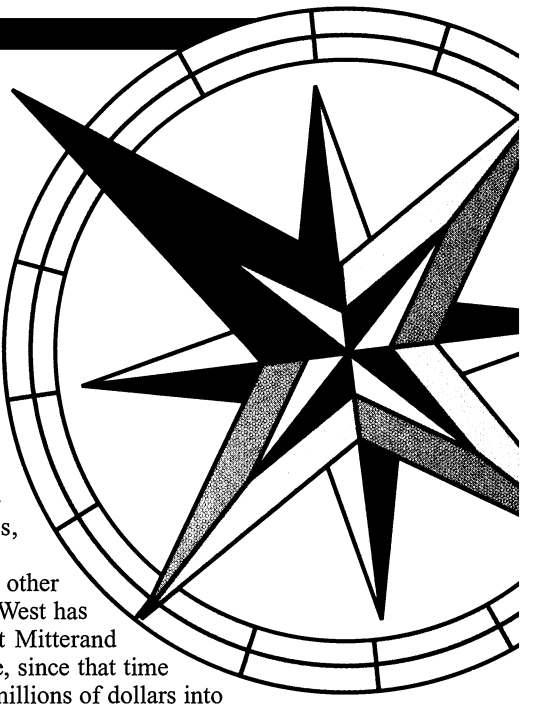

Why Should We Care About Russian Science?

Gerson S. Sher

Ten years ago, the Soviet Union's collapse resulted in financial catastrophe for its scientific establishment. Lavishly supported during the Soviet period with military funding and showered with privilege most unbefitting a classless society, post-Soviet scientists met the new age with shock, despair, and sometimes anger. The world's largest scientific community had been pauperized overnight. Appeals to save research institutes, "schools," and even Russian science as a whole, abounded.

Today, the picture does not look quite so bleak. Science in Russia and the other countries of the region, while not exactly flourishing, is far from dead. The West has responded, to a surprising degree. Whereas in late 1990, French President Mitterand evoked amazement by calling for a $100 million fund to save Soviet science, since that time not one, but several, international programs have poured many hundreds of millions of dollars into the effort.

Have these efforts saved Soviet science? No—nor was that ever possible. What is emerging in its place, however, is interesting and important: a much leaner, more cosmopolitan, less defense-oriented, more competitive community of scientists and engineers who have learned, the hard way, how to survive in today's grant-driven environment. It is also a community with several critical defects, such as a missing "middle generation" of scientists in their 30s and 40s who have left either Russia or science or both, a decaying infrastructure, and continued isolation—now economic, not political—from the international literature and conferences.

Why should we care? The answers are surprisingly diverse. The U.S. government's primary focus, understandably, has been on the need to control the destructive legacy of Soviet science—weapons technology and know-how. By far the bulk of U.S. government support for ex-Soviet scientists in the past 10 years has been in support of this goal. But important as they are, these programs are not primarily science-driven, and their impact beyond the relatively narrow "closed cities" is limited.

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Factors intrinsic to science—the quality of research and training—are also important. Traditions of excellence in theoretical physics and mathematics persist, despite the impact of emigration, and outstanding young researchers in their 20s continue to emerge in molecular biology and other fields, many of them going on to take post-doc assignments abroad. A glance at lists of cooperative research projects sponsored by U.S. and European organizations will reveal a rich fabric of mutually beneficial collaboration. This is not a portrait of a scientific community that has little to offer.

Another justification that was fashionable in the early 1990s focused on scientists as bearers of democratization and reform. It was this tradition—the great legacy of Andrei Sakharov and a deep historical tradition of the "intelligentsia" as guardian of truth and morality—that George Soros has cited as an underlying reason for his emergency assistance to the scientists of the region in 1993–1995.* But in today's market environment, the Soviet scientific intelligentsia's moral influence has virtually disappeared, and it is by no means clear, if it ever was, that being a scientist means being a reformer.

However, the most compelling reason to support science—because, sooner or later, it produces value and improves the quality of life—has not been lost on Russian President Vladimir Putin, who has stated that Russia's future depends on high-tech, science-based industries. Translating this vision into budgets will take time, and it should not occur at the expense of basic research, but it is on target. U.S. assistance programs, which have almost universally excluded science and technology in deference to other endeavors where there is more visible, short-term payoff, should now respond in kind—not as a nonproliferation or humanitarian or even science issue, but as a positive investment in Russia's future. In a region that has turned to exports of raw natural materials to shore up its sagging economy, its science and technology is in fact its major untapped resource.

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*_New York Review of Books_ (13 April 2000), p. 12.