

Reviews

Vadim J. Birstein, *The Perversion of Knowledge: the True Story of Soviet Science*. Oxford: Westview Press, 2001, xx + 492 pp., £23.99 h/b.

Slava Gerovitch, *From Newspeak to Cyberspeak: a History of Soviet Cybernetics*. Cambridge, MA and London: The MIT Press, 2002, xiv + 369 pp., £25.95 h/b.

THE STORY OF SOVIET SCIENCE remains one of the great paradoxes of twentieth century history and economic history. Against a backdrop of social and economic backwardness, and in the face of extreme political constraints (as extensively documented in both volumes under review), Soviet science managed to flourish to the extent of winning a degree of international recognition, and making a crucial contribution to the attempts of the Soviet government to achieve strategic parity with the United States. It failed, however, to make a significant contribution to Soviet economic development, and indeed the history of the decline of the Soviet economy into stagnation in the Brezhnev years is also the history of the decline of Soviet science, or rather of Soviet innovation.

Birstein and Gerovitch's monographs help us to make sense of this paradox. In biology, the traditional science with the greatest potential in terms of practical innovation in the latter part of the twentieth century, Soviet scientists were subjected to a regime which, in its repressiveness and obscurantism, went far beyond the system of political and ideological constraints and controls which affected all science under the Soviet system. The dominance of the anti-scientific Lysenkoist school of biology was so crushing that opponents of Lysenko simply lost their jobs, and in some cases even their freedom or their lives.

Standard scientific methods were not followed in any of Lysenko's 'experiments', and he considered the statistical analysis of data to be 'harmful' for biology. No doubt Lysenko's refusal to use standard scientific methods had a more practical purpose—it made the disproving of his results impossible since he never clearly explained his methods (Birstein, p. 47).

In an environment like that, the wonder is that any true biology survived in the Soviet Union at all. In cybernetics the story is a little different, but the results were just the same in the end. 'Optimal planning', as an application of cybernetics which effectively introduces standard rules of resource allocation into economic planning, could have made a significant (not necessarily critical) contribution to the process of economic reform in the Soviet Union. In practice

Soviet bureaucrats, in a way, learned the lessons of cybernetics better than did some overenthusiastic cybernetic reformers ... Instead of facilitating the decentralisation of power through computer simulation of market mechanisms, computer technology now served to strengthen centralised control within each ministry. The growing power of ministries quickly reduced the autonomy of individual enterprises to a minimum, and economic reforms were effectively buried ... Instead of upsetting the existing power structures, cybernetics was enrolled to reinforce them (Gerovitch, p. 284).

These are both rich and many-faceted volumes, and I will look in detail at only some of the fascinating subjects they discuss. Gerovitch's discussion of the semiotics of Soviet Marxism–Leninism, in terms of 'tetrads' of 'ideologemes', and his application of semiotics to the specific case of cybernetics ('cyberspeak as a carnival language'; 'cyberspeak as an instrument of freedom') is a valuable addition to the literature on language and communism. Birstein's highly detailed discussion of the NKVD 'laboratory of death', where, in the late 1930s and early 1940s, poisons were systematically tested on prisoners, in many cases resulting in agonising deaths, makes salutary, if uncomfortable, reading. And Birstein rightly reminds us that the Soviet Union is not the only country where such appalling abuses of human rights have taken place. Nazi Germany and militarist Japan apart, both US and British governments have been guilty of experimenting on humans with dangerous substances with a military application.

As Birstein in particular stresses, the story of 'Soviet' science does not end with the end of the Soviet Union. Through the 1990s and early 2000s the Russian scientific scene has been as streaked with paradox as the old Soviet scientific scene ever was. While state funding for science has been reduced to nugatory proportions, the formal structures of Soviet science—the Academy of Sciences, its institutes etc.—have largely survived. And the interpenetration of science and state, and even of science and state security, remains a dominant feature, while the contribution of science to economic development remains marginal. Is this institutional recidivism just one more feature of Russia's 'half-reform', which will eventually disappear as the process of transition is finally completed? Or will it remain as a defining feature of a unique Russian polity into the long-term future? In more concrete terms, will Russian science learn how to help Russian economic transformation? Gerovitch's and Birstein's works counsel us against excessive optimism on either count.

These books are not without their minor imperfections. There is a good deal of repetition in both. Birstein documents nearly everything he says with great meticulousness. Just occasionally, he fails to provide a reference for a key statement. Thus, for example, on p. 11 he states that, in the early 1950s, 'Taking into account Hitler's successful extermination of European Jews, Stalin considered sending the Soviet Jews into exile and to special labour camps'. This is a key statement, but no supporting evidence is offered. Birstein also occasionally makes factual mistakes. On p. 36, for instance, he says that Stalin replaced Lenin as General Secretary of the Bolshevik Party in 1922. In fact, Lenin was never General Secretary. But these are small points, and they do not detract from the achievements of the authors. Slava Gerovitch and Vadim Birstein have added enormously to our knowledge of the bizarre, sometimes grim story of Soviet science, and in so doing have managed to throw a good deal of light on some of the more peculiar features of contemporary Russia.

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Philip Hanson, *The Rise and Fall of the Soviet Economy: An Economic History of the USSR from 1945*. London and New York: Pearson Education Limited, 2003, xii + 279 pp., £16.99 p/b.

PUBLISHED AS NO. 15 IN THE SERIES *The Postwar World* and intended for a wide interdisciplinary audience, this book by a leading authority on Soviet studies offers a broad overview of the ups and downs of the Soviet economy, from victory in and reconstruction after World War II to the largely unexpected collapse in 1989–91. The author offers a chronological presentation of events, with complex economic interrelationships explained in plain and accessible language. And he does so without losing any intellectual rigour. Hanson relies largely on Western recalculations of contemporary Soviet statistics, but keeps out of the still ongoing intense