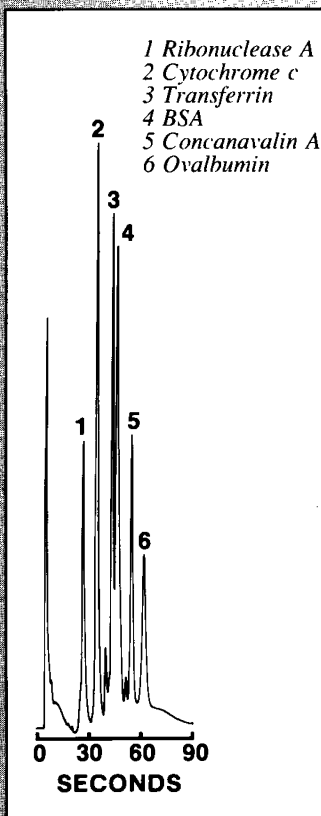


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media as an institution for the representation of science also get short shrift, with the exception of Mark Kuchment's stimulating essay on scientific prose. Essays on science in schools, universities, and television, as well as the place of science in museums and among the new private organizations that are springing up so rapidly, would have added much. Interesting also would be a comment on the fate of the old dichotomy between science and religion and of the museums of science and atheism that have long been a feature of Soviet life.

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The Chemicals Sector

The Chemical Industry in the USSR. An Economic Geography. MATTHEW J. SAGERS and THEODORE SHABAD. Westview, Boulder, CO, 1990 (also available from American Chemical Society, Washington, DC). xxvi, 590 pp., illus. \$89.95. American Chemical Society Professional Reference Book.

This is a reference work, providing systematic information on a complex and underresearched sector of the Soviet economy. The subject is approached, in the authors' words, "from an economic geographical perspective, with emphasis on the geographic." The book contains seven chapters dealing with the main branches of the sector—fertilizers and agricultural chemicals, the chlor-alkali industry, petrochemicals, synthetic rubber, plastics and resins, chemical fibers, and dyes, paints, and lacquers. These chapters are supplemented with more synthetic treatments of the historical expansion of the industry, general locational factors important in its development, the machinery industries that provide the equipment for it, and the place of chemicals in Soviet foreign trade. We get for each branch some sense of its origin, its role in the economy, its technological characteristics, product mix, and growth, and the way these interact with resource base and markets to produce a locational pattern. The authors have done a commendably thorough job of combing sources and producing an overview of the industry such as exists nowhere else, and for which there is certainly no analogue in the Soviet literature itself. In keeping with the work's design as a reference work, it is equipped with a 100-page index, unusually complete and built around multiple perspectives—products, technologies, locations, companies and plants, processes, resources, and intra-industry relations.

As this description suggests, the book is

not a work to be read as a narrative, nor is it much oriented to interesting issues of policy. But as one goes through it section by section a general characterization of the sector and of Soviet policy toward it begins to emerge. The chemical industry was for a long time neglected, characterized by slow growth and backward status in its technology and in the educational and R&D base needed to support its development, and incapable of supporting other important national needs, such as improving agricultural performance. It was rescued from stagnation in the Khrushchev era and has held a generally high priority ever since. This post-1958 emphasis has made it a major industry in terms of its drain on Soviet investment resources, in the Soviet industrial production structure, and in the context of the world economy (it is the world's largest producer of some chemical products such as fertilizer). In this postwar growth it has been heavily dependent, especially in its more modern branches, on imported equipment, and these imports have generally been financed through compensation deals that have made the U.S.S.R. a major exporter of chemicals.

What is missing from the book is much in the way of discussion of the economics of the industry, reflections as to what its future may be, or even the kind of evaluations of past policy and performance that would help us judge how it may fare in an era of economic reform. The chemical industry is a prime example of the investment-swallowing, energy-intensive, polluting kind of branch that is now under heavy attack as the Soviet reformers decide how they need to restructure their economy. It is also a prototypical example of the intermediate-product industries that have hypertrophied under the Soviet *zatratnyi mekhanizm* or "expenditure machine"—a planning system that focuses on growth of intermediate output, an inordinate amount of which gets chewed up as inputs to other industries without creating much final output. One wonders how the various branches of the industry will look in terms of comparative advantage as the economy becomes more subject to the test of openness to the world market and what kind of restructuring it is likely to undergo in an era of the profit test, privatization, investment, and competition from foreign producers. Insight into those issues will have to await a different kind of study, but such a sequel could not be written without the systematic descriptive work provided in this book.

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