprehensive and contain much unpublished material. Pettengill's lectures on radar studies of the moon and planets are an excellent summary by a major contributor to the subject. The two chapters on the interplanetary medium contain recent studies, one using radar and the other natural emission, of the ionized component of the interplanetary medium. Eshleman's lecture is of special interest because he discusses the successful radio technique used in the recent Mariner fly-by observations of the atmosphere of Mars.

The book contains many excellent graphs, diagrams, drawings, tables, and photographs (see cover on this issue of *Science*), and the balance between the quantitative, analytical material and the descriptive, pictorial material is good. All the lectures contain comprehensive references up to mid-1964. It should be a well-used reference in the field of solar system radio astronomy because it supplements many recent review articles.

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The Common Liver Fluke

Basically a literature summary, **The Common Liver Fluke: Fasciola hepatica L.** (Pergamon, New York, 1965. 267 pp., $12), by E. M. Pantelouris is intended to provide "for the research worker, a thorough review of the extensive literature on the subject and a comprehensive bibliography, as well as practical details of techniques for handling material; [and] for the veterinarian, biologist and agriculturalist, an account of our knowledge about this important animal and the disease it causes and of the way in which this knowledge has been accumulated" (from the preface). Sections on the biology of the liver fluke: structure and physiology; pathology, chemotherapy, and immunology; ecology and control; appendices—the whole based on 664 references (extending to 1964)—indicate the broad scope of the work. Coverage is not exhaustive, however; although there is a chapter on human fascioliasis, information on its treatment is incomplete. (In a current volume on clinical parasitology, for example, one may find approximately a dozen references to various aspects of human infestation which are not included in this book.)

The text is quite readable throughout, and although I noted few typographical errors, there are some apparent discrepancies in nomenclature: *Glabra* (*Galba*?) (pp. 20, 21, and 23); *Pseudosuccinella* (*Pseudosuccinea columella*?) (pp. 31 and 258); and Ward 1817 (1917) (p. 16). Although the content of the text cannot be extensively criticized here, another shortcoming is the somewhat imprecise treatment, relative to the evidence cited, of certain of the material that deals with glycolysis and the Krebs cycle (pp. 106 and 107). A feature that will please many workers is the inclusion of much eastern European literature. Most readers will immediately note the consistent use of "cercarium" and "metacercarium." The indices appear workable, and although most of the figures are informative, some lack clarity or are inadequately labeled (notably Figs. 19, 21, 37, 56, and 62) and may perplex certain readers. Figure 64 is poorly reproduced.

Unfortunately, the reader's confidence may be shaken by the relatively numerous, but by no means disabling, irregularities associated with referencing. There are approximately three dozen citations in the text which cannot be immediately identified or are missing from the reference list, and the lack of method and pattern in distinguishing between an author's publications of the same year is frequently evident. There are minor irregularities in the spelling of some names and in the order, but the references themselves appear accurate and useful.

It is significant that enough information on the biology of a single nonschistosome trematode is now available to allow its presentation in book form—a distinction that probably cannot be claimed for any other such species at this time. Nevertheless, despite what is at hand, areas that require

additional work are obvious—two notable ones are metabolism (particularly of larval forms) and the development and use of effective control or ameliorative measures. Paradoxically, however, reducing the prevalence of this parasite will undoubtedly seriously affect its popularity as material for use in teaching and research.

Even though this book lacks the structural excellence that the reader has the right to expect, it will undoubtedly fulfill much of the role intended by its author. For the nonspecialist, it will tie together the picture of *Fasciola* and fascioliasis, and for the helminthologist it will serve as a useful secondary source of information.

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Metaphysicians of Economics

Marginal utility theory has an important but controversial place in the history of economic thought. Its very contributions, not unexpectedly, were the objects of profound criticism. Yet contemporary economic theory not only incorporates its basic ideas but also manifests both its marginalist stamp and formal concern with narrowly defined static economic categories. The doctrines of the marginal utility school of the half century following 1870 provided an organizing principle and a heuristic system, and was a source of renewed confidence and even inspiration for economists. Marginal utility analysis was instrumental in comprehending the forces underlying demand, household equilibrium, and even the theory of free trade. Moreover its doctrine was an important weapon in the ideological defense and legitimation of the market system and a policy of *laissez faire*. Individualism was both a methodological and valuational premise.

Yet the accomplishments of the school and its theory—diminishing marginal utility, the equimarginal principle, and imputation, for example—were not permanently satisfying. Utility theorists have been the great metaphysicians of economics; their continuation of the quest for an absolute and invariant basis of value, their conscious attempt to superimpose utility as an all-encompassing organizing principle, and their practice of ideological apologetics—all contributed to an inherent philosophical monism. Most important, utility analysis itself encountered diminishing returns as many of the newer problems of interest to economists simply had no, or little, place for—and really could take for granted—the exercise of consumer valuation and choice and its implications. Also crucial has been the largely nonoperational character of utility theory. Finally, the oversimplified understanding of the utility theorists—at least so far as their formal theory encompassed—of human psychology and of the basic issues of economic policy relevant to market interaction with the legal and moral framework, became a dangerously naive defense of the free market economy. For these and other reasons, marginal utility theory has been in eclipse for about half a century, its central contributions absorbed in the corpus of economic theory though not in the position the utility theorists would have preferred.

In this book, **A History of Marginal Utility Theory** (Princeton University Press, Princeton, N.J., 1965. 270 pp., $6.50), Emil Kauder has given us an important contribution to an appreciation of this stage in the history of economic theory. He is one of a remaining relative handful able to present a sympathetic account of the growth of marginal utility theory (in part due to his multilingual abilities as well as his early training and affinities). Kauder traces the precursors of the Austrian school (the users of such concepts as utility and value-in-use) and developments in recent years (largely game theory). Kauder correctly focuses upon Menger, Jevons, and Walras, and presents an exciting account of the major and minor issues, problems, and controversies as seen by the original developers of utility theory. It is also to Kauder's credit that he traces the philosophical connections and significance of marginal utility analysis.

I am somewhat ambivalent about Kauder's accomplishment. His account of the development of the Austrian school is unquestionably well done and edifying, and his judgment, when he directs attention to evaluation and assessment, is generally judicious and balanced—indeed rarely would I take issue with him. But the book lacks definitiveness and, more serious, is marked by a sympathy that too frequently becomes outright partisan defense. The book is both a history of thought and a polemic. But it is primarily the former, and as such is a fine piece of work, so that its author's often defensive and hypersensitive posture in the latter regard is a small price in comparison. The book will be hard going for a nonspecialist who lacks perspective and to whom equivocal *obiter dicta* may be misleading. As for the specialist, he will wish that Kauder had substituted greater breadth of coverage for passion. Yet part of this difficulty is not due to Kauder: marginal utility theory, for all its pretensions, is not that elaborate. Its distinctions have been eclipsed by other achievements and interests of economic theorists, calling in doubt the relative importance of utility theory (as distinct from the marginal technique) as a heuristic system. Kauder's book, moreover, confirms the metaphysical preoccupations of marginal utility theorists, including their view of marginal utility theory as dealing with the eternal, immutable, inevitable, and the essence of things economic, things to be discovered and not created. To some, then, this book will represent a renewed call to virtue; to others, a futile cry from the past.

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Testing Tests

Some 35 years ago, Oscar Krisen Buros aspired to establish a "test consumers research organization" to test tests for use in education, industry, and psychology. Lacking financial support for such a venture, Buros initiated a test reviewing service in 1938. This "yearbook" series (published in 1940, 1949, 1953, 1959, and now 1965) has consisted primarily of critical test reviews written by selected individuals who have different specialties and points of view.

The 1965 volume, **The Sixth Mental Measurements Yearbook** (Gryphon Press, Highland Park, N.J., 1965. 1752 pp., $32.50), edited by Buros, lists complete identifying information for 1219 tests (all those known to have been published in English-speaking countries from 1959 to mid-1964), grouped into 15 broad classes. It presents 795 new test reviews by 396 reviewers, 8001 relevant references, and