The responsibility of scientists

from Andrei Sakharov

Because of the international nature of our profession, scientists form the one real worldwide community which exists today. There is no doubt about this with respect to the substance of science: Schrodinger's equation and the formula $E = mc^2$ are equally valid on all continents. But the integration of the scientific community has inevitably progressed beyond narrow professional interests and now embraces a broad range of universal issues, including ethical questions. And I believe this trend should and will continue.

Scientists, engineers and other specialists derive from their professional knowledge and the advantages of their occupations a broad and deep understanding of the potential benefits — but also the risks — entailed in the application of science and technology. They also develop an awareness of the positive and negative tendencies of progress generally, and its possible consequences.

Colossal opportunities exist for the application of recent advances in physics, chemistry and biochemistry; technology and engineering; computer science; medicine and genetics; physiology and hygiene; microbiology (including industrial microbiology); industrial and agricultural management techniques; psychology; and other exact and social sciences. And we can anticipate more achievements to come. We all share the responsibility to work for the full realization of the results of scientific research in a world where most people's lives have become more difficult, where so many are threatened by hunger, premature illness and untimely death.

The dangers of progress

But scientists and scholars cannot fail to think about the dangers stemming from uncontrolled progress, from unregulated industrial development, and especially from military applications of scientific achievements. There has been public discussion of topics related to scientific progress: nuclear power; the population explosion; genetic engineering; regulation of industry to protect the environment; protection of air quality, of flora and fauna, and of rivers, lakes, sea and oceans; the impact of mass media. Unfortunately, despite the urgent and serious nature of the issues at stake, such discussions are often uninformed, prejudiced or politicized, and sometimes simply dishonest. Experts, therefore, are under an obligation to subject these problems to unbiased and searching examination, making all socially significant information available to the public in direct, first-hand form, and not just in filtered versions. The discussion of nuclear power, a subject of prime importance, is an instructive example. I have expressed elsewhere my opinion that the

dangers of nuclear power have been exaggerated in the West, and that such distortion is harmful.

With some important exceptions (primarily affecting totalitarian countries), scientists are not only better informed than the average person, but also strive for and enjoy more independence and freedom. Freedom, however, always entails responsibility. Scientists and other experts already influence or have the capacity to influence public opinion and their governments. (That influence should not be exaggerated, but it is substantial.) My view of the situation of scientists in the contemporary world has convinced me that they have special professional and social responsibilities. It is often difficult to separate one from the other — the communication of information, the popularization of scientific knowledge, and the publication of endorsements or warnings are examples of activities with both professional and social aspects.

Similar complications arise when scientists become involved in questions of disarmament: in developing strategy for or participating in international negotiations; in advancing proposals or issuing appeals to governments or to the public; and in alerting them to dangers. Disarmament is a separate, critically important issue which requires a profound, thorough and scientifically daring approach. I realize that more detailed treatment is needed, but now I will simply outline a few ideas. I consider disarmament necessary and possible only on the basis of strategic parity. Additional agreements covering all kinds of weapons of mass destruction are needed. After strategic parity in conventional arms has been achieved, a parity which takes account of all the political, psychological and geographical factors involved, and if totalitarian expansion is brought to an end, then agreements should be reached first prohibiting the use of nuclear weapons, and later, banning such weapons.

Defence of human rights

Another subject which is closely connected to questions of peace, trust and understanding among countries is the international defence of human rights. Freedom of opinion, freedom to exchange information and freedom of movement are necessary for true accountability of the authorities which in turn prevents abuses of power in domestic and international matters. I believe that such accountability would make impossible tragic mistakes like the Soviet invasion of Afghanistan and would inhibit manifestations of an expansionist foreign policy and acts of internal repression.

The unrestricted sale of newspapers, magazines and books published abroad would be a major step towards effective

freedom of information in totalitarian countries. Perhaps even more significant would be the abolition of censorship which should concern first of all the scientists and intelligentsia of totalitarian countries. It is important to demand a halt to jamming of foreign broadcasts which deprives millions of access to the uncensored information needed to form an independent judgment of events. (Jamming was resumed in the USSR in August 1980 after a seven-year interval.)

I am convinced that support of Amnesty International's call for a general, worldwide amnesty for prisoners of conscience is of special importance. The political amnesties proclaimed by a number of countries in recent years have helped to improve the atmosphere. An amnesty for prisoners of conscience in the USSR, in Eastern Europe, and in all other countries where political prisoners or prisoners of conscience are detained would not only be of major humanitarian significance but could also enhance international confidence and security.

The worldwide character of the scientific community assumes particular importance when dealing with such problems. By its international defence of persecuted scientists and of all persons whose rights have been violated, the scientific community confirms its international mandate which is so essential for successful scientific work and for service to society.

Western scientists are familiar with the names of many Soviet colleagues who have been subjected to unlawful repressions. (I shall confine my discussion to the Soviet Union since I am better informed about it, but serious human rights violations occur in other countries including Eastern European countries.) The individuals I mention have neither advocated nor used violence since they consider publicity the only acceptable, effective and non-pernicious way of defending human rights. Thus, they are all prisoners of conscience as defined by Amnesty International. Their stories have much else in common. Their trials were conducted in flagrant violation of statutory procedures and in defiance of elementary common sense. My friend Sergei Kovalev was convicted in 1975 in the absence of the defendant and counsel, that is, with no possibility whatsoever of defence. He was sentenced to seven years in a labour camp and three years of internal exile for anti-Soviet agitation and propaganda allegedly contained in the samizdat news magazine *A Chronicle of Current Events*, but there was no examination of the substance of the charge.

Comparable breaches of law marked the trials of Yury Orlov, the founder of the Moscow Helsinki Group, and of other members of the Helsinki Groups and associated committees: Victor Nekipelov, Leonard Ternovsky, Mykola Rudenko, Alexander Podrabinek (and his brother Kirill), Gleb Yakunin, Vladimir Slepak, Malva Landa, Robert Nazarian, Eduard

Arutyunian, Vyacheslav Bakhmin, Oles Berdnik, Oksana Meshko, Mykola Matusovich and his wife, and Miroslav Marinovich. Tatiana Osipova, Irina Grivnina and Felix Serebrov have been imprisoned pending trial. Yury Orlov's lawyer missed part of the trial proceedings when he was locked up forcibly in chambers adjoining the courtroom. Orlov's wife was frisked in a crude way and her clothing ripped during a search for written notes or a tape recorder, all from fear that the court's grotesque secrets might be revealed.

Mistreatment

In the labour camps, prisoners of conscience suffer cruel treatment: arbitrary confinement in punishment cells; torture by cold and hunger; infrequent family visits subject to capricious cancellation; and similar restrictions on correspondence.

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E. Yantevich

Andrei Sakharov at Gorky

They share all the rigours of the Soviet penal regimen for common criminals while suffering the added strain of pressure to "embark on the path of reform", that is, to renounce their beliefs. I would like to remind you that not once has any international organization, such as the Red Cross or a lawyers' association, been able to visit Soviet labour camps.

Political prisoners are often rearrested, and monstrous sentences imposed. Ornithologist Mart Niklus, poet Vasily Stus, physics teacher Olexsei Tikhy, lawyer Levko Lukyanenko, philologist Viktoras Petkus and Balys Gajauskas have all received sentences of ten years in labour camp and five years internal exile as recidivists. A new trial is expected for Paruir Airikian who is still in labour camp. Within the past few days I have been shocked by the fifth (!) arrest of my friend Anatoly Marchenko, a worker and author of two talented and important books: *My Testimony* and *From Tarusa to Siberia*. Imprisoned religious believers include Rostislav Galetsky, Bishop Nikolai Goretoi, Alexander Ogorodnikov, and Boris Perchatkin. Imprisoned workers include Yury Grimm and Mikhail Kukobaka. Alexei Murzhenko and Yury Fedorov are still imprisoned. I shall name

only a few scientists deprived of their freedom; many others could be added to the list: Anatoly Shcharansky, the young computer scientist now famous around the world; mathematicians Tatiana Velikanova, Alexander Lavut, Alexander Bolonkin and Vazif Meilanov; computer scientist Victor Brailovsky; economist Ida Nudel; engineers Reshat Dzhemilev and Antanas Terleckas; physicists Rolan Kadiyev, Iosif Zisels and Iosif Dyadkin; chemists Valery Abramkin and Juri Kukuk; philologists Igor Ogurtsov and Mustafa Dzhemilev; and Vladimir Balakhonov.

A common violation of human rights, and one which especially affects scientists, is denial of permission to emigrate. The names of many "refusniks" are known to the West.

I was banished without a trial to Gorky more than a year ago and placed under a regimen of almost total isolation. A few days ago the KGB stole my manuscripts and notebooks which contained extracts from scientific books and journals. This is a new attempt to deprive me of any opportunity for intellectual activity, even in my solitude, and to rob me of my memory. For more than three years Elizaveta Alexeyeva, my son's fiancée, has been arbitrarily prevented from leaving the Soviet Union. I have mentioned my own situation because of the absence of any legal basis for the actions taken and because the detention of Elizaveta is undisguised blackmail directed against me. She is a hostage of the state.

Fight repression

I appeal to scientists everywhere to defend those who have been repressed. I believe that in order to protect innocent persons it is permissible and, in many cases, necessary to adopt extraordinary measures such as an interruption of scientific contacts or other types of boycott. I urge the use, as well, of all the possibilities of publicity and of diplomacy. In addressing the Soviet leaders, it is important to take into account that they do not know about — and probably do not want to know about — most letters and appeals directed to them. Therefore, personal interventions by Western officials who meet with their Soviet counterparts have particular significance. Western scientists should use their influence to press for such interventions.

I hope that carefully thought out and organized actions in defence of victims of repression will ease their lot and add strength, authority and energy to the international scientific community.

I have entitled this letter "The Responsibility of Scientists". Tatiana Velikanova, Yury Orlov, Sergei Kovalev and many others have decided this question for themselves by taking the path of active, self-sacrificing struggle for human rights and for an open society. Their sacrifices are enormous, but they are not in vain. These individuals are improving the ethical image of our world.

Many of their colleagues who live in totalitarian countries but who have not found within themselves the strength for such struggle, do try to fulfil honestly their professional responsibilities. It is, in fact, essential to work at one's profession. But has not the time come for those scientists, who often exhibit their perception and nonconformity when with close friends, to demonstrate their sense of responsibility in some fashion which has more social significance, and to take a more public stand, at least on issues such as the defence of their persecuted colleagues and control over the faithful execution of domestic laws and the performance of international obligations? Every true scientist should undoubtedly muster sufficient courage and integrity to resist the temptation and the habit of conformity. Unfortunately, we are familiar with too many counterexamples in the Soviet Union, sometimes using the excuse of protecting one's laboratory or institute (usually just a pretext), sometimes for the sake of one's career, sometimes for the sake of foreign travel (a major lure in a closed country such as ours). And was it not shameful for Yury Orlov's colleagues to expel him secretly from the Armenian Academy of Sciences while other colleagues in the USSR Academy of Sciences shut their eyes to the expulsion and also to his physical condition? (He is close to death.) Many active and passive accomplices in such affairs may themselves someday attract the growing appetite of Moloch. Nothing good can come of this. Better to avert it.

Western scientists face no threat of prison or labour camp for public stands; they cannot be bribed by an offer of foreign travel to forsake such activity. But this in no way diminishes their responsibility. Some Western intellectuals warn against social involvement as a form of politics. But I am not speaking about a struggle for power — it is not politics. It is a struggle to preserve peace and those ethical values which have been developed as our civilization evolved. By their example and by their fate, prisoners of conscience affirm that the defence of justice, the international defence of individual victims of violence, the defence of mankind's lasting interests are the responsibility of every scientist.

Gorky 24 March 1981

P.S. After this letter was written, I received word of the tragic death of Juri Kukuk in a labour camp. Tatiana Osipova was sentenced to five years in a labour camp and five years internal exile on 2 April.

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