Emigré Paints Grim Picture of Soviet Science

Mark Popovsky, drawing on 30 years' notes, writes of a system ruled by hypocrisy and fear

In 1977 Mark Popovsky, a Soviet science journalist, emigrated to the United States, carrying with him a microfilm of a book about Soviet science which he had completed in 1976.

The book, entitled *Manipulated Science*,* offers a dismal portrait of the Soviet scientific establishment. Popovsky portrays a system shrouded in secrecy, riddled with corruption, hypocrisy, and fear, where creativity is shunned and political considerations are always paramount. Nikolai Gogol, the 19th-century playwright who satirized Russian bureaucracy, could get a lifetime of plots from Popovsky's material. In fact the author makes it clear that many aspects of the Soviet modus operandi are not the creation of the Soviets but have characterized the Russian way of doing things since the days of the czars.

Popovsky, 57, is a Ukrainian-born Jew with some medical training who has written some 20 books on science, many of them biographies, in addition to articles in numerous publications including *Pravda* before he ran afoul of the authorities and was compelled to leave the country. Now living in New York with his wife, he appears headed for an active writing career here, and has been accepted as a visiting scholar at the Smithsonian Institution's Kennan Institute for Advanced Russian Studies for 5 months starting next January.

The new book, translated by British diplomat Paul S. Falla, is a noteworthy contribution to the scant literature on Soviet science as seen through Russian eyes, although the picture that emerges from the book is of a system so unrelievedly corrupt that one can scarcely imagine how the Soviets have contrived to come up with any scientific achievements at all since the Revolution.

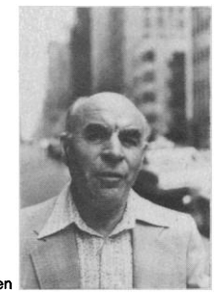
Popovsky, best known in his native land for his romanticized biographies of the heroes of Soviet science, wrote *Manipulated Science* in secret, using notes collected over his 30-year career. As he explains in his introduction, he ran out of heroes as he "increasingly was forced to the conclusion that the Soviet scientists of the 1970s were scarcely to be recognized as successors" of those of the early 20th century; rather, "both in psychology and in ethics, they were faceless products of mass education. . . ."

Accordingly, "I felt that my occupation in Russia had gone," a feeling reinforced by his increasing unpopularity with the Soviet authorities. In 1966, after he published portions of a biography of Nikolai Vavilov, an anti-Lysenkoist plant biologist who died in prison in 1943, Popovsky was forbidden by the government to publish anything for 2 years. In 1976 the authorities publicly denounced him for anti-Soviet ideas and slapped another ban on his writings. Popovsky appealed for support to the Soviet Writers' Union, of which he was a member, but getting no response, he decided it was time to leave the country. Unable to obtain an exit visa, he claims he forced the hand of the authorities by forming a "Mark Popovsky Press" and threatening to publicize his case to the foreign correspondents' community in Moscow—thus taking a chance of being consigned to Siberia or emigration. He was granted the latter.

Popovsky notes in the book that the Soviets have always subscribed to the notion that more equals better; hence the country has seen a phenomenal increase in numbers of scientists since World War II—the total number doubled in the 1950's and doubled again from 1960 to 1966, arriving at a 1976 total of 1.2 million. The superabundance of scientists is reflected in the fact that it has $2^1/_2$ times as many engineers as the United States, he writes. "The Million," as Popovsky calls them, are for the most part the "serfs" of science; the rest are various administrators and officials including a heavy portion of members of the KGB, the Soviet secret police. The mania for bigness has resulted in the closing down of small laboratories and institutions—where creativity often finds the most fertile ground—and their replacement by huge institutions, "science factories," with the assembly-line mentality and low morale that term implies.

The state's stranglehold on every aspect of scientific activity has reduced the number of great scientific figures to a handful, Popovsky writes; they have been replaced by "docile nonentities." Even among outstanding talents such as Nobel Prize-winning chemist Nikolai N. Semenov, "the divorce from true science has turned them into eunuchs incapable of creative effort."

Popovsky details some of the troubles commonly known in the West, such as the inferiority of scientific equipment ("The fight for equipment is the most constant feature of Soviet life"), the difficulties in getting permission to travel abroad, and anti-Semitism (some Jews become cynical and curry favor with the brass, which the brass likes "because they [Jews] can be used to play dirty tricks on others, and, if need be, they can be thrown out without compunction— after all, they're only Jews").



Mark Popovsky

Photo by C. Holden

Cynicism, hypocrisy, and corruption, Popovsky claims, not only riddle but completely dominate Soviet science. It is common, for example, for a laboratory or institute head (at a conference abroad) to read and take credit for a paper written by a subordinate who is not allowed out of the country. (One institute director, for example, has his name on 1400 papers.) And "If, for instance, a newly appointed director has no doctoral thesis in hand, the entire institute will rally round and write one for him."

Popovsky speculates that an Einstein "could not possibly have come up to the standard of a Soviet scientist of the 1970's." Those who attain high administrative positions, he writes, are more like O. Baroyan, a former colonel in the KGB, whose hospital work served as a cover for spy work. When he was excluded by the World Health Organization, he sought a "quieter post," was helped to achieve a doctor's degree (the highest level below academician), and became director of a research institute on epidemiology, microbiology, and immunology. "Having become a big boss, the former spy and saboteur Baroyan is now actively engaged in sabotaging sci-

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Army spokesman Major Anthony Caggiano said there have been no medical follow-ups on the volunteers who took QNB because "it was determined at the time of the tests that there were no serious aftereffects." Under pressure from the Scientologists, however, the Army may now undertake a follow-up program.

Meanwhile, the Scientologists have done some inquiring on their own. After placing full-page ads in several papers this summer, they claim to have located 30 former volunteers who were exposed to QNB at Edgewood Arsenal. They have collected anecdotal evidence suggesting that some of these volunteers are still suffering from the aftereffects, including occasional "flashback" hallucinations, gaps in memory, and an inability to concentrate.

Caggiano said the Army does no testing with QNB today and frankly would like to get rid of the stuff. "The drug," he said, "is a victim of technology. Other things have proved more effective." Besides, he explained, the Pentagon is trying to "get away from" chemical weapons altogether. The Battelle Corporation has been given a $2.3-million contract to study alternatives for disposing of the Army's QNB stockpile and come up with a safe remedy by the end of next year.

Although QNB is more potent than LSD, it has never been placed on the controlled substances list, a Justice Department spokesman said, because it has never been marketed as a drug, and no one has ever come forward with evidence that it is abused. LSD, like many other abused drugs, was put on the list by the congressional act of 1970 that created the current drug enforcement bureaucracy. QNB was not on the list, and regulations stipulate that it shall remain off the list unless someone makes a formal case arguing that it has been or will be abused.

Alfred Zobel, a spokesman for Hoffmann-La Roche, said, "We have made QNB available in the past to bona fide scientists at medical schools or pharmaceutical companies."

It is a potent anticholinergic, used in an irradiated form to label receptors in the nervous system in laboratory experiments with animals, and never used on humans. Researchers traditionally share such chemicals with colleagues free of charge, Zobel said. The company sent QNB to a member of the Church of Scientology, Zobel claimed, after the caller falsely represented himself as a researcher in a private laboratory. "We can assure you that we are going to refine our methods in a way that will prevent a repetition of such deceit," he said.

President's Commission Reprimands NRC Staff

The Nuclear Regulatory Commission (NRC), already suffering from a battered public image, endured a new humiliation in August when it crossed swords with President Carter's commission investigating the accident at Three Mile Island. The trouble began on 20 August, when the NRC's director of reactor regulation, Harold Denton, wrote a letter to his superiors proposing that a 3-month-old moratorium on licensing of new plants be brought to an end. He argued that the NRC's recent changes in design standards and licensing procedures had eliminated all threats to public safety, making it possible to resume business as usual. Denton apparently made a double blunder: he failed to realize that this was a question of central importance to the President's commission, and he failed to notify the investigators of his proposal to resume licensing.

Denton was summoned before the investigative group on 23 August and questioned closely for 3 hours. Arizona Governor Bruce Babbitt said he was "personally outraged by your damn-the-torpedoes attitude." Carolyn Lewis said, "It kind of shows the NRC thumbing its nose at the commission." The members then voted to subpoena all five NRC commissioners to find out what they planned to do. Only one—Richard Kennedy—was in town. When he appeared on the stand, he said simply that the NRC had not decided yet what it would do about new licenses. As of last week, therefore, the moratorium remained in effect, pending a final decision by the NRC commissioners when they return from vacation.

Eliot Marshall

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ence," writes Popovsky. "The system that prevails in his Institute is one of unmitigated terror." (William Terry of the National Cancer Institute, the only American mentioned in Popovsky's book, agreed with Popovsky's characterization of Baroyan and confirmed the author's account of Baroyan's crude attempts to obstruct contacts between Soviet and American immunologists at Baroyan's institute.)

A well-known figure whose career is chronicled by Popovsky is Yuri Anatolyevich Ovchinnikov, vice president of the Soviet Academy of Sciences and head of a large laboratory at the "science city" of Pushchino. According to Popovsky, "the main purpose of Ovchinnikov's research is to impress his superiors and foreign colleagues." He sets masses of serflike assistants to work on a problem of his choosing, none of whom know the common aim of their particular piece of work, and he alone takes credit for the final outcome. "He says openly that he doesn't need anyone's brains—his own is good enough." He is regarded as a "paragon of energy and organization" and is expected to be named president of the academy in 1980—with a career built on "scientific slave-labor."

Considerations of quality aside, Popovsky claims secrecy is the dominant feature of science, as well as of every other aspect of life in the Soviet Union. "Secrecy," he writes, "is the main product of hundreds of Soviet research and development institutes, and may be called the lifeblood of Soviet science." Yet when a young scientist gets a job at a secret lab (all are more or less secret, the military ones totally so) he finds "the main task of secret laboratories is to copy models manufactured in the United States."

As Popovsky describes it, the universal scientific ideal of free exchange of information does not even get lip service in the Soviet Union. Those who contend the Soviets are getting more than we are from mutual scientific exchanges will find support in Popovsky's reporting of a quote from an editor of Znanie, the scientific publisher: "The Central Committee held a conference for propagandists and told us straight out: the whole purpose of scientific contacts with the West is to get as much from them and give them as little as we can."

For some scientists, their inability to get permission to leave the country remains a mystery. One is Izyaslav Petrovich Lapin, an internationally renowned psychopharmacologist at the Bekhterov

Institute and one of the "brave" scientists who Popovsky says permitted himself to be quoted in the book. Lapin gets a stream of foreign invitations—"every time I get an invitation, I feel like a cripple being invited by his athletic friends to race around the track. I feel helpless and deeply humiliated, and the sense of enforced inferiority literally makes me ill." Such scientists have found themselves stumped by absurd questions asked by examiners for exit visas, such as: "What is the peculiarity of the present stage of peaceful coexistence?" or "What are the scientific qualifications of the Emperor of Japan?" and "Why did you divorce your wife?"

A fascinating section of Popovsky's book deals with the "science cities" constructed after the war—based on the principle mentioned earlier that progress can be speeded up by concentrating many scientists together. He says top secret "atomic research cities" are still scattered all over Russia and there is also a secret "bacteriological city" in the center of Kirov. Popovsky quotes a scientist who has worked there for many years as saying "that his docile colleagues not only know that the weapon they are making is illegal [according to the 1925 Geneva convention] but are also aware that it is ineffective" for a large-scale war.

Popovsky goes on to describe the character of a half-dozen less secret science cities constructed in the late 1950's, the best known of which is Akademgorodok, near Novosibirsk. Although Akademgorodok started out as a rather idyllic place, Popovsky relates that all these cities now suffer in extreme form the "sickness" that pervades Soviet science: the cities themselves have become stifling places to live. As described by Popovsky, a perverse B. F. Skinner could not have better designed places aimed at creating alienation, mistrust, inefficiency, boredom, and fear. "Everything . . . is calculated to induce the young scientist to sell his soul. . . . Life . . . is insufferably boring; all topics of conversation have long since been exhausted, and people stopped visiting each other long ago," he writes of the city at Protvino. One indication of the state of demoralization is an estimate by sociologists at Akademgorokok that about 35 percent of the men and women who live there get drunk habitually.

Popovsky writes that cynicism is so deep among Soviet scientists that most accept unquestioningly the hypocrisy of their everyday lives. Officially, the state is built on scientific foundations, but propaganda to this effect is "so monotonous, dull, and divorced from reality that no one any longer pays the slightest attention to [it]. If there is any place where Marxism is still developing and affording real inspiration to anyone, that place is certainly not the Soviet Union." He says a few scientists "seriously contend that there is something life-giving and inspiring in the moral and ethical system of the Soviet Union"—notably Nobelist Semenov—but their number is exceedingly small.

Actually, he writes, "fear is the key to the mentality of the Soviet scientist. . . . I am not speaking now of the constant fears that beset the life of an overtalented scientist whose work attracts the attention of foreign colleagues, or the tribulations of one who is a Jew, or the panic of a laboratory head who finds that he has a dissident on his staff. People in these categories live in a state of unremitting terror. But even those who are not Jews or dissidents and have nothing on their conscience cannot feel at ease, for one can never know what the authorities will choose, at a given moment, to regard as criminal and subversive."

Popovsky, whose special interest is ethics in science, sees a faint sign of hope in what appears to be a tentative resurgence of religious interest among scientists, in particular those around 30 years of age. In 1976, he relates, he devised an anonymous questionnaire that asked if religious faith and science were compatible. Forty-one of 100 who received the questionnaires responded: of these, most affirmed that religion was compatible with science. One fairly typical answer was: "Science is about Nature and Religion is about God, which is essentially one and the same, though the two seek knowledge by different means." Religion, concludes Popovsky, "is gaining ground among the scientific million, whereas only a short time ago unbelief was considered essential to 'scientific objectivity'. . . ."

Although Popovsky quotes scientists as asserting that the situation has been gradually improving over the past few years, it is not on them, whom he also depicts as the rationalizers and compromisers, that he pins his hopes. Instead, he looks to scientists such as Andrei Sakharov and Vavilov, Popovsky's hero, who died in 1943. His biography, *The Vavilov Affair*, will be published here next year.

Manipulated Science is likely to be compared with *Soviet Science*, by Zhores A. Medvedev, published last year. Medvedev, according to David Joravsky of Northwestern University (who has read Popovsky but not his latest book), probably presents a more complex picture of Soviet science because his vision is not unalloyedly negative and he believes there is potential for reform within the system. Medvedev also appears to differ from Popovsky in that he sees a higher degree of dissent among scientists than in other segments of the population, whereas Popovsky treats that community more as a "mirror" of the rest of Soviet society. Both authors, however, stress the corrosive cynicism that results from people having to lead double lives.

Few Americans have yet had the opportunity to read *Manipulated Science*, although it has had limited distribution in the Soviet Union through the underground publishing network *samizdat*. Loren Graham, a historian and expert on Soviet science at the Massachusetts Institute of Technology, believes, however, that Popovsky's portrait overdraws the extent to which fear rules the actions of scientists and does not show appreciation of the fact that "there are some Soviet scientists getting genuine intellectual satisfaction." He emphatically rejected one of Popovsky's contentions, that "a scientist cannot go twice to the same capitalist country; the only people who can do so are employees or agents of the KGB."

Mark Adams, a Soviet science expert at the University of Pennsylvania, says Popovsky, like many emigrés, embodies the "romantic idealist philosophy" of old Russia in which the scene he describes is portrayed in "morally didactic, black-and-white terms." Says Adams, "virtually all emigrés take it as their mission to inform naïve western colleagues how bad things are in the U.S.S.R." But they themselves suffer from certain naïve beliefs, not having had the opportunity to participate "in the freewheeling discussions of science and society that have taken place in the West over the past 20 years." Still in the thrall of 19th-century idealism, they are not aware that some of the defects of Soviet science are also detectable in the U.S. scientific community.

Nonetheless, Popovsky's reputation in American government and academic circles as well as among other Soviet emigrés is "very high," according to S. Enders Wimbush of the Rand Corporation. And S. Frederick Starr, director of the Kennan Institute, where Popovsky will be writing about "The Peasant Disciples of Leo Tolstoi in the U.S.S.R., 1918-1977," says: Popovsky is "broad gauge, sophisticated, and well known to be one of the most serious and able of recent emigrés."—CONSTANCE HOLDEN