No American Dream for Soviet Emigrés

Record numbers of Soviet Jews are entering the United States, many with advanced degrees in science and engineering. For most of them, the scientific manpower shortage is a myth

"In Russia, we had to hide that we are Jews. Here, to get a job, we have to hide that we have a Ph.D." That, coming from a Russian Jewish engineer now in New York, has the bitter flavor of one of those Russian anti-Communist jokes. But it's no joke. The exodus of Jews from the Soviet Union has produced a sudden influx into the United States, which last year received 36,732 Russian Jewish refugees. Many are scientists and engineers. And they are having a terrible time finding jobs.

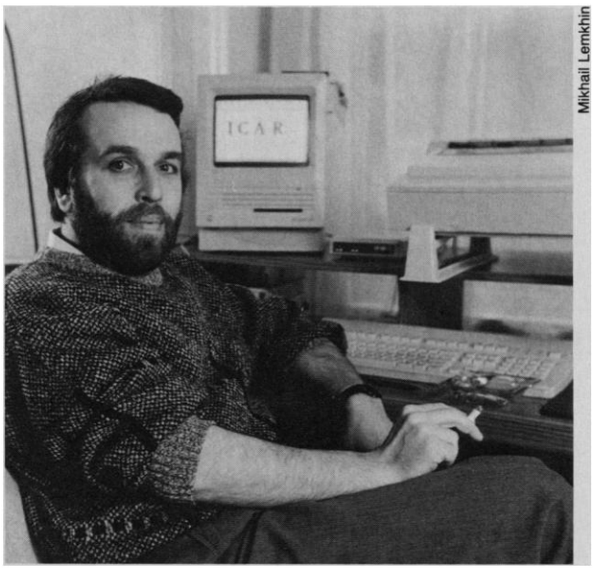
The U.S. government has been sounding the alarm about a looming shortage of scientific manpower—including a shortfall of 9000 Ph.D. scientists and engineers by 2000. Indeed, American universities have been snapping up prominent Soviet mathematicians and theoretical physicists and taking a growing number of graduate students and postdocs for short-term positions (see box, p. 1069). But to the majority of Soviet scientist-refugees, the manpower shortage is a myth. Individuals trying to help them find jobs think the situation represents an outrageous squandering of highly trained and experienced manpower. It's an "intellectual holocaust," says emigré mathematician Vladimir Naraditsky of San Jose State University.

As the immigrants themselves see it, the language barrier is the least of their problems. They feel handicapped by lack of American education, job experience, and contacts; by their ages; and, most of all, by the fact they are overqualified. This has even led some to take their Ph.D.'s off their résumés.

A few ad hoc groups have formed around the country to try to help Soviet Jews get a foothold in the labor market. But they are barely making a dent in a problem that is only going to get worse.

There are no official figures on how many of the refugees are technically trained, but observers believe there are now about 2000 Ph.D.-level scientists and engineers in the country, most of them unemployed. About half are in the New York area. Others are showing up in areas around the country, particularly in California, where there are high concentrations of universities or R&D-based industries.

Some 40,000 Russian Jews are expected to arrive in the United States this year, according to the Hebrew Immigrant Aid Society. New York engineer Rafael Rich estimates that perhaps 8,000 to 12,000 "highly educated" Russian refugees will be arriving yearly for the foreseeable future, of whom maybe 15% have Ph.D.-level degrees in science or engineering.



Mikhail Lemkhin

"They are not hired because their qualifications can't be evaluated, and they are not given a chance to gain qualifications."

—Vladimir Naraditsky

The flood of technically trained people leaving the Soviet Union shows no signs of abating. "The system is completely disintegrating," says Sergei Broude, a Russian emigré physicist at the University of Lowell in Massachusetts. "Nobody's working any more—everybody's looking how to get out." Mathematician David Chudnovsky of Columbia University says Soviet labs are deteriorating rapidly: "The situation in science is not going to improve greatly for the better and definitely won't improve for Jews" because of growing antisemitism.

But unlike the situation in Israel, where the government offers salary subsidies for immigrant scientists, there have been few organized attempts to help those in the United States find jobs.

That's where Rafael Rich comes in. A dynamic 70-year-old metallurgical engineer who came to this country 10 years ago, Rich last year organized a new Division for Soviet-American Scientists in an old Jewish organization, B'nai Zion, to serve as a job clearinghouse. So far, he has received résumés from about 300 refugees. Several dozen have found employment, but most are still looking.

Last month Rich assembled a group of ten job-seekers to talk about their problems. Most are Ph.D. engineers in fields such as the chemistry of hydrocarbons, ceramics engineering, metallurgy, communication networks, and microwave research. The group, ranging in age from 36 to 68, also included two physicists and a research gynecologist. Many have been trying to support their families with menial jobs—taxi driving, dog walking, doorkeeping, and the like. They are living on government aid and contributions from Jewish organizations. A couple are on welfare. Most had sent out at least 200 résumés with no positive results.

Some of the scientists in the group sounded angry and baffled at the closed doors they have been encountering. "It's funny, I don't understand. I really don't know what to do," said communications engineer Vladimir Marbukh. Ilya Ioffe, a Doctor in theoretical and mathematical physics, has been in the country with his wife and daughter for 9 months. He already has a little American experience—a brief unpaid stint as a visiting

professor at the City University of New York (CUNY). And, unlike most, "almost all my publications have been published in the U.S." But although he got 300 answers from the 600 résumés he has mailed out, he still doesn't have a job.

Victor L., an engineer in beam physics (who doesn't want his name used because he has removed his Ph.D. from his résumé), says he passed a math teaching exam for the Brooklyn Board of Education last August but has not been offered a post—despite the pressing shortage of math and science teachers. Iosif Rosovsky, who was head of a large department of obstetrics and gynecology at a Moscow hospital, is credited with the invention of an ultrasound technique to diagnose genetic defects prenatally that is now used around the world. He says he has applied for a residency (required for foreign medical graduates) at several New York hospitals without success. Vladimir Segal was chief of a metalworking department at Minsk Polytechnic University and has 50 patents in metallurgy. But the 200 résumés he has sent to companies and university R&D centers haven't brought a nibble.

One of the nightmares of these scientists is that they will fall behind in developments in their field. Victor L. said he has no time of his own because both he and his wife are working 7 days a week—at $6.20 an hour—as home attendants for disabled people. "I haven't enough time to do something like write a paper or read literature." The scientists said they would be more than willing to compromise in order to do work in their fields—by taking lower salaries than their American counterparts, or even, temporarily, no salary at all. But, said Segal, they have found that "employers don't like that attitude." They expect to get what they pay for.

All agreed that age is a severe obstacle. Leonid V., a ceramics engineer from Kiev, who at 36 was the youngest of the group, said he had been told he was too old for a research job. George L., 40, said he visited several California universities where "people told me 'you are too old.' They don't believe you can keep up with younger people." According to Naraditsky, some of the jobseekers in California "are dyeing their hair to hide their age."

The Russians must learn the rules of the game in a job culture totally alien from that in the Soviet Union, where scientists are funneled out of the educational system to places assigned by the government. Scientists rarely change positions mid-career, and for Jews it is virtually impossible, says Rich. The Russians have no experience at self-promotion, says David Waxberg, president of the Bay Area Council for Soviet Jews. "They never write grant proposals—it seems demeaning." U.S.-style "networking" is unknown: the contacts that count are political.

There are believed to be about 2000 Ph.D.-level Soviet scientists and engineers in the United States, most of them unemployed.

"The person who arrives to this country from the Soviet Union is like a child," says emigré Evgeny Chudnovsky, physicist at CUNY's Lehman College. "He doesn't understand what's going on. He is surprised by all the competition." Chudnovsky directs a program that involves grants of $1000 apiece from the Sloan Foundation to help Ph.D.-level scientists look for jobs in academia. He reports that many scientists think that applying to a few suitable places will do the trick. When they get a routine answer praising their qualifications but saying no positions are currently open, "they think that means wait for a call."

In California, the story is similar. Naraditsky, who is also working to help new arrivals, says "if a miracle happens and they are invited to an interview, they come 15 minutes late. They come informally dressed, then they begin to smoke like a steam engine." Nor, he says, are they prepared for what to expect on a job. "If a miracle happens again and they are hired, they think their manager's a complete idiot, they are not used to the high-pressure atmosphere, and 6 months later they are fired."

But differences are not limited to cultural ones. Loren Graham, historian of Soviet science at the Massachusetts Institute of Technology, points out that it is often difficult for a potential employer to evaluate an applicant's educational credentials. Although Soviet training in mathematics and theoretical physics is regarded, if anything, as better than that in the United States, there is heated debate over the equivalency of Soviet and U.S. Ph.D.'s. (The Soviets have two kinds—the vast majority are Candidate, which takes less time to earn than a U.S. doctorate; a Doctor takes more.) And, says Graham, engineering degrees other than those from the elite institutions in Moscow, Leningrad, Kiev, and Novosibirsk tend to be "much more narrowly specialized" than those from U.S. institutions. How, for example, does an American employer assess Sophia Gruzglina's Ph.D. in machine design and process planning of powdered material compacting from the Technical University of Dnepropetrovsk?

The New Workhorses in U.S. Labs?

The Soviet reforms have not only allowed more Jewish scientists to leave, but they have led to an enormous increase in the number of scientists of all types seeking scholarly exchange (J-1) visas so they can come to the United States for a few years as researchers or teachers.

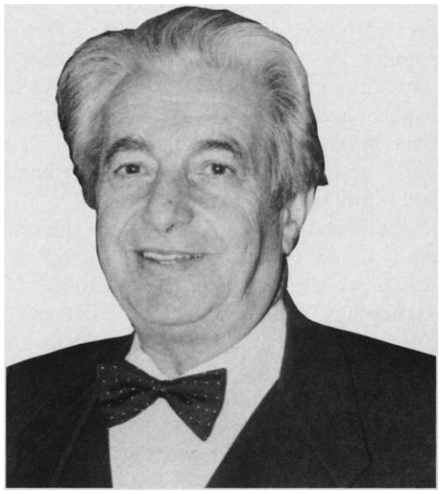
State Department figures show that the number of J-1 visas issued to Russians in all fields has been increasing rapidly, from 637 in 1988 to 1030 last year. That is only a fraction of the demand—and scientists in particular have been complaining that overly restrictive visa policies, including security considerations, have not caught up with the new realities.

Would-be applicants are also held back by the fact that Soviet scientists are not currently allowed to apply directly for such positions at American institutions.

But emigré Alex Goldfarb, molecular biologist at Columbia University, says the restriction is expected to be lifted soon by the Soviet government. As soon as that happens, Goldfarb predicts "we'll have a major influx" of Russian graduate students. In fact, "I am convinced that in a year or two Russians will replace Chinese"—who now constitute up to half the work force in some labs—as a major presence in basic research labs. Robert L. Park of the American Physical Society confirms this view: "Certainly the China connection is not what it used to be and my guess is that the next most likely pool of talented graduate students is going to be from Eastern Europe and the Soviet Union. They have a very solid grounding in the fundamentals and now they're hungry—they want what the rest of the world has."

Goldfarb also says that established scientists who come as visitors are looking for ways to get jobs so they can stay and eventually apply for citizenship. Park says although the elite among Soviet mathematicians and theoretical physicists are welcomed in the United States, others may have a harder time. In physics, he says, "experimental Soviet science is a disaster." ■ C.H.

David Karp



Networker. *Metallurgical engineer Rafael Rich has résumés from 300 Soviet refugees for whom he is trying to find jobs.*

Richard Ellis, director of manpower studies at the American Association of Engineering, adds that there could be something of a mismatch between supply and demand in engineering, because "serious Russian engineering is heavily defense-oriented." Noncitizens can't get security clearance for defense work, and, he speculates, defense cutbacks could be tightening the market in related jobs.

Waxberg notes that although the Russians are well grounded in basic science, they often are used to working with equipment that for Americans is decades out of date. Russian computer scientists, in particular, are at a disadvantage because they have not been exposed to training in advanced areas such as computer-aided design and manufacturing and robotics. What all this amounts to, in Naraditsky's view, is that the Russian scientists "are in a Catch-22 situation. They are not hired because their qualifications can't be evaluated, and they are not given a chance to gain qualifications." Some need training, he acknowledges, but "they'd be able to learn very fast if given the opportunity. They will do anything to gain what they lost in the Soviet Union."

In New York, Rich has been tackling the situation by trying to establish links between scientists and potential employers with the help of professional associations and old-timers who have been in the country for the past decade or so. He organizes workshops to help refugees prepare their résumés and improve their English. He has also instructed job-seekers to write papers to demonstrate their expertise to potential employers. He has assembled a panel of 42 American and emigré scientists to evaluate the papers which are then edited and made available along with résumés.

In California, Naraditsky is pursuing quite a different strategy. He has set up a for-profit corporation, the International Center for Applied Industrial Research, that has a pool of about 400 unemployed Russian "associates"—almost all with Ph.D.'s—from around the country. Thirty percent are engineers; the rest are mathematicians, physicists, chemists, and biologists. Most are looking for industry jobs. The Center seeks contracts from industry, for projects such as the development of computer programs, and then puts together teams of Russian and American scientists to work on them. In this way, the Russians get training and experience that will be meaningful to potential employers.

Naraditsky plans to expand his operation to aid would-be emigrés who are still in the Soviet Union. With the help of Waxberg, he wants to arrange for scientists to work on contracts for his company while waiting for exit visas, either at home or using computer facilities at small new privately owned "cooperatives." Payments for their work would be banked in the United States or Israel pending their arrival. Related to this are plans to conduct interviews with prospective emigrants and put the information in a data bank where it can be accessed, for a fee, by potential employers.

As Russian Jewish scientist refugees continue to pour into the country, undoubtedly new efforts will be mounted to afford them a foothold in the U.S. job market. Meanwhile, for many of them, the American dream has elements of a nightmare.

■ CONSTANCE HOLDEN

Soviet Emigrés Swamp Israeli Science

In 1986, according to the Union of Councils for Soviet Jews, 914 Jews left the Soviet Union. In 1989, the number had rocketed to 71,196.

For most, their destination is Israel, which is having an extraordinarily difficult time keeping up with the thousands of Russians arriving monthly. April saw the highest number yet: 10,500. And officials were predicting up to 20,000 a month would be coming in the summer. Almost all the Jews now leaving the Soviet Union are heading for Israel because the U.S. fiscal year 1990 quota of 50,000 for Russian and Eastern European refugees, established last October, was already filled by early this year.

About 2% of the new immigrants are reportedly Ph.D.-level scientists, and 11% are engineers. Israeli officials have said that 100,000 Soviet Jews have registered to immigrate into Israel in 1990 (compared with 12,923 arrivals last year). That means thousands of annual additions to the country's total scientific and engineering work force which, according to the Ministry of Science and Development, currently numbers about 46,700.

But the Israeli economy is in parlous condition, with unemployment at close to 10%. And for scientists and engineers it's "much higher," says Sergei Broude of the University of Lowell, Massachusetts. For example, he says, when the *Jerusalem Post* ran an ad last March for a physicist, 60 Russian Jewish physicists responded. Broude says that in the Soviet Union these days, "whole labs are trying to sell themselves as a group to Israel," by making the case that they will be much more productive if the group is allowed to remain intact.

Impossible strains are being put on Israel's university system, which is comprised of about 4700 Ph.D.-level scientists. "The universities are in a very bad way. They have terrible budgetary problems," says Raymond Parnes, dean of the engineering department at Tel Aviv University. He says he has a pile of Russian résumés sitting on his desk, and "I get one or two letters a week from the U.S.S.R."

Israel is doing its best to facilitate employment for the arrivals through its Center of Absorption in Science, a division of the immigrant absorption ministry. The government offers heavy salary subsidies for scientists and engineers during the first few years of employment, after which institutions are supposed to take on the cost. But in practice, reports the *New York Times*, this seldom happens.

The science and technology ministry is giving immigrants preference in priority fields: biotechnology, neurobiology, materials, lasers, superconductivity, artificial intelligence and computers, and environmental studies. Professionals in other fields have little hope of finding suitable jobs. Rafael Rich, emigré engineer in New York, says that there is virtually no demand in Israel for engineers in fields such as metallurgy, oil drilling, mining, and heavy machinery.

But if history is any guide, says Parnes, despite all the difficulties, "the best people will be absorbed." ■ C.H.