

letters

can both oppose a faculty member's view on unionism and aid him in any grievance procedure with his institution. In any case, views on unionism need to be aired, rather than bottled under some kind of censorship. I applaud the editor for printing the letters he has printed.

7/84 THOMAS W. NOONAN
State University of New York,
Brockport, New York

Nissam-Sabat's defamatory personal attacks on Edward Harrison for his opposition to academic unions are in remarkably bad taste. His words could even be actionable for libel. More important, they eloquently justify Harrison's concern about the politicalization of university life introduced by unions.

Clinton Rossiter, in his *Marxism: The View from America*, devotes a notable chapter to "The Marxist Temper." Nissam-Sabat's letter is an excellent illustration of that temper.

Harrison's appeal for new organizational forms in academe to deal with its professional problems in accordance with traditional professional ideals and standards is now being met by a new academic organization tentatively called "Excellence in Academia." One of its cardinal principles is that there is no academic end which justifies the use of uncivil or otherwise improper means. Those interested are invited to write to the address below.

6/84 LAWRENCE CRANBERG
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Concurrent processors

In their otherwise fascinating article "Algorithms for Concurrent Processors," in *PHYSICS TODAY*, May, page 50, Fox and Otto have omitted discussion of the effect of boundary conditions for physically realistic solutions on the potential ϕ in their concrete example to estimate execution times. For the gravitational N-body problem, it is important to have the potential $\phi(|\chi|)$ tend to 0 as $|\chi|$ tends to infinity for an isolated system of masses, while Fox and Otto describe only a periodic solution. R. W. Hockney and T. W. Eastwood¹ discuss a number of techniques for incorporating physically correct boundary conditions into the solution of potential problems while using fast transform methods. Even taking boundary conditions into account, the advantages of transform methods to compute the potential from N_p particles on a spatial grid of size $L \times L \times L$ over direct methods is spectacular. Problems on modern super-

computers that take on the order of cpu-minutes with the Fourier method would otherwise take on the order of cpu-days.

Reference

1. R. W. Hockney, J. W. Eastwood, *Computer Simulation Using Particles*, McGraw-Hill, New York (1981).

ROBERT H. BERMAN
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6/84 Cambridge, Massachusetts

Yashchin: no exit

A member of our scientific community is in trouble. It is my friend and colleague, Emanuel Yashchin. Being in regular contact with Yashchin I am kept well informed about the details of his case. Yashchin, age 50, worked as a senior research fellow at the Solid State Physics Institute in Chernogolovka, Moscow Region. (I also worked at the same institute until 1976.) In August of 1979, Yashchin's daughter, Dina Rojansky, emigrated to Israel. She is now working toward her doctorate at Tel Aviv University. At the same time, the rest of Yashchin's family decided to emigrate to Israel. Since that time his tribulations began in earnest. An affidavit "Vyzov" sent by his daughter did not reach him. However, by some strange "coincidence" he was not reelected to his position as senior research fellow. In December 1982, he was refused an exit visa. The reason: "It is inexpedient to let you go at present." This strange answer was given because the two main excuses usually used in the Soviet Union—access to state secrets and lack of close relatives in Israel—did not apply in Yashchin's case. In January 1982, Yashchin was demoted to a non-scientific position. In July 1982, he was fired. Yashchin was deprived of the means to support his family and himself. His telephone was cut off; he was denied access to scientific libraries in the USSR and he was not permitted to attend any scientific seminars.

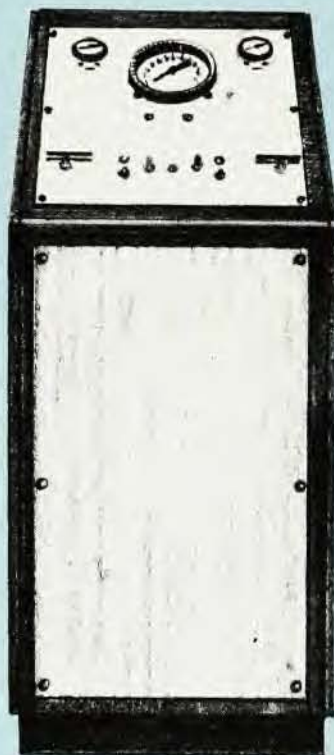
This situation is in total contradiction to official statements and conventions signed by the Soviet Union:

Everyone has the right to leave any country, including his own. . . . The above mentioned rights shall not be subject to any restrictions except those which are provided by law, are necessary to protect national security. . . . (Covenant on Civil and Political Rights, Articles 12/2, 12/3). The presentation of an application concerning family reunification will not modify the rights and obligations of the applicant or of members of his family. (The Helsinki Final Act) The truth

continued on page 125

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is that nobody is keeping Soviet Jews in the country by force. (Digest of the Soviet Press, "Sputnik," October 1982).

Directly responsible for many of Yashchin's troubles, I believe, is Yuri Ossipyan. Being a director of Institute of Solid State Physics, a member of The Academy of Sciences of the USSR and occupying a prominent position in the party hierarchy, Ossipyan has enough influence to be able to help Yashchin leave the Soviet Union. It was Ossipyan's order to fire Yashchin from the institute. It is he who ordered the telephone to be cut off.

Here in the West, there is a tendency to underestimate a personal responsibility in the Soviet Union. There is no doubt that the regime is responsible for what is happening in the USSR. But the regime cannot perform its job without such people as Ossipyan, who are themselves part of the regime. And the regime is awarding such people as Ossipyan. The important part of this award is the possibility of unlimited contacts with foreign colleagues. Unlike the majority of Soviet scientists, Ossipyan is spending an essential part of his time on trips abroad. We welcome these people. We are listening to them and get their versions of what is happening with our persecuted colleagues. Thus, in his letter to the physics department at Iowa State University, Ossipyan claims: "During the past few years more than a dozen people from the staff of the Solid State Physics Institute have emigrated. None of them has ever been dismissed from his scientific position until immediately prior to his departure from the USSR."

Yashchin is not the only one who was dismissed from the institute as a result of his *expressed intention* to go to Israel. In 1976, I was fired under similar circumstances.

We may help the oppressed scientists in the USSR if our reception of such scientists as Ossipyan (and Alexander Prokhorov, Anatoly Dorodnitsyn, Gorygy Skryabin and Andrey Tikhonov who wrote in "Izvestia" an article vilifying Andrey Sakharov) is predicated on their just behavior towards our colleagues in Russia.

BENJAMIN FAIN
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7/84

SDI: no pot of gold

With respect to your reports in June (page 53) on the Strategic Defense Initiative ("Star Wars"), it sounds to me that those who suggest we can build a space-based ballistic missile defense

to render nuclear weapons impotent have much in common with the ancient alchemists. For centuries, the alchemists were certain that they were close to being able to convert lead or other base metals into gold. They did not succeed, although we now know that such a conversion does not violate any of the laws of nature. In fact, our large accelerators frequently convert infinitesimal amounts of various elements into gold. The cost is vastly higher than the cost of mining gold, and you end up with a highly radioactive product that no self-respecting king would want to put into the royal coffers—but it is gold.

Similarly, there is no doubt that both the Soviets and we are capable of shooting down an airplane, a cruise missile, or even an ICBM. However, it recently was considered a disaster when the Syrians, using sophisticated Soviet air defense missiles, were able to down one or two of the many US and Israeli planes that were involved in the Lebanese conflict. Our airplanes, of course, are not sitting ducks, but carry many devices and use tactics to confuse the air defense missiles. Without doubt, Star Wars offensive and defensive systems would evolve in the same way.

In my opinion, starting a whole new arms race for Star Wars defenses in the hope of making nuclear weapons impotent would be a more disastrous mistake than was our decision about ten years ago to start the MIRV race because, at that time, we had a technological lead. Proposals for a space-based ballistic missile defense should be filed in the same place with proposals to turn all the governments' lead into gold.

RICHARD L. KAUFMANN
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7/84

A bachelor's point of view

I read with interest S. I. Salem's "Worth of a BS" (June, page 92), but from a different point of view. I found his quotation of Berry Yolkin, a manager of TRW Ground System Development, about the physicist being his "best engineer," typical. My degree, a bachelor's in physics, has also made me an engineer, not a physicist. No employer, especially a non-technical degreed or a non-degreed manager, can think of a BS physicist as anything but an engineer, anyway in my 35 years of experience and 21 years as a degreed physics graduate.

It is not at all bad because, in my rationalization, and engineer is but an applied physicist. No sweeping generalities intended.

A physicist, even in our enlightened

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