

Books

The Soviet Economy and the Challenge of Change

By Holland Hunter

FREDERIC L. PRYOR. *Property and Industrial Organization in Communist and Capitalist Nations*. Bloomington, IN, Indiana University Press, 1973.

FREDERIC J. FLERON, JR., Ed. *Technology and Communist Culture: The Socio-Cultural Impact of Technology Under Socialism*. New York, NY, and London, Praeger, 1977.

JOHN R. THOMAS and URSULA M. KRUSE-VAUCIENNE, Eds. *Soviet Science and Technology: Domestic and Foreign Perspectives*. Washington, DC, The George Washington University, 1977.

T. H. RIGBY and R. F. MILLER. *Political and Administrative*

Aspects of the Scientific and Technical Revolution in the USSR. Occasional Paper No. 11, Canberra, Department of Political Science, Research School of Social Science, Australian National University, 1976.

ZHORES A. MEDVEDEV. *Soviet Science*. New York, NY, W. W. Norton, 1978.

JOSEPH S. BERLINER. *The Innovation Decision in Soviet Industry*. Cambridge, MA, and London, The MIT Press, 1976.

DAVID GRANICK. *Enterprise Guidance in Eastern Europe: A Comparison of Four Socialist Economies*. Princeton, NJ, Princeton University Press, 1975.

AMONG THE PROBLEMS confronting Communist societies today, some of the most important are those provoked by pervasive economic change. Managing a large economy, whether by central planning or through the market mechanism, would be fairly easy if only the basic forces at work remained stable. If changes were limited in scope, information needs would be modest, and minor adjustments could be made by trial

and error. Currently, however, many basic forces are in motion, dislocating economic structures all over the world. Competition between economic systems now focuses critically, therefore, on their ability to deal with ongoing structural change.¹

1. The present essay attempts to link a rather disparate set of studies; I am grateful to Morris Bornstein for helping me trace the connections.

As the largest of the socialist economies, the Soviet Union has not been immune to these major changes. Nor, as we shall see, has it yet found adequate ways of responding to them. The methods that built the present economy served Soviet purposes well for a generation, but now they are proving stubbornly resistant to the challenge of change.

One area in which fundamental and problematic changes have been occurring is in the substance of economic property and property rights. Men have traditionally thought of property in concrete, physical terms, taking the form of land, houses, factories, etc. However, in the law, in economics, and in political theory, the concept of property takes on an intangible dimension, involving a bundle of rights relating property to its owners. Over the long term, as the scale of economic organizations has grown, ownership has been separated from control. In the West, the separation has freed corporate management from detailed supervision by stockholders. In the USSR, centralized ministerial supervision has circumscribed the operational authority of enterprise management. More-

over, as Frederic Pryor's admirable treatise on property and industrial organization shows, the distribution of control of industrial property in eight Western nations is also becoming more unequal even as inequality in the distribution of ownership of wealth has been decreasing. Extending his analysis from wealth to income, Pryor observes that in both East and West nations in which economic control is centralized tend to display a more nearly equal distribution of income. "In other words," he states, "there appears to be an inverse relationship between income equality and equality of control rights" (p. 334).

Stressing the complexity of forces at work and the intricacy of the implications flowing from these trends, Pryor is cautious in drawing conclusions. It seems increasingly evident, however, as will be argued below, that the

present locus of control rights in the USSR is far from optimal.

A second area of long-run change relates to mastering modern technology. Specifically, it involves moving from the employment of existing methods to the generation of new methods. In the Soviet case, from the late 1920's through the middle 1950's, capital expansion centered on the former approach—the building of an enormous stock of fixed capital embodying the technology of the late 1920's. A prominent example was the automobile works at Gorkiy, where the Ford Motor company was called on to help build a very large integrated plant for producing Model AA trucks and Model A passenger cars. As John Hardt and George Holliday note in their contribution to the collection of essays about the impact of technology on Communist societies edited by Frederic Fleron, mas-

tery of this technology required the whole of the 1930's, and Soviet authorities deliberately chose not to complicate the learning process by incorporating improvements like the V-8 engine that Ford introduced in 1932 (Fleron, p. 197). Under Stalin, managers and workers throughout heavy industry and transportation were pressed to bring new facilities up to their designed operating levels or beyond and to build duplicate plants incorporating existing technology without significant changes. Outside of defense-related industries, there was very little technological progress in the USSR from the mid-1930's to the mid-1950's.

Meanwhile, in the West, a renewed industrial revolution spread throughout industry and also brought substantial changes in agriculture, transportation, and construction. Major new processes and products—the digital computer, petrochemicals and plastics, a wide range of electronic devices, numerically controlled machine tools (to name a few)—transformed most Western economic activity. Since the mid-1950's, the USSR has been introducing these new processes and products gradually into its high-priority sectors, but not without major problems of high costs, poor quality, and delays.

In a third major global development, limitations on resources and environmental constraints are inducing a shift toward stress on the quality rather than the quantity of growth, a search for materials-conserving methods, and a desire for cost-effective production methods. These pressures have begun to be felt in the Soviet economy. Until the 1960's, expansion of Soviet output could be founded primarily on additional labor working with addi-

Reviewers in this Issue

HOLLAND HUNTER—Professor of Economics, Haverford College (Haverford, PA); editor of *The Future of the Soviet Economy: 1978–1985*, 1978.

PAUL MARANTZ—Associate Professor of Political Science, University of British Columbia (Vancouver, B.C., Canada); author of articles appearing in this and other scholarly journals and of a forthcoming book, *Soviet Doctrine and East-West Relations, 1917–1978*.

FORREST C. POGUE—Director, Dwight D. Eisenhower Institute for Historical Research, Smithsonian Institution (Washington, DC); author of *The Supreme Command*, 1956, and three volumes of a biography of George C. Marshall, published in 1963, 1966, and 1973; coauthor of *The Meaning of Yalta*, 1956.

GAVIN BOYD—Professor of Politics, St. Mary's University (Halifax, N.S., Canada); coeditor of *Asia and the International System*, 1972, *World Politics*, 1976, and of *Issues in Global Politics and Comparative Regional Systems*, both forthcoming.

JACK H. HARRIS—Senior Associate in the Booz, Allen and Hamilton consulting firm (Bethesda, MD), responsible for international political-military affairs; author of numerous studies on China, Sino-Soviet-US relations, and arms control.

JOSEPH VARKEY—Assistant Professor of Political Science, East Stroudsburg State College (East Stroudsburg, PA); author of *At the Crossroads: The Sino-Indian Border Dispute and the Communist Party of India*; 1974; currently researching a book on the activities of the Communist Party of India (Marxist) in his native state of Kerala.

tional fixed capital, i.e., from increasing inputs rather than from making all inputs more productive. Though population growth was modest, many millions were drawn into the labor force, and great efforts went into multiplying the stock of capital plant and equipment, especially in industry. That era has come to an end. Extensive growth must now give way to intensive growth, since marked additions to the labor force are no longer in sight and increased capital no longer yields high returns.

Thus, as the Soviet Union seeks to sustain its economic expansion in competition with capitalist societies, it faces a set of inter-related challenges. Growing internal constraints—stemming from both demographic factors and limitations on natural resources—argue for the development or application of the latest production techniques and of new institutional arrangements that will permit the Soviet economy to shift to an intensive, productivity-oriented pattern of growth. How is the USSR responding to these challenges? Which aspects of the Soviet system need to change? Will the needed changes fundamentally alter the character of the system? Clearly it is too early for conclusive answers to such questions. However, some useful insights into these matters emerge from the studies under review.

TURNING FIRST TO the problem of technological innovation, we find that the Soviet system poses certain inherent obstacles to it. Successful technological innovation comes only at the end of a series of stages beginning with a finding in pure science and moving through research laboratories, pilot projects, test and evaluation procedures, initial limited

production, and finally full integration into ongoing large-scale production. The Soviet system has been seriously deficient, especially in the late stages of this long sequence.

Even in pure science, the way has not been smooth. As Leopold Labedz notes in his contribution to the collection edited by John Thomas and Ursula Kruse-Vaucienne, central authority in Russia ever since Peter the Great founded the Academy of Sciences in 1724 has sought periodically to foster pure science and direct its applications toward solving practical problems. Yet as Robert Miller points out in his portion of the joint study with T. H. Rigby, the Academy under the Tsars was an alien body staffed primarily by foreign scientists; its work rarely contributed to improving domestic technology. During the years 1922–28—the “golden years” as Zhores Medvedev calls them in his volume *Soviet Science*—pure science flourished in the USSR, but thereafter in most fields it was distorted or suppressed under Stalin. Since Stalin’s death, the pure sciences have had ample financial support. For example, N. S. Khrushchev launched a program of “duplication” (Medvedev, pp. 62–68) under which Soviet science was to catch up with and surpass the West through the creative duplication of Western scientific feats. In nuclear physics and space technology, impressive results were indeed achieved. Nevertheless, the Communist Party has remained unwilling to let Soviet scientists participate freely in the reciprocal exchange and international communication that appear to be essential for genuinely creative work at the frontiers of knowledge.

The USSR puts enormous ef-

forts into the intermediate stages of the innovation process, devoting some 3.5 million scientists and technicians and about 20 billion rubles (perhaps 4 percent of Soviet GNP) annually to research and development activities.² Yet here too there are problems. In selecting applied science projects for funding, the USSR is reluctant to rely on such mechanisms as individual proposals and peer-group review, preferring instead to assign funds to institutes with rigid annual research plans. As Thane Gustafson’s comparative analysis shows (Thomas and Kruse-Vaucienne, pp. 83–94), the USSR thus loses a good deal of the flexibility and alertness required to speed and spread the process of applying scientific knowledge.

Even when a promising innovation emerges from research and development, it is not readily accepted by industrial enterprises. The system’s directors bring great pressure on plant managers to introduce process and product innovations, but this pressure is outweighed by other pressures that militate against change. Joseph Berliner’s major treatise on *The Innovation Decision in Soviet Industry* examines these interactions in exhaustive and fascinating detail. He shows how key aspects of the organizational structure of Soviet industry work against innovation. The system was designed to maximize the output of a limited range of high-priority products under centralized direction and by known methods. Therefore, the whole set of incentives and decision rules shaping managerial be-

2. See the late Rush V. Greenslade’s estimates in US Congress, Joint Economic Committee, *Soviet Economy in a New Perspective*, Washington, DC, US Government Printing Office, 1976, p. 277.

havior also continues to work against enthusiastic acceptance of innovations, despite recent remedial efforts. This makes it risky for plant managers and their staff to give up existing methods in favor of new ones. Moreover, prices—to the minor extent that they play a role in Soviet production decisions—tend to make innovation unprofitable. Soviet authorities are still unwilling to let market forces play a significant role in allocating resources, so high initial prices—adequate to tempt innovators and recoup initial outlays—are not permitted.

Soviet technology for use in defense and space has, of course, advanced very impressively, thus constituting an exception to the general picture. Berliner shows how this can be so and why the progress in defense-related industry has had so little spillover into civilian branches. Rapid innovation and high-quality production can be obtained through priority allocation of first-rate inputs to some sectors of the economy as long as other sectors of the economy can be forced to make do with lower-grade resources and slower progress.

While it is thus clearly possible for the USSR to keep up with the West in a few high-priority areas, international competition now proceeds on many fronts. Much of the current thrust of technology in advanced Western economies runs toward low-cost, resource-saving production methods, miniaturization, and economizing techniques that are the antithesis of the approach by which the USSR has advanced in the past. It is embarrassing for a self-proclaimed leading economic system to lag behind in these and other important aspects of contemporary life. Indeed, informed and perceptive Soviet citizens,

especially those with talents frustrated by the present framework of institutions, plainly appreciate the unsatisfactory nature of Soviet undertakings to date.

The notion that technology transfer can help the USSR catch up—and keep up—with the West in a broad range of nonmilitary activities appears to motivate Soviet interest in détente and trade with the West. But, as the studies under review here vividly testify, there are many difficulties involved in this solution.³ It is not enough to import a few prototypes and copy them. The very process of imitation takes time, and then construction of facilities to manufacture the new product adds several more years before domestic production is achieved. This route guarantees something like a 10-year lag behind the Western pioneer. Furthermore, an isolated product or process cannot be effective if put down in a surrounding economy that is incapable of supplying inputs of adequate quality and reliability. The typical high-technology product today achieves maximum effectiveness only as part of a complex network of suppliers, servicing facilities, distributors, and customers. Backward and forward linkages extend in many directions.

Hardt and Holliday add the further point (Fleron, pp. 187–92) that effective technological transfer requires a systems approach covering managerial aspects of production organization along with the narrow physical aspects. Berliner observes that these less tangible dimensions of productive activity are most effectively conveyed through personal con-

tacts, a channel for transfer that continues to be the least acceptable to Soviet authorities. He suggests that Soviet restrictions on the movement of persons are “perhaps the major reason that the Soviets are not members of the international high-technology club” (p. 515).

It is evident that keeping up with steadily advancing world technology requires ongoing adaptability and flexibility. As Japan has shown, bringing applied scientific innovations into regular production through alert and flexible adoption of new methods can yield very impressive results, even if the original advances occur elsewhere. However, the Soviet civilian economy continues to lack such flexibility and hence is ill-fitted for absorbing technological change. Several economic reform efforts since 1965 have foundered with little impact on the rate of innovation. Instead, the regime appears to be pinning its hopes on cybernetics as a system for managing socialist property “scientifically” without diminishing centralized control by the party.

This is but another example of the proclivity of Marxist-Leninists to drape the mantle of “science” over their laws and political programs. As Julian Cooper observes in his chapter in the Fleron volume, the scientific and technical revolution (NTR) that has quickened Western economic growth was officially noted at the 22nd CPSU Congress in 1961 and built into the new party program as an attribute of Soviet socialism allegedly giving this system an inherent advantage over the capitalist West. By definition and doctrinal elucidation, it was held that socialism facilitates technological innovation, while capitalism by its very

3. See also Philip Hanson's “Western Technology in the Soviet Economy,” *Problems of Communism* (Washington, DC), November–December 1978, pp. 20–30.

nature represses it. Historical experience suggests that the opposite is true.

Soviet authorities have launched a concrete attempt to realize their vision of scientific controls. Blueprints for a nationwide "automated system of management" (ASU) have been widely circulated and discussed. The system would use computers at district data-collecting stations, regional compilation centers, republic processing agencies, and national evaluation headquarters to control the whole economy (see the diagram in Rigby and Miller, p. 95). Evidently, organizational arrangements for this system are now under way, and in a few more years the planners will at the very least have fresh masses of data to work with. Traditionalist Soviet defenders of central planning hope that ASU will outperform a decentralized market mechanism.

Perhaps ASU will show itself capable of coordinating supplies and demands in order to assign resources efficiently or even to approach optimal achievement of planners' preferences. Indeed, computer-aided management systems may be able to supervise a national economy under stable conditions. But as argued above, rapid technological progress abroad puts great pressure on the USSR to master new products and processes through new organizations and procedures, thus disrupting whatever balance has been achieved. In this light, ASU looks more like a ponderous nationwide system for maintaining party control than a vigorous mechanism for stimulating creative innovation.

THUS THE QUESTION of *kto-kogo* posed by V.I. Lenin in 1921 has reappeared in a new form.

Which force will win out—the party or the NTR, the *dirigiste* apparatus of the CPSU or the universal pressures of late 20th century science and technology?

In the volume on *Technology and Communist Culture*, a number of analytic possibilities are considered. Fleron's afterword identifies five ways of viewing the impact of technology on society. First, one may hold that technology is neutral—that each society can use technology in pursuit of its own goals. At the other extreme, technological determinists argue that modern industrial technology carries imperatives that reshape society toward similar outcomes no matter what the initial institutional setting. Those who anticipate convergence between Soviet society and the West are usually technological determinists. As Fleron notes, Soviet theorists tend to favor a third approach, holding that the scientific and technical revolution involves both objective elements like large-scale production and subjective elements like the profit motive. According to this view, the NTR under capitalism is constrained from reaching its objective potential by inherent contradictions associated with its subjective elements; only under socialism can the NTR's full potentialities be realized. A fourth, less determinist, approach (advanced by Andrew Feenberg) suggests that the NTR is ambivalent, containing both repressive and liberating elements, with the former predominating under capitalism and the latter potentially realizable under socialism. Fleron himself offers a fifth approach, a "mediation theory" that stresses the impact of society and culture on the very evolution of technology itself. As he puts it, "... technology as one

of the artifacts of culture embodies the dominant values contained in that culture" (p. 472).

The alternatives can be tested by considering the way computers are likely to fit into the Soviet system. In the West, computers have revolutionized information processing, made large organizations more feasible, and created a new technical elite. They have not, however, altered the basic political and social characteristics of Western society in any fundamental way. Instead, the West has used computers to enhance existing institutions and extend prevailing trends. Erik Hoffmann, in his illuminating essay (Fleron, pp. 397–436), suggests similar prospects for the computer in the USSR:

... imported information technology is not likely to alter the fundamental characteristics of the Soviet political system and the central values of the national Communist Party leaders. Rather, computerized information systems are among the important new means of pursuing traditional values and goals under contemporary scientific, technological, economic, social, and international conditions. (p. 429)

Further evidence in support of the general proposition that societies put their own mark on the economic institutions that embody science and technology comes from the work of David Granick. As many readers will know, Granick's penetrating comparative studies of industrial management in the USSR, Eastern Europe, Western Europe, and the United States have afforded a detached and critical perspective on the effectiveness of a wide spectrum of arrangements for managing industrial

property under a variety of political systems. In the volume at hand, Granick looks at four East European economies: those of Romania, the German Democratic Republic, Hungary, and Yugoslavia. Besides providing a great deal of descriptive material on industrial organization and management in these four countries, Granick offers important new observations on the factors that determine the effectiveness of planning and management.

The four countries treated by Granick differ in many interesting ways. Yugoslavia has far less central control of industry and far more reliance on "market socialism" than Romania, the GDR, and Hungary. At the other extreme, Romania—at least ostensibly—affords very little decision-making authority to the individual firm, retaining authority at the ministerial level. Hungary and the GDR have both experimented (not very successfully) with interesting combinations of centralized control and market socialism. In effect, then, Eastern Europe is an experimental laboratory in which the performance of organizational variants can be evaluated. While conclusive verdicts may never be possible given the number of significant forces at work, the advantages and disadvantages of specific structures and procedures surely deserve attention, and this book provides case study evidence on a number of fundamental matters.

Granick stresses, for example, the way that overriding political constraints can dominate economic performance. Socialist criticism of unemployment under capitalism has meant that in Eastern Europe workers can only be dismissed with great difficulty. Granick reviews the adverse

economic consequences of this state of affairs in considerable detail, especially for Hungary (pp. 245–50) and Yugoslavia (pp. 343, 393–94, and 474–75). In Yugoslavia another constraint is powerful: ethnic diversity has meant that the national government is severely limited in exercising normal fiscal controls. The result has been serious inflation, balance of payments deficits, and major duplication of investment. In fact, the powers of the central government are so restricted that Granick likens the Yugoslav system to "an unregenerate 19th century market economy" (p. 460), at the same time quoting a Yugoslav official to the effect that this "withering away" of the state means that Yugoslavia has made a major step toward communism!

Though in formal terms the management of nationalized industrial property in Romania appears to follow orthodox Soviet lines, actual Romanian practice has been startlingly different. The Romanian system is relatively relaxed. Annual production targets are not very demanding. The broad targets established at the ministerial level seldom require adjustment, while the more detailed targets in annual enterprise plans are adjusted toward the end of the year so that final results seldom differ very much from amended targets. Bonuses for enterprise officials are not closely tied to achievement of strenuous goals, nor are managers under great pressure to achieve targets given high priority by the center at the expense of others. The Romanians appear

4. See dispatches in *The New York Times*, Nov. 6 and Dec. 13, 1978. The tightening seemed linked to the regime's pressure for rapid domestic industrial growth.

to have accepted the orthodox Soviet planning system and, without trying to reform it the way several of their neighbors have done, are operating it in a calm and effective manner. Enterprises have little autonomy, and industrial decision-making is highly centralized at the ministry level; yet the reins are loosely held, with little of the pressure and tension endemic to the Soviet system. (It should be noted that Granick's observations relate to the early 1970's. More recently, there is some evidence that Romania has tightened controls.⁴)

THE ADAPTIVE aspects of developments in the four economies studied by Granick only serve to highlight the inflexibility of the Soviet system in the face of major requirements for change. Berliner's analysis shows that chronic Soviet pressure on producers for more output paradoxically continues to stymie the acceptance of innovations that would increase output by lowering costs and/or raising quality. Medvedev shows that Soviet restrictions on scientific interchange hamper the efforts of Soviet scientists to reach and stay at the frontiers of knowledge. Yet in the world around the USSR, ongoing change is being forced on all countries, from the most advanced to the least developed. The capacity to adapt and innovate is essential to prevent falling behind. Thus, if pressure and secrecy are permanent features of the Soviet system, the USSR will continue to lag behind and adapt clumsily to changes originating elsewhere. How, then, can the Soviet system achieve the high levels of production it posits as necessary for evolution into "full communism"?

Probing Moscow's Outlook

By Paul Marantz

STEPHEN P. GIBERT. *Soviet Images of America*. New York, NY, Crane, Russak and Co., 1977.

ALBERT L. WEEKS. *The Troubled Détente*. New York, NY, New York University Press, 1976.

RICHARD J. BARNET. *The Giants: Russia and America*. New York, NY, Simon and Schuster, 1977.

PAUL HOLLANDER. *Soviet and American Society: A Comparison*.

ASKED ABOUT the widespread American perception that the Soviet Union has taken one-sided advantage of détente to make far-reaching gains throughout Africa and Asia, Georgiy Arbatov—the Soviet Union's most influential expert on the United States—replied, "I can promise you, we don't feel like winners."¹ Since it obviously remains very much in the Soviet Union's interest to soothe the American public opinion and put the best possible face on Soviet actions, Arbatov could conceivably have been dissimulating. Nonetheless, one wonders whether, in this particular instance, he may not have been accurately reflecting the inner

Chicago, IL, University of Chicago Press, 1978. *front*

EDY KAUFMAN. *The Superpowers and Their Spheres of Influence: The United States and the Soviet Union in Eastern Europe and Latin America*. New York, NY, St. Martin's Press, 1976.

THOMAS B. LARSON. *Soviet-American Rivalry*. New York, NY, W. W. Norton and Co., 1978.

WILLIAM E. GRIFFITH, Ed. *The Soviet Empire: Expansion and*

concerns and true anxieties of the Soviet leadership.

It is undeniable that the Soviet Union has made some very significant gains in recent years—notably, the expulsion of the United States from Indochina and the installation of pro-Soviet regimes in Angola, Ethiopia, Afghanistan, and South Yemen. The expanded global reach of Soviet military and political power is symbolized by that nation's successful negotiation of treaties of friendship with seven far-flung nations, from Angola, Mozambique, and Ethiopia in Africa to Iraq, Afghanistan, India, and Vietnam in Asia.

However, the Soviet Union has also experienced some stunning setbacks. In country after country, Soviet hopes of just a few years ago have been cruelly disappointed. The long-awaited death

Détente. Lexington, MA, D.C. Heath and Co., 1976.

ROBERT F. BYRNES. *Soviet-American Academic Exchanges, 1958-1975*. Bloomington, IN, Indiana University Press, 1976.

HERBERT KUPFERBERG. *The Raised Curtain: A Report of the Twentieth Century Fund Task Force on Soviet-American Scholarly and Cultural Exchanges*. New York, NY, The Twentieth Century Fund, 1977.

of Mao Zedong did not result in an improvement of Sino-Soviet relations. Instead, Sino-Soviet tensions have increased, and Beijing has strengthened its relations with the West (culminating in the establishment of diplomatic ties with the United States) and thereby opened the door to Western economic assistance and military equipment which could make China a vastly more formidable rival to the Soviet Union.

The USSR has fared little better with Japan. Soviet hopes of obtaining massive Japanese economic assistance in the development of Siberia, of resolving the two countries' territorial dispute so that a peace treaty could be signed, of blocking a Sino-Japanese rapprochement, and of weaning Japan from the United States have all come to naught.

1. Joseph Kraft, "Letter From Moscow," *The New Yorker* (New York, NY), Oct. 16, 1978, p. 124.