

# Russia:

## The Scientific Elite

PATRICIA BLAKE

ON A SATURDAY NIGHT in 1956, in the packed auditorium of the student clubhouse at Moscow University, I witnessed a jolly little skit on rocket research. On stage were some science students seated around a table in a "rocket lab," discussing plans for a forthcoming trip to Mars. A huge sign announced the daily work schedule of the rocket scholars: "9:30 A.M. Get up. 10: Breakfast. 10:30: Snooze. Snack. 11:30: Nap. 12: Tea. 12:30: Siesta," etc. A student wearing a felt hat and carrying a suitcase entered hurriedly. "I strongly advise all of you," he said, "to prepare political speeches to be made on top of a mountain on Mars." "Why?" asked the others. "There won't be an audience!" "What's the difference?" answered the newcomer. "Last month on a mountain-climbing expedition, a group of geologists made sixteen political speeches on a mountaintop." (Laughter) Next, a Radio Moscow correspondent bounced in with a mike to report on the students' activities. He explained to his radio audience that a new required subject had been introduced at the university, as a result of important research. The subject: "Marsism." (Laughter)

The final scene found the students on Mars itself, standing at attention in front of the rocket. The student with the felt hat and the valise was making a speech: "Comrades! Such a rocket could only have been born of the great Marxist-Leninist doctrines . . ." (Laughter)

This skit was my introduction to Russian university life. I remember my amazement at hearing Soviet citizens poke fun at the mumbo-jumbo of Marxism so lightheartedly. I had assumed that the police state precluded anyone from making jokes at the expense of the régime, and that indeed intellectual freedom of any kind was impossible under Soviet dictatorship.

But after two months as a reporter in Russia, visiting universities and technological institutes, I began to wonder whether something even more crucial than the vast state organization of technology was contributing to the Soviets' formidable scientific achievements. Within the framework of a mass educational system almost entirely geared to technology, I encountered young scientists working with superb individual dedication, not to ideology but to science itself. I saw them enjoying extraordinary privileges and rewards. Most importantly, I found that they were possessed of a freedom that scarcely exists in Soviet Russia outside the campus and the laboratory.

### Boris and Oksana

Consider the Smirnovs, two young physicists, members of the Soviet scientific elite—a group composed of half a million students and five and a half million alumni of institutions of technological higher education. We first met at the clubhouse during the skit on rocket research. Twenty-three-year-old Boris, who speaks fair English, helped me out when my faltering, bookish Russian failed to cope with modern slang. During the show, Boris and his twenty-one-year-old bride, Oksana, held hands while they laughed at the jokes. Next day they showed me around the university.

Although they could have shared a small suite—the dormitory lodges men and women—the newlywed Boris and Oksana have chosen to live separately. Boris shares two private bedrooms, a foyer, and a bathroom with a Czech physicist who is with him in the senior class. When I twitted Boris about this monastic arrangement he was not amused. "It's more convenient this way. We don't distract each other this way. Oksana and I are in different classes. Karel and I study

together," he said dryly, pointing to a desk strewn with books.

Oksana shares a similar suite with a girl physicist on another floor. I was relieved to find that her bedroom was decorated with hand-embroidered pillows, costume dolls, painted boxes, and pictures of family and friends. As Oksana lovingly identified her parents for me in a photograph, it struck me that this round-faced peasant girl, with her waist-long pigtail, would look more at home stirring borsch in her native village in the Ukraine than tracking atoms in a cloud chamber. Yet later that day on a tour of the physics labs, she displayed boundless confidence and pride as she explained the workings of the demonstrative apparatus.

IN THEIR living quarters and on campus, the Smirnovs can consider themselves well off by Soviet standards. While most Russians in urban areas live in communal apartments with four people cooped up in a single room, the Smirnovs each have a pleasant bedroom for which they pay a nominal rent of twenty-five rubles (\$2.50) a month out of the stipends or salaries they receive as students. Ninety-seven per cent of the sixteen thousand full-time students at the university receive salaries, and there are no tuition fees. Boris, being at the top of his class, recently received a twenty-five per cent raise on his stipend of 4,800 rubles a year, and he earns 1,500 rubles a month during the four summer months he works as a paid laboratory assistant. Oksana earns a little less; between them, their yearly income for getting an education comes to 20,000 rubles (\$2,000) a year, tax free. Besides their room rent and food, which they buy at low cost at the university state store, they have few expenses.

No wonder the Smirnovs rarely venture off the university campus on Lenin Hills overlooking Moscow with its wretchedly crowded, squalid tenements. Even the palaces and entertainments of Moscow have little attraction for them. Their university is a Soviet-style palace, a fantastic complex of twenty-seven buildings containing enough unfunctional waste space to delight the most extravagant Czar. The Smirnovs walk

to their classes up velvet-carpeted stairways, past huge mosaic murals and golden statues, through miles of marble-columned corridors and lobbies that have a comfortable smell of cabbage being cooked in the dormitory kitchens upstairs.

As for entertainment, not even Party Chief Khrushchev, who has the old imperial box at the Bolshoi Theatre always in readiness for his pleasure, is as royally entertained as the Smirnovs. Moscow's best repertory theaters, symphonic groups, and opera and ballet companies perform regularly in the tremendous university auditorium beneath glittering crystal chandeliers. While five million people must stand in interminable queues for tickets at Moscow's fifty-one movie houses, students can see the latest movies every night at the university. While Moscow has only a few prohibitively expensive restaurants where top bureaucrats, military men, and their wives can afford to dance to a band, students can dance every Saturday night to professional orchestras in any of several university ballrooms.

### A Brilliant Future

These privileges and luxuries naturally delight the Smirnovs, yet somehow they do not seem quite comfortable among all the trappings the government has provided to keep them happy. They look like sturdy peasants; their ill-fitting clothes resemble those of ordinary workers; they still feel, they insisted, like proletarians. Deeply attached to their working-class parents, they may feel a little guilty not to be able to share their good fortune with their families and friends back home. Boris's father is a worker in a ball-bearing plant in Kuibyshev, Oksana's a collective farmer near Dnepropetrovsk. Life in these gray provincial towns offers little opportunity for material and intellectual advancement, except for the outstandingly gifted, like the Smirnovs, who are goaded and encouraged by their teachers from their earliest school years. Although the Smirnovs know they will never again experience the fears, the hardships, and the hopeless hard labor which is the destiny of their relatives, the contradiction between the modern education they enjoy and the obsolete economic and political system

endured by the great majority of Russians is too flagrant for comfort.

There is no doubt that education in the Soviet Union brings with it great material advantages. To an American, it would seem at first glance that the Smirnovs' stake in the preservation of the Soviet system is tremendous. If they become important scientists they can even expect a seven-week vacation, a car and chauffeur, and a country house. Yet Boris and Oksana, like most educated young Russians, seem notably less materialistic than Americans of their age. For them, today's privileges and tomorrow's rewards pale before the marvelous challenge of science. Boris shrugs his shoulders at talk of chauffeurs and *dachas*; the present is much more exciting.

ONE AFTERNOON Boris brought great news: He had just been assigned to a prize apprenticeship for the next year at the atomic-research center at Dubna, about eighty miles from Moscow. "Imagine!" he almost shouted. "It's the greatest honor one can think of! I will be working right under Vladimir Veksler, the inventor of the synchrotron. You know the synchrotron at Dubna is the biggest and most powerful in the world." Boris was right: For a young theoretical physicist, it was a high honor indeed.

Oksana was less enthusiastic about Boris's coming assignment when I discussed it with her a few days later. She had obviously been crying, and even Boris looked glum. She sounded miserable at the prospect of a long separation from her handsome husband, honorable as it might be. She has three years to go at the university, and after that is slated to become a secondary-school teacher. "Who needs a physics teacher at Dubna?" she joked feebly.

### The Price Is High

The trouble is, of course, that the Smirnovs' intelligence, skill, and youthful spirit are being exploited to the limit by the state, and that their personal lives are being seriously disrupted.

After they graduate the state requires that they spend three years at jobs assigned to them whether they like them or not. They may find themselves separated for a long

time. Meanwhile the university demands an average of twenty-eight hours of classroom and lab work a week, plus long hours of study. When their schedule permits they grab a meal together and, late at night, Boris slips into Oksana's room.

Besides these personal problems, the Smirnovs have one outstanding complaint. It came out one day at a lunch Oksana served hurriedly in her room. The conversation began blandly enough. Oksana was telling me how tough it is to enter Moscow University, which is the most glamorous and reputedly the best of all Russia's universities. In their entrance examinations, the Smirnovs had to compete against hordes of applicants, especially in the field of physics, the most popular department. Moreover they had to compete with students from the "peoples' democracies" since ten per cent of the university's 10,500 science students are picked from satellite countries and China.

Boris broke into our conversation. He spoke angrily about some of his classmates who, he said, had entered the university through pull. They are members of another elite: future bureaucrats who will inherit the power and wealth of their fathers in the Communist Party, the MVD, etc. "*Sukiny deti!*" ("sons of bitches!"), exploded Boris. "They don't bother with the sciences; they go in for the humanities, write snap theses on socialist-realist tradition in North Korean poetry, and, five years from now, they'll be standing on platforms, talking my ears off about the need for hard work and self-sacrifice."

The Smirnovs, I learned, have no plans to join the ranks of Russia's seven million Communist Party members. Indeed, they are not at all given to spouting the jargon of Marxism or Soviet chauvinism. Boris's bookshelves exhibit no ideological treatises but a great number of technical works, many by American physicists, together with novels, plays, and poetry by Tolstoy, Chekhov, Pushkin—and Longfellow. Oksana recites long Pushkin poems, in her strong Ukrainian accent, at the slightest provocation. In fact, the liberal humanism of the nineteenth-century authors the Smirnovs so pas-

sionately admire seems closer to them than the revolutionary ardor of the Bolsheviks of the 1920's.

### Science and the Régime

What do the Smirnovs think about politics in science? Boris and I had a heated discussion one day on top of Lenin Hills, once Sparrow Hills, where Napoleon is said to have waited in vain for the boyars to surrender Moscow. I got some sticky questions off my chest. How did he feel about the purges of writers, economists, historians, and scientists who strayed from the party line? "I can't speak about our writers, economists, and historians. I don't read them much anyway," Boris answered, cautiously at first. "But I can tell you that we are in the first ranks of world science. We work freely now, and if we don't agree with some stupid policy, we speak up."

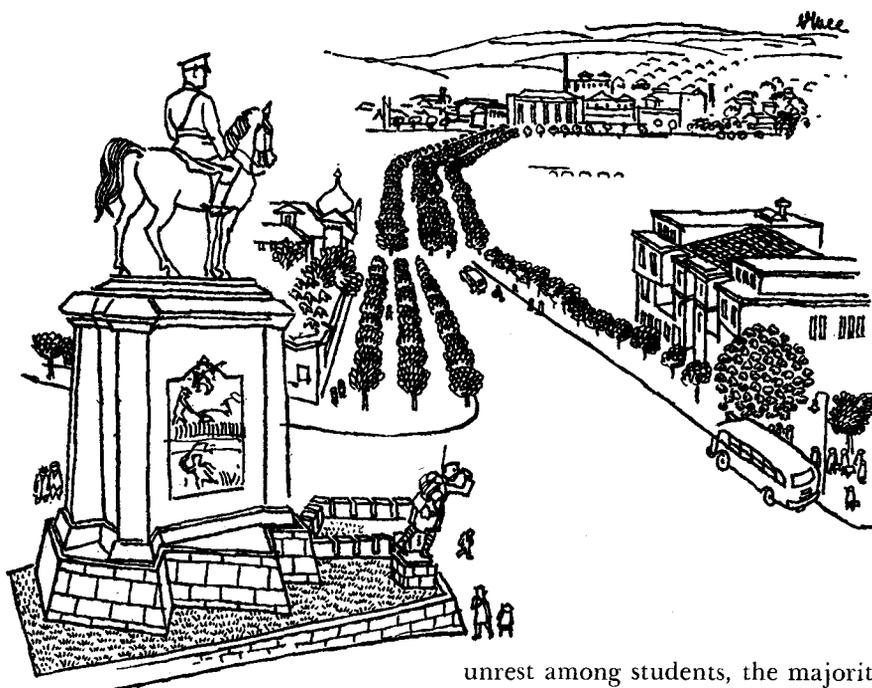
Well, what did he think about Lysenko, who virtually destroyed the science of genetics in Russia in the name of Marxism? "Lysenko is pretty much discredited now, thank heavens. Some people say his theories were so bad, Stalin must have written them himself," he chortled. "Marxism? You see, it's like this. When our Russian peasants make a big pot of soup with meat and vegetables, the fat rises to the surface as it cools. Now we scientists in Russia are like the peasants; we just scrape off the fat and dig into the soup."

I persisted. What about his country's official rejection of the theory of relativity? For the first time in our very friendly talks I heard Boris express anger at America. "All good Russian physicists have accepted most of Einstein's discoveries, just as yours have. Einstein! We are told that he was persecuted in America for being a fighter for peace. And what about your Oppenheimer? I know his work; I read everything in your journals. He's a fine scientist and you wouldn't let him work for you because he had independent ideas! Let me tell you about our physicist Kapitsa. I've heard he refused to work on atomic weapons for moral reasons. I'm not saying I agree with him, you understand, but he challenged Stalin during a difficult time in our country, and got away with it. Stalin only put him under house arrest, and right now

he's head of the Institute for Physical Problems, working on low-temperature physics—nothing to do with bombs."

Boris uttered these heresies fearlessly. He knows that today the scientist is indispensable to the Soviet state. He may also sense that tomorrow, as the state becomes increasingly dependent on technology to maintain itself as a world power, the Kremlin will be unable to make vital policy decisions without the cooperation of people like himself. Al-

the Kremlin could easily disregard their political attitudes and demands. In granting scientists the freedom of inquiry necessary to the progress of science, the Kremlin has clearly taken a calculated risk. It cynically hopes that rewards and privileges will keep their inquiring minds on satellites, ICBMs, and hydrogen bombs. So far the risk has paid off, but the Kremlin shows signs of being worried about its scientific elite. The official press does not conceal that there is some



ready, top scientists like Peter Kapitsa and Igor Tamm, neither of them Communist Party members, have enough authority to openly oppose government policy. Kapitsa, recently credited for his part in the development of Sputnik, warned in *Pravda* this year that Khrushchev's plan to decentralize industry might seriously weaken industrial research. Tamm, an eminent nuclear physicist, challenged political control of scientific research and succeeded in restoring to the Academy of Sciences, composed of the four hundred top scientists, some of the policy-making powers it had lost to the state.

As I LISTENED to Boris and other members of the post-Stalin generation of students, I wondered whether they might not become increasingly concerned with politics as they grew older and, if so, whether

unrest among students, the majority of whom are in the sciences. Students are shunning required courses in Marxism and have brazenly posted BBC and Voice of America news broadcasts on dormitory bulletin boards. Communist Party propagandists are repeatedly called upon to organize student meetings and pep talks to bring students into the fold. During the Polish and Hungarian revolts last year severe measures were taken to prevent demonstrations of sympathy by Russian students. Despite and largely because of the education offered them, young scientists are obviously beginning to question "truths" deduced from Communist ideology.

"Education is a weapon whose effect depends on who holds it in his hands and at whom it is aimed," was Stalin's sinister comment to H. G. Wells. If we live long enough, we may yet see that weapon change hands—and target.

# *China: A Brief Flowering of Dissent*

DAVID HOTHAM

**T**HE RECTIFICATION CAMPAIGN that started at the end of April swept through China like a typhoon. Out of the blue came a Communist Party directive which declared bluntly that the party cadres were becoming increasingly bureaucratic and arrogant in their behavior and that they were out of touch with the masses. This must be put right at once, said the party, and it went on to invite criticism from all and sundry, with a promise of impunity for the critics. The new campaign, the directive announced in the delightfully poetic style that characterizes Chinese political pronouncements, was "to be carried out seriously, but as gently as a breeze or mild rain."

Whether the party leaders expected the huge volume of criticism that followed will probably never be known. Certainly foreign observers in Peking were taken aback by it. All over the country those who had smarted for eight years under the ignorant and high-handed interference of party members in technical matters they knew little about seized the opportunity to voice their rancor. A professor at Peking University declared, believe it or not, that the Communist Party was hated throughout China and that one day soon the masses would "rise up and kill" the party members. A minister in the government said that China was "a country of five hundred million slaves ruled over by one god and ten million Puritans." More astonishing still, neither the professor nor the minister was arrested or purged, or, so far as I have heard, even forced to resign.

**P**OSSIBLY they were simply considered harmless and isolated madmen. Or perhaps they were decoys, deliberately put up by the party to induce the real enemies of the régime to expose themselves. Observers in Peking, watching the process with growing fascination, were unable to

figure it out. Throughout May, abuse of the party continued to pour in. A great deal of it arose from the natural irritation felt by an essentially practical and skeptical people toward dogma and bureaucracy. There is reason to suppose that up to this point, though very far from being as gentle as a breeze or mild rain, the Rectification Campaign had run more or less the course expected by the leaders. It had brought out a number of genuine grievances that might have become dangerous if they had remained concealed. And though the Politburo was doubtless staggered by the volume of abuse, it was not yet perturbed by its nature.

## **The Campaign Gets Out of Hand**

As time went on, however, the critics became emboldened by the apparent liberality of the rulers and misled as to the degree of freedom likely to be permitted under a Communist system. The tone of criticism began to change, and here, it seems, the campaign got out of hand. Some critics, later to be known throughout China as "bourgeois rightists," went far beyond mere abuse of the party members or their behavior. They began to question the essential structure of the Communist system. Included in their ranks were three ministers in the Chinese government, several prominent journalists, some leading intellectuals, writers, and artists, and, amazingly, some members of the party itself. The three main figures among the rightists were Minister of Communications Chang Po-chun, Minister of the Timber Industry Lo Lung-chi, and Minister of Food Chang Nai-chi.

It is significant that most of the leading rightists had lived abroad or had some contact with western ideas. They apparently felt that they were neither unpatriotic Chinese nor even bad Communists in asserting that it should be possible to introduce genuine intellectual freedom into a

Communist régime. The events of last summer would seem to have gone a long way toward proving the falsity of their assertion.

What the rightists proposed, boldly or perhaps foolhardily, was that the Communist Party should no longer monopolize power in China. They suggested that the other political parties (of which there are no less than eight) should share the power instead of continuing as mere ciphers. They went so far as to propose that the non-Communist parties should participate in some sort of coalition government, and advocated parliamentary debate on western lines. They suggested that cases of imprisoned "counter-revolutionaries" should be reviewed by an impartial commission composed of all nine political parties instead of by the Communist Party alone, thus making it clear that they did not trust the Communist Party to be both judge and advocate in its own cause.

Western observers have been so engrossed with the crushing reaction of the Communist Party against the rightists that they have forgotten or undervalued the astonishing fact that such propositions were put forward at all in a Communist country. The theory that all the rightists were decoys or madmen is hardly tenable. There were too many of them to be accounted for entirely in this way. It seems more likely that the critics were simply misled by the apparent liberalism of the two celebrated "secret" speeches made by Mao Tse-tung on February 27 and March 12. Both were made to large and representative audiences of intellectuals in Peking, which included most of the subsequent rightists.

## **What Follows Extermination?**

Mao's now well-known theme was "The correct handling of contradictions among the people." Taking the line that by 1956 the worst enemies of the régime had been exterminated, he announced that "the main force of counter-revolution has been rooted out." A radical change of policy was thus permissible. Mao's theory was that the period of contradictions "between the people and the enemy" ("antagonistic" contradictions) required compulsion and terror for their solution. This period, he said, had ended. The