

- in East Anglia and probably Cornwall during the 16th century.
6. J. Rosier, in *Early English and French Voyages 1534-1608*, H. Burrage, Ed. (Scribner, New York, 1932), p. 392.
 7. W. Bradford, *Of Plymouth Plantation*, S. E. Morison, Ed. (Knopf, New York, rev. ed., 1952), p. 269.
 8. J. Steward, in *Man the Hunter*, R. B. Lee and I. Devore, Eds. (Aldine, Chicago, 1968), p. 331; C. M. Cipolla, *The Economic History of World Population* (Pelican Books, Harmondsworth, 1962), p. 77.
 9. S. Cook, *Addison-Wesley Modul. Publ.* 16, 27 (1972).
 10. R. Lucas, personal communication.
 11. I. DeRasieres and D. DeVries, in *Narratives of New Netherland 1609-1664*, J. F. Jameson, Ed. (Scribner, New York, 1909), pp. 107, 219; A. VanderDonck, *A Description of New Netherlands*, T. O'Donnell, Ed. (Syracuse Univ. Press, Syracuse, N.Y., 1968), p. 31.
 12. W. Wood, *New Englands Prospect 1634* (Microprint, London), p. 78.

Defending the Defenders

In an essay in the *New York Times*, Harrison Salisbury remarked that Russian intellectuals traditionally have taken responsibility for the well-being of their society to a degree not as common in the West. Scientists everywhere can be proud of the extent to which scientists play this role in the Soviet Union. They set standards of responsibility and civic courage of the highest order, and are suffering for it. The least we can do is to try to help them.

All the world knows about the nuclear physicist Andrei Sakharov, and that, to a degree, protects him. He is a noble and courageous person who loves his country and has no desire to leave it. His wife, Yelena, suffered eye injuries while serving as an army nurse in World War II and is classified as a disabled veteran. She is now threatened with total blindness that might benefit from treatment abroad, but she has been refused permission to leave. [The *Boston Globe* of 19 July reports that she has now been granted this permission.]

Not all Soviet scientists display Sakharov's courage. Apparently under government pressure, 60 members of the Soviet Academy of Scientists signed an adverse statement about him. They could almost surely have found safety in numbers had they instead drawn together to defend his—and their own—rights of free speech, publication, assembly, and travel abroad.

It is poignant to realize that some of our Soviet colleagues who are most pressed at home formed in 1973 the first group of Amnesty International (AI) in the Soviet Union. It is a rule of that organization that its units never assist their own nationals; so the Moscow group was assigned prisoners of conscience in Spain, Yugoslavia, and Sri Lanka. The original 11 founding members—the group is now said to number 24—included four physicists, three engineers, two biologists, and one psychologist (the eleventh is a priest).

Although such an organization is legal—in the Soviet Union three observers

from it were invited to the Congress of Peace-Loving Forces in Moscow in October 1973—in the past few months the government has arrested three of its members and subjected two others to drastic searches and confiscations.

On 27 December 1974, Sergei Kovalev (Kovalyov), 43, a distinguished heart and nervous system physiologist, was arrested in Moscow and flown to imprisonment in Lithuania, ostensibly for circulating a *samizdat* journal, the *Chronicle of the Lithuanian Catholic Church*. One reason for this charge may have been to get him out of Moscow, where his coming trial would have received more foreign attention. He is a close associate of Sakharov, with whom he issued last December a New Year's Appeal, telephoned from Moscow to London on the very day Kovalev was arrested.

Kovalev had been a senior scientist at Moscow State University until 1969, when he was forced to resign because of his activities in the newly formed Initiative Group for the Defense of Human Rights. He then worked at the Institute of Hydrobiology on the use of chemical mutagens in fish culture. He has published over 60 papers, mainly on cellular interactions and conduction of excitation in heart muscle, the nervous system, and epithelial tissues.

On 18 April, the KGB arrested two more members of the AI group—its secretary, the physicist Andrei Tverdokhlebov, and Mikola Rudenko, a Ukrainian writer who was released 2 days later to await trial. Officers of the KGB also searched and confiscated documents from the apartments of Valentin Turchin, a mathematical physicist and chairman of the AI group, and Vladimir Albrekht, a mathematical biologist.

Tverdokhlebov, 35, had been an editor of the *Abstracts of Theoretical Physics* at the All-Union Institute of Scientific and Technical Information. He was discharged in 1972 because of his activities on behalf of accused and imprisoned Soviet citizens and their families. He then worked on problems of mechanical vibration at the Experimental Laboratory for Concrete. He has published papers on elementary particle physics and electrodynamics. He was a founding member of the AI group, the Committee on Human Rights, and Group 73, devoted to helping political prisoners. On 11 October 1973, *New Scientist* published his letter about Leonid Plusch, the Ukrainian mathematician who has been confined to a psychiatric institution since 1973. His book *In Defense of Human Rights* has recently been published in Russian by Khronika Press (New York).

Tverdokhlebov's apartment was searched by the KGB in August 1973 and again in October 1974, when they con-

fiscated virtually all of his papers (including his copy of Solzhenitsyn's *Gulag Archipelago*), his typewriter, and tape recorder. He ends his account of this episode: "However, for the time being at least, they have left me my fountain pen." Now, he is apparently being held for trial in Moscow's Lefortovo Prison.

There has been great interest in the plight of Soviet Jewish scientists who have lost their positions and been otherwise harassed as the result of having applied for visas to emigrate. The persons discussed above regard the freedom to move about and live where one wishes as a basic human right and have done what they could to support their Jewish colleagues. On 16 January 1974, Tverdokhlebov published with Aleksandr Voronel, the Soviet Jewish solid state physicist recently permitted to emigrate to Israel, a letter protesting the denial of an exit visa to Aleksandr Galich, who has also since emigrated. During 3 years of enforced unemployment in Moscow, Voronel organized a weekly scientific seminar held in his three-room apartment and attended eventually by about 50 scientists, among them, Andrei Sakharov.

On 30 April, 60 Soviet citizens, mainly writers and scientists, appealed to the world on behalf of Tverdokhlebov, thereby risking their jobs and careers and setting an example for the Soviet Academy of Sciences. When our Soviet colleagues risk so much, can we who risk nothing be deaf to their pleas and withhold our help? We can help greatly merely by speaking out, by keeping public attention upon the plight of these, our fellow scientists. The Soviet government is as anxious as any other to keep its good name, to be thought decent and just. It is sure to listen if the international scientific community expresses its concern.

That can be done through our scientific organizations, the National Academy of Sciences in the United States, the Royal Society in England, and the professional societies of physicists, biologists, and engineers in all countries.

Such procedures usually take time however. It is exceedingly important for as many persons as possible to do what they can individually. Amnesty International will gladly offer guidance. Its office in the United States is at 200 West 72 Street, New York 10023; its central office is at 53 Theobald's Road, London WC1X-8SP. Also write or call the Soviet Ambassador in your country.

A Scientists' Committee for Tverdokhlebov has recently been formed in the United States (Letters, 20 June, p. 1164).

GEORGE WALD

Department of Biology,
Harvard University,
Cambridge, Massachusetts 02138