

ratio for the USSR, he moves on to his tests. In one set of tests, data on imports (or exports), planned output, and actual output of selected products are analyzed to see if deviations of output from the plan affect trade. One would assume that they would (as they would in a Western country if one could aggregate the plans of individual enterprises and consumers), but this proves nothing about Soviet trade planning. The other tests he conducted were regressions of imports against exports, using various lag structures, but the regressions are not reported, and from the description they appear to be rather uninteresting.

This is not a very good book. Specialists on foreign trade in centrally planned economies will find nothing new. Those who are not specialists can very easily find existing literature which does a better job of identifying and analyzing important issues in Soviet foreign trade planning.

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THE TECHNOLOGICAL LEVEL OF SOVIET INDUSTRY. Edited by *Ronald Amann, Julian Cooper, and R. W. Davies*, with the assistance of *Hugh Jenkins*. New Haven and London: Yale University Press, 1977. xxxii, 575 pp. Tables. Figures. \$30.00.

This book will require much patience to read through, but even if few manage to absorb it at first sitting, it is a magnificent resource that one will want to put on the shelf and return to again and again. It does not provide a neat and simple conclusion concerning the comparative technological level of Soviet industry, but it is a storehouse of approaches to, and facts about, innovation in the Soviet economy. It presents much evidence for—and counterexamples to refute—some of the generalizations current in our thinking about the ability of the Soviet system to generate technical progress.

The paradigm of the work, and of the long-range project for which the book is, to some extent, a progress report, is as follows: Technological progress is based on a series of activities beginning with research, proceeding with embodiment of new ideas in prototypes or pilot plants for a new product or process, then commercial introduction of the innovation, and finally its diffusion throughout the relevant branch of production. To assess the technological level of Soviet industry, one needs to compare the USSR's achievements in each of these phases, and its rate of movement between them, with other countries. This idea is carried out in the book by means of a case-study approach that examines individual industries, products, or technological areas, usually with respect to specific innovations (for example, continuous casting of steel, movement to some new voltage level in electric power transmission, or creation of a synthetic fiber) as the unit of observation. The authors are scrupulously careful to compare Soviet experience not only with the United States, but also with other industrial countries. Japan, the FRG, the United Kingdom, France, and the United States are used systematically as the standards of comparison, and other countries ad hoc in relevant areas of technology.

The book begins with a useful methodological chapter and a chapter that attempts to generalize across all cases in the terms described above. The bulk of the book is made up of chapters dealing with individual cases—iron and steel, machine tools, high-voltage power transmission, the chemical industry, industrial process control, computers, military technology, and rocketry. Most of the studies do not try to deal explicitly with the problem of quality. Rather, the focus is, for example, on the creation of a synthetic fiber, without considering in detail if the synthetic fiber the USSR produces is the equal of those produced in other countries. A final chapter, however, tries to take a separate look at the quality issue by looking at two cases—machine tools and automobiles.

These cases confirm several generally held ideas. R. W. Davies states in his summary chapter, for example, that "our studies of the traditional industries, including high priority civilian industries, have on the whole confirmed the generally accepted stereotype . . . [that Soviet] research is more advanced than experimental development, that development is more advanced than innovation, and that the Soviet economy is least advanced in the diffusion of technology" (p. 59), and that "it may safely be concluded that the rate of diffusion of new products and processes in terms of their share in total output is lower in the USSR than in other industrialized countries" (pp. 57–58). The case studies also show that other widely held ideas do not reflect reality. For example, in David Holloway's very interesting chapter on military technology, it is found that even in the military sector, in which Soviet performance is commonly thought of as outstanding, "these studies do not show the Soviet Union gradually catching up or overtaking its foreign competitors: the relationship appears to fluctuate. In both [the tank and the ICBM] cases the Soviet Union has first led the world, and has then lost that lead. Soviet tank technology is generally recognized to have been supreme in the early 1940s but now Soviet medium tanks are inferior to the best foreign tanks. In the mid-1950s the Soviet Union appeared to have a clear lead in ICBM technologies, but this was quickly lost to the United States. On the other hand the Soviet Union seems again to have closed the gap with its latest generation of ICBM's" (p. 489).

The theme that is most successfully followed in some form through the various cases is that Soviet achievement of some technological variable lags behind that of Western countries; but the conclusions are varied. Regarding high-voltage transmission, the author concludes that "the USSR has moved from a position before the fifties of being a follower of technological trends in HV technology to a position in the early sixties roughly equal with that of the leading countries" (p. 199). With reference to computers, however, the conclusion is that "the technological gap between the Soviet Union and the United States . . . [earlier noted by Judy] has continued since 1968. In respect of hardware and peripherals, there is no evidence that it has narrowed: in respect of software, a substantial improvement has occurred in the USSR, from a previously low level" (p. 402). The overall impression one gains from reading this fairly extensive sampling is that Soviet technical levels are relatively low, and that, despite occasional examples, the USSR has not been very successful in narrowing the gaps between its level of technology and the technological levels of the Western countries.

Once into the individual chapters one finds that the basic paradigm disintegrates to some extent. Some chapters are tolerably conclusive regarding relative technical level or lags, others unsuccessful in bringing together the many facts they adduce into any kind of aggregative quantification (as in the discussion of machine tool quality, for example). Only in the chapter treating the chemical industry is the whole research-production cycle fairly systematically studied and the basic paradigm rather well realized. The chapter on machine tools goes outside the basic paradigm to make instructive comparisons between Soviet and Western machine tool stocks. Most of the chapters seem to have been produced by scholars whose background is not primarily in technology per se, a fact forcibly brought home in the contrasting example of the chapter on industrial process control, apparently written by an engineer. It struck me as an exemplary chapter that succeeds in conveying just what technology is and the kinds of choices and behaviors that generate it. It reflects what appears to be an intimate acquaintance with actual equipment and development histories in both the Soviet Union and in Western countries as a basis for quite definite judgments about relative technical levels. One of the things that is often missing in Western research on Soviet R&D and technology is the knowledge of the experienced engineer, a weakness that must be corrected somehow.

I do not fault the heterogeneity of approach in the case studies. At this point in our research on Soviet technology it is probably better to explore many approaches and to utilize whatever information is available than to worry about conforming to some standard pattern. Indeed, one of the major values of this book is the richness and variety of the questions asked and the information it contains. There are illuminating capsule histories of innovations in given technologies, numerous asides about motivations, rationales, procedures, biases, and utilization of a great variety of sources (including the results of a British consumer testing organization's tests of the quality of Soviet passenger automobiles). I imagine that the book will be an important stimulus for other scholars to apply some of its approaches to other cases, and thus expand the *range* of knowledge about the comparative level of Soviet technology. We will then be in a much better position to develop the kind of generalizable conclusions that the authors of this book have found somewhat elusive.

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COPYRIGHT LAW IN THE SOVIET UNION. By *Michael A. Newcity*. New York and London: Praeger Publishers, 1978. x, 213 pp.

SOVIET BOOK PUBLISHING POLICY. By *Gregory Walker*. New York and London: Cambridge University Press, 1978. xvi, 164 pp. \$15.95.

Although the Soviet Union is the world's largest producer and consumer of books, as the authors of the two books under review point out, attention in the West has focused upon censorship and *samizdat*, and little has been written about publishing policy until very recently. These two books, together with articles appearing in *Publishers Weekly* in the past few years, help to fill the gap.

Michael A. Newcity, a member of the New York bar, has produced a substantial study of copyright law in the Soviet Union. He begins with a historical survey, from the domestic copyright law of 1828 (the by-product of a censorship decree) to 1973, when the USSR joined the Universal Copyright Convention. One of his interesting contributions is the account of how the Soviet Union joined. A U.S. tax made Soviet patents and licenses too expensive to be competitive in the American market. The Soviet Union wanted patent and technology-licensing agreements. American negotiators linked the copyright issue to the agreements and held out the inducement of a waiver of the tax. They added the argument that the USSR would benefit commercially from international copyright and would gain in Western public esteem. The bulk of Newcity's work consists of an exposition of the resultant Soviet copyright law and its application. A concluding section reviews developments since accession to the copyright convention.

Paradoxically, after years of American publishers' insistence upon this step, the Soviet action met with a wave of criticism in the West. Fears were voiced that the new copyright law would be used as an additional weapon against dissidents, that unregulated reprinting of Western scientific and technical journals would continue, and that Soviet newspapers would abuse their claim to free use of copyrighted material. These fears have subsided, yet progress in U.S.-Soviet publishing relations remains slow. Soviet publishers protest the imbalance between their extensive translation of American works and the small number of Soviet titles issued in the United States. American publishers protest against Soviet censorship and the treatment of dissidents. Several American publishers and editorial writers opposed the successful Moscow book fair of 1977 because of these issues.

Newcity concludes that political considerations will continue to becloud publishing relations. It seems to this reviewer that he overlooks another important factor—