

and empirical), almost assumes the character of a fetish and mitigates against efforts at a "positive critique" of ideology. Such a critique can only be based on what Marx called "positive knowledge," and this not about the "superstructure" but about the "infrastructure." From the standpoint of the science of society, Ludz's approach begs the political and institutional questions of the totality of Marx's approach to history. But from the standpoint of the sociology of knowledge, his "starting points to an immanent critique" of the concept of ideology and Marxist theory are a major contribution.

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THE STRUCTURE OF ECONOMIC SYSTEMS. By *John Michael Montias*. New Haven and London: Yale University Press, 1976. xii, 323 pp.

Comparers of economic systems—and which of us is not?—will benefit from this pioneering treatise. Its impact on fellow specialists should be immediate. Later on, as its insights shape the efforts of economists, political scientists, and historians to evaluate economic systems, all will gain. The author's heroic objective is to define and apply criteria and measures of system performance that will be independent of the systems themselves. To this end he draws on information theory and the theory of organizations in order to augment the narrow framework of contemporary economic theory. His results are exploratory rather than definitive. This is the work of a thoughtful and conscientious scholar surveying the tasks involved, proposing analytic approaches, and recognizing inherent difficulties. It is a challenge to further work.

The two chapters of part 1 define some basic concepts and lay out an analytic framework. Part 2 contains three chapters: "system structure and normed outcomes," "common desiderata and efficiency," and "from theory to measurement." Here Montias presents methodological suggestions and cautious observations on the work of others relating to the macroeconomics of the comparison of systems. Part 3 deals with microcomparisons involving the elements of system description. Its five chapters discuss more detailed aspects of economic operations: consumption and distribution, technologies utilized, forms of interactions among participants, ownership and custody, and competitive processes. The four chapters in part 4 on organizations, hierarchies, and associations take up issues of incentives, power, autonomy, and decentralization. The three chapters of part 5 discuss the goals of producing enterprises and their consequences for an economic system. A concluding chapter reflects on fruitful directions for further research.

The author is as broad as his subject. While much of his analysis focuses on the USSR, there is considerable attention to Eastern and Western Europe and some reference to Japan and China. In previous research Montias has given as painstaking analyses of the Polish and Rumanian economies as well as stimulating appreciations of the forces at work in Eastern Europe. His interests range from the fine arts and linguistics to mathematics and economic theory. This breadth of mind and range of coverage is both essential for the task in hand and a frustrater of neat conclusions.

Montias draws on a wide range of materials. His well-selected references will assist anyone pursuing the issues he discusses. Relevant recent additions to his list might include the work of David Granick on Eastern European management, *Quantitative Economic Policy and Planning* by Nicolas Spulber and Ira Horowitz (Norton, 1976), and Vaclav Holesovsky's *Economic Systems: Analysis and Comparisons* (McGraw-Hill, 1977). On the economics of bureaucracies, some readers will find the work of William Niskanen and others useful. Technicians should weigh the applicability of fuzzy set theory (see for example, C. V. Negoita and M. Sularia, "On Fuzzy Mathe-

mathematical Programming and Tolerances in Planning," *Economic Computation and Economic Cybernetics Studies and Research* [Bucharest], 1976, no. 1, pp. 3-14).

This treatise offers an abstract framework to contain the diverse realities of the economic systems around us. The challenge now is to fill the intervening space, working up from empirical detail and down from strict theory, to build a tested body of understanding. Contributions to the effort may well appear in the new *Journal of Comparative Economics* whose editor, not surprisingly, is John Michael Montias.

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TRENDS IN THE SOVIET OIL AND GAS INDUSTRY. By *Robert W. Campbell*. A Resources for the Future Book. Baltimore and London: The Johns Hopkins University Press, 1976. xvi, 125 pp. Tables. Figures. \$10.00.

This compact, succinct little book is a useful companion to the author's *Economics of Soviet Oil and Gas* (1968). It admirably fulfills the stated intentions of updating the data base of the earlier work and reviewing the most important developments since 1965. Separate chapters deal with Soviet energy policy, exploration, drilling, oil production, oil transport, oil refining, the gas industry, the economic reform in oil and gas, and Soviet participation in world energy markets (as buyer and seller). In cogent summaries that bracket the more detailed discussion, Professor Campbell argues that Soviet oil and gas planners now face problems different from those of the 1950s and 1960s, and that their success in dealing with these problems will determine both the level and structure of future Soviet energy development. As usual, careful scholarship routs glib generalizations—for example, the undue pessimism about a Soviet "energy crisis," and the undue optimism that the USSR can bail the West out of its own energy crisis with massive energy exports.

Professor Campbell attributes many of the problems Soviet energy planners face to difficulties in meeting technological challenges—in drilling, oil refining, pipeline construction and operation, and the production of both oil and gas. This line of argument is backed up by a wealth of technical detail. Insightful (if tantalizingly brief) discussions deal with refinery mixes and product quality, the utilization of natural gas, the export of crude oil versus refined products, and planning methods (especially the attempts to apply optimizing models). In view of the apparent space constraints, Soviet oil purchases in the Middle East receive overmuch attention, with perhaps the least satisfying results. (Arms sales and Comecon debt instruments are stressed, to the relative neglect of the desire to minimize transport costs, given fixed commitments to Communist allies—to the reviewer, the best explanation of those purchases.) Unfortunate publication delays have left the data series two or three years out of date, in a situation subject to rapid change.

Not to carp, however—this is a valuable book for serious students of Soviet energy policy and more general readers alike.

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THE CLIMATES OF THE SOVIET UNION. By *Paul E. Lydolph*. World Survey of Climatology, vol. 7. Amsterdam and New York: Elsevier Scientific Publishing Company, 1977. xii, 443 pp. Illus. Dfl. 200. \$81.75.

Dr. Lydolph has performed a valuable and long overdue service in compiling a comprehensive reference on climatic factors in the Soviet Union. His stated intent "is to present general climatic information that can be used as a basis for other studies which