

Letters

Letter to Pravda

Science (News and Comment, 21 Sept., p. 1148) recently printed the cable sent by Philip Handler, president of the National Academy of Sciences (NAS), to Mstislav V. Keldysh, president of the Soviet Academy of Sciences. The cable dealt with the "heightening campaign of condemnation of [academician Andrei D.] Sakharov" and was prompted by a letter that appeared in the 29 August issue of *Pravda*—signed by 40 Soviet academicians, five of whom are foreign associates of the NAS.

Sakharov is himself a foreign associate of the NAS. His "crimes" are that he wrote an essay in 1968 entitled *Thoughts on Progress, Peaceful Coexistence, and Intellectual Freedom* (1), in which he presented, among other ideas, the argument that rivalry between the two superpowers in an age of thermonuclear weapons was extremely dangerous to the whole world. This essay has been printed in the West but has never been published in the Soviet Union. Ironically, it is quite likely that some of the Soviet scientists who signed the anti-Sakharov letter in *Pravda* may never have read Sakharov's essay.

On 21 August, frustrated by his inability to make a public statement in a closed society with government-controlled newspapers, Sakharov held a news conference in his apartment for some Western journalists. He pointed out that it would be dangerous for the West to reach a détente with the Soviet Union as long as the Soviet Union remained a secret, repressive society closed to the rest of the world.

As many readers of *Science* do not have access to *Pravda*, they may be interested in the following translation of the letter and the names of the Soviet academicians who signed it.

We consider it necessary to bring to the attention of the general public our relationship to the behavior of academician A. D. Sakharov.

In recent years, academician A. D. Sakharov has given up active scientific

activity and has come forward with a series of announcements which defame the governmental regime and the foreign and internal politics of the Soviet Union. Recently, in an interview given by him to foreign correspondents in Moscow and published in the Western press, he went as far as to come out against the politics of the Soviet Union in the relaxation of international tensions and against the strengthening of those positive improvements which have taken place recently in the whole world.

A. D. Sakharov tries to justify these announcements, deeply alien to the interests of all progressive peoples, with vulgar distortions of Soviet reality, and with fictitious rebukes to the socialistic regime.

In his utterances, he essentially identifies himself with the most reactionary, imperialistic circles, actively coming out against the policy of peaceful coexistence of nations with different social systems, against the line of our party and government on the development of scientific and cultural collaboration and on the strengthening of peace among nations.

To all intents and purposes, A. D. Sakharov has become an instrument of hostile propaganda against the Soviet Union and other socialistic countries.

A. D. Sakharov's action is radically alien to Soviet scientists. It appears especially ugly against the background of the concentration of efforts of all of our people towards the solution of the vast economic and cultural problems in the building up of the U.S.S.R., in the strengthening of peace, and in the cleaning up of international situations.

We express our indignation at the announcements of academician A. D. Sakharov and emphatically condemn his action that defames the honor and dignity of a Soviet scientist. We hope that academician Sakharov ponders on his actions.

[The letter was signed by] N. G. Basov†, N. V. Belov, N. N. Bogolyubov*, A. E. Braunshtein, A. P. Vinogradov, S. V. Vonsovskii, B. M. Vul, N. P. Dubinin*, N. M. Zhavoronkov, B. M. Kedrov, M. V. Keldysh‡, V. A. Kotelnikov, G. V. Kuryumov, A. A. Logunov, M. A. Markov, A. N. Nesmeyanov, A. M. Obukhov, Yu. A. Ovchinnikov‡, A. I. Oparin, B. E. Paton, B. N. Petrov, P. N. Pospelov, A. M. Prokhorov†‡, O. A. Reutov, A. M.

† Nobel laureate.

* Foreign associate of the NAS. As of July 1973, the NAS had 130 foreign associates, 14 of whom were Soviet scientists.

‡ Visited the United States and the NAS in October and November 1972.

Rumyantsev, L. I. Sedov, N. N. Semenov* †, D. V. Skobel'tsyn, S. L. Sobolev, V. I. Spitsyn, V. D. Timakov, A. N. Tikhonov, V. M. Tuchkevich, P. N. Fedoseev, I. M. Frank, A. N. Frumkin*, Yu. B. Khariton, M. B. Khrapchenko, P. A. Cherenkov, and V. A. Engel'gardt*.

If Moscow protests, could Siberia be far behind? On 3 September, in *Pravda*, a letter condemning Sakharov from scientists of the Siberian division of the Soviet Academy of Sciences was also published. It was signed by 13 corresponding members of the academy and seven academicians, including M. A. Lavrentiev, the director of the Siberian division, and G. I. Marchuk‡, a deputy director.

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References

1. A. D. Sakharov, *Progress, Coexistence, and Intellectual Freedom* (Norton, New York, 1968).

Smoking and Air Pollution Standards

Since the advent of the Surgeon General's report on smoking and health (1), everyone is aware that smoking may be harmful to health. What is not generally understood, however, is how the quantity of pollutants inhaled and placed in the local environment by smokers is related to air pollution standards.

The carbon monoxide (CO) content of a single puff (34.1 cubic centimeters) of cigarette smoke is 1.626 milligrams (2). If we assume that an average smoker takes eight puffs per cigarette and smokes 20 cigarettes in a 16-hour period, he would inhale 260 milligrams of CO in 16 hours. An average person inhales approximately 10 cubic meters of air per day. This air would have to contain 39 milligrams of CO per cubic meter or 33.6 parts per million for an average person to receive an equivalent dose of CO in 16 hours. A CO concentration of 30 parts per million averaged over an 8-hour period is defined as an air pollution warning situation according to the National Ambient Air Quality Standards (3).

Regular cigarettes contain an average of 23 milligrams of condensable tars (1, pp. 51–62). Although filters remove as much as 50 percent of this amount, this effect is partially negated by the extra length of most filter cig-