

## Science vs. Socialism

**The Russian Space Bluff: The Inside Story of the Soviet Drive to the Moon**, by Leonid Vladimirov, foreword by Anatoli Fedoseyev, translated from the Russian by David Floyd, *New York: The Dial Press, 1973. 190 pp. \$5.95.*

WHEN THE FIRST SPUTNIK went into orbit in 1957, Americans panicked. Until that year the Soviet Union had seemed a brutish but backward land, capable of threatening world peace and oppressing its neighbors, as it had done in Hungary just the year before, yet quite unable to challenge America's technological superiority. One small satellite changed all that, frightening Americans enough to make victory in the "space race" crucial for national self-respect. If Leonid Vladimirov is right, the outcome of that race was never in doubt, since the entire Soviet adventure into space constituted a titanic bluff, which America inevitably called.

Vladimirov's thesis is simple but convincing. He argues that before, during, and after the race to the Moon, the United States enjoyed a solid lead over the Soviet Union in all aspects of space technology. Although the Soviets managed to score a number of impressive space spectacles, they lacked the sophisticated equipment necessary for a landing on the Moon. Indeed, "the Russians were *never* ahead in space. There had been only the appearance of leadership: shows brilliantly staged . . . to scripts provided by the Americans."

Vladimirov defected from Soviet ranks in 1966, after a career as an engineer and scientific journalist. He spent the last six years of that career in direct contact with Soviet space scientists, censors, and newsmen, giving him excellent credentials to discuss the Soviet space program. He first tried to publish these remarks shortly after his arrival in the West, only to have them

rejected by publishers who were quite certain that Russians would be the first men on the Moon. Vladimirov's prediction that the Soviet Union would not win the "space race" seemed nonsensical in 1966, but subsequent Soviet failures and American successes have proved its validity.

Throughout this book Vladimirov stresses the inherent inefficiency of Soviet science. He describes four major defects:

The first is the continual and invariably harmful interference in scientific affairs on the part of political leaders with no understanding of science; the second is the necessity under which all scientists work to try and fit all their scientific conclusions—no matter what their branch of science—into the prevailing ideological framework of Marxism-Leninism; the third is the unbelievable conservatism and sluggishness inherent in the country's economic structure which results in a general fear of everything novel or of taking responsibility for possible failure; the fourth is the all-pervading secrecy.

Such unscientific behavior in the homeland of "scientific socialism" frustrates individual genius, inhibits real team efforts, and tends to perpetuate technological crudity.

In spite of all these problems, the Soviet system can still command the services of some brilliant, tenacious, and dedicated scientists. Vladimirov devotes much of this book to describing the life of one such scientist, Sergei P. Korolyov. He published his first pamphlet on rockets in 1932, while working without official support to duplicate the experiments of Goddard and Oberth. The early successes of his rockets attracted the attention of Red Army commanders, who provided Korolyov with a salary, laboratory, and staff. Such assistance proved a mixed blessing when Stalin began his purge of the Soviet military establishment. According to Vladimirov, most of the men who developed the first Soviet rockets and jet engines were executed in the 1930's and early 1940's. Even those

who designed successful weapons systems were not immune. Georgi Langemak, the inventor of the *Katusha* rocket artillery, was shot together with his entire staff, except for one engineer. That engineer took charge of putting the *Katusha* into production and proving its effectiveness against German ground forces, whereupon he was decorated for his services to the Soviet state and executed like his late colleagues.

Korolyov managed to avoid execution, spending instead several years in prison. Although official censorship obscures his later career, Vladimirov combines personal knowledge with careful research to explain how Korolyov became the guiding spirit of the Soviet space program. Even while behind bars Korolyov continued his experiments, impressing the Soviet government so much that he was released from prison in 1945 and given responsibility for testing captured German weaponry. Keenly aware of his competition with the Americans, Korolyov worked for over a decade to develop military rockets.

The Soviet space bluff finally began in 1957, proposed by Korolyov and supported by Khrushchev. Enjoying fuller financial assistance than their American rivals, Soviet scientists managed to launch the first artificial satellite even though their rockets were inferior to those already in use in America. For several years, Khrushchev proudly boasted that, "Socialism is the best launching site for flights to outer space." No one could contradict him at first, for the Soviets put the first artificial satellite into orbit, followed it with the first man in space, launched the first multi-manned expedition, and conducted the first extra-vehicular activity. Yet each new Soviet success was harder to attain than the last. As Americans came inexorably closer to surpassing Soviet achievements, Korolyov and his assistants sacrificed first the scientific value of their flights and then the safety

of their test pilots and cosmonauts. Having politicized the Soviet space program, Khrushchev refused to let his scientists accept defeat. Only after Khrushchev's fall in 1964 did Brezhnev and Kosygin admit that the Soviet bluff had been called and withdraw from the race to the Moon.

Vladimirov draws optimistic conclusions from the failure of the space bluff, implying that Soviet scientists will always lag behind their Western colleagues. Such optimism seems unjustified, and it is pointedly contradicted by Anatoli Fedoseyev's foreword to the book. Fedoseyev, a Soviet radar scientist who defected to the West five years after Vladimirov, rightly stresses the ability of a totalitarian state to compensate for some of its inherent inefficiency by applying vast resources to selected scientific projects. "I consider Mr. Vladimirov is mistaken in underestimating the possibilities of the Soviet Union in this connection, particularly if we bear in mind that military technology is priority number one for the Soviet rulers."

The contrast between these two points of view enhances the value of Vladimirov's book, especially in light of the policies of the Nixon Administration. According to the SALT I agreements, the United States has conceded numerical superiority in strategic weapons to the Soviet Union, and the Kremlin may well be gambling that America will soon surrender its technological superiority as well. Vladimirov's evidence suggests that the United States can continue to outperform the Soviet Union in science and technology, but Fedoseyev's foreword stands as a necessary warning that superior American performance will not be cheap or easy. If such evidence and such warnings are ignored, then the current Soviet strategic gamble will not long remain another bluff.

Reviewed by G. PAUL HOLMAN, JR.