

strong hold on power. Polls and by-elections indicate that Britain's Labor Government would be obliterated if an election were held now; France remains a question mark until a new government is installed and indicates the line it will follow; Italy moves from crisis to crisis, amid strikes and demonstrations that halt the little that its antiquated bureaucracy is able to achieve; and Belgium is wracked by the increasingly bitter Flemish-Walloon conflict. Germany stands out as the most powerful and stable of them all, and so far has been undeviating in dedication to European union, but German leadership in almost anything is not altogether relished by her European neighbors.

Another impediment to grand-scale European technological cooperation, though only a potential one at present, is the student movement. Though battered down or mollified with concessions here and there, it seems destined to become more powerful and influential, not only because of real grievance but also because of student admiration and envy for the havoc its counterparts are now routinely wreaking throughout the United States. And the students, though they have yet to concern themselves with such high-level matters as multinational cooperation in big technology, are inevitably bound to discover that the designs of Europe's technocrats do not necessarily mesh well with their own visions of an agreeable society. Big technology requires that universities serve as training centers for the needs of big technology, and that isn't what the students are talking about when they rebel against the procedures and values that prevail in European higher education. In Britain, so far the least inflammable of academic scenes (the London School of Economics has been in a state of upheaval for months now, but otherwise the universities are relatively calm), there is a competition between grudging reform and attempts to ignite revolt. But the latter effort seems to be gaining headway, and central to much of its success is the feeling that the universities are serving as instruments of a society that is more interested in profits and efficiency than in human values.

Just how these concerns might affect the impulse toward European cooperation in research and industry is not clear. But they are infectious concerns, and it is doubtful that they will remain confined to the campus over the long run.—D. S. GREENBERG

## A. D. Sakharov: Soviet Physicist Believed To Have Been Punished

There is growing conviction that Soviet authorities have taken administrative measures to punish the noted physicist Andrei D. Sakharov. According to knowledgeable observers of Soviet affairs in Washington, Sakharov was summoned for verbal criticism last year after his outspoken essay "Progress, Coexistence, and Intellectual Freedom" was published in the *New York Times* on 22 July. Actual disciplining, however, is thought to have been performed during the early months of 1969.

Fragmentary accounts of Sakharov's punishment have appeared in scattered Western publications. One of the earliest accounts appeared in *Posev*, an emigré Russian-language journal published in West Germany which has a reputation for accuracy in reporting the details of the recent crackdown on Soviet intellectuals. *Posev* said that Sakharov had been deprived of work as a consultant in one of the ministries, had been removed from his position as chief consultant at the State Committee for Atomic Energy, and had been removed from his work in the restricted physics institute at Chernogolovka.

Another report by an English journalist printed elsewhere indicated that Sakharov had been barred from the research institute at Dubna and had been expelled from the Soviet Academy of Sciences. But other observers who agree that Sakharov was punished do not believe that he has been expelled from the Academy. They point out that such an expulsion would create wide reverberations inside the Soviet Union, and also that the Academy, especially the physics section, has been relatively immune from such political pressure. One observer has concluded that Sakharov may have been sent to work in a Soviet science installation in Siberia, but this conclusion seems speculative.

When asked by *Science* about these reports on Sakharov, the Soviet Embassy in Washington refused to confirm or deny them, saying only that it had no information on this matter. The Soviet Embassy refused to be of

any further assistance on the subject.

If punishments have been meted out to Sakharov, such reports have not spread widely among those U.S. scientists who have the most contact with the Soviet Union. The Foreign Secretary's office of the National Academy of Sciences is not aware of any actions taken against Sakharov. American scientists requested that Sakharov be included among the Soviet scientists to attend the "Pugwash" conference, which will be held in the Soviet Union at Sochi in October. The list of Soviet scientists who will be attending the Sochi meeting was sent recently to the United States and does not include Sakharov's name. This omission is not surprising, however, since it would be unusual for the Soviet government to permit a man who has been so critical of the regime to attend an international gathering of this sort. Apparently the last time any American scientist is reported to have seen Sakharov was at a conference on gravitation held at Tbilisi in the Soviet republic of Georgia in early September. (This was several months before Sakharov is said to have been punished for his outspoken criticisms.)

If Sakharov has indeed been punished, the confidence of many Western observers about his immunity from official retaliation would have proved ill founded. After Sakharov's essay was published, some Western scientists and other students of the Soviet Union said he could get away with such criticism because his scientific reputation and worth to the state rendered him "invulnerable." Some observers have said that Sakharov is regarded as a "saint" among Soviet scientists.

Sakharov, who played a crucial role in the development of the Soviet hydrogen bomb, certainly has an immense reputation in the Soviet Union. Harrison E. Salisbury of the *New York Times*, one of the leading writers on Soviet affairs, has commented that Sakharov is "a kind of Oppenheimer, Teller, and Hans Bethe all rolled into one. He speaks with a voice at least equal to the sum of all three and, perhaps, even more powerfully, since his

achievement was greater and more critical.”\*

During the past dozen years, Sakharov was outspoken in criticizing parts of Khrushchev's education policy and in warning of dangerous relapses to Stalinism. His famous essay of last year, which was circulated privately inside the Soviet Union before being published by the *New York Times*, continued these warnings and noted that “the exposure of Stalinism in our country still has a long way to go.”

In his essay, Sakharov called for an end to the division of mankind which threatens it with destruction; a massive financial effort by the Soviet Union and the United States to assist in eliminating poverty in the rest of the world with funds made available by cutting arms spending; and for complete intellectual freedom and “unfearing” debate within countries. Sakharov deplored the evils for which he felt the United States was responsible—the Vietnam war, the excesses of capitalism, and racism—but was equally hard on his own country. He argued that the Soviet government was directly responsible for stirring up trouble in the Middle East, said that the spirit of anti-Semitism had never been fully dispelled in the highest bureaucratic elite of the Soviet government, and said that there had been “a temporary victory of rightist tendencies in our leadership.” Writing before the Soviet occupation of Czechoslovakia last August, he supported “the bold initiative” of the Czechoslovaks. He called for a review of recent political trials in the Soviet Union and compared such “disgraceful phenomena” to the “sadly famous McCarthyism” of the early 1950's in the United States.

The limited punishments reported to have been meted out to Sakharov seem part of a larger and more severe policy of repression of intellectual critics in the Soviet Union. Several Soviet scientists have been punished for their part in defending critical Soviet writers. Physicist Pavel M. Litvinov, grandson of an important Soviet foreign minister, was deprived of his teaching position. Mathematician Aleksandr S. Yesenin-Volpin was committed to a mental institution. Last week, physicist and mathematician Ilya Burmistrovich, who had already been imprisoned without trial for more than a year, was sentenced to 3 years in a labor camp for

\* This comment appears in a foreword, written by Salisbury, to Sakharov's book *Progress, Coexistence, and Intellectual Freedom* (Norton, New York, \$3.95), which consists of Sakharov's essay and of notes and comments by Salisbury.

lending friends copies of the works of Andrei Sinyavsky and Yuli Daniel, writers who were given long prison terms in 1966.

It is assumed here that Sakharov's international reputation will protect him from these more severe punishments. Recent developments in the Soviet Union, however, have put into question the basis for the hope and confidence which Sakharov expressed in his essay when he asserted: “Our country has started on the path of cleansing away the foulness of Stalinism. We are squeezing the slave out of ourselves drop by drop. We are learning to express our opinions, without taking the lead from the bosses and without fearing for our lives.” No one is saying that Sakharov need fear for his life, but current indications are that the brilliant physicist is receiving harsher treatment from Soviet authorities than was predicted when his well-publicized essay appeared last summer.

—BRYCE NELSON

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## APPOINTMENTS

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**Linus Pauling**, professor of chemistry at the University of California, San Diego at La Jolla, to professor of chemistry at Stanford University. . . . **David D. Dominick**, legislative assistant to Senator Clifford P. Hansen, to commissioner of the Federal Water Pollution Control Administration. . . . **Daniel Bell**, professor of sociology at Columbia University, to professor of sociology at Harvard University. . . . **Donald S. Fredrickson**, former director of the National Heart Institute, National Institutes of Health, to director of Intramural Research at NIH. . . . **Walter Marshall**, director of the U.K. Atomic Energy Research Establishment at Harwell, has been elevated from deputy director to director of the Research Group, which includes the Culham Laboratory as well as Harwell. . . . **Robert Haselkorn**, assistant professor of biophysics at the University of Chicago, to chairman of the department; he succeeds **Robert B. Uretz**, who will become associate dean for the basic sciences of the university's division of the biological sciences and the Pritzker School of Medicine. . . . **Raymond F. Baddour**, professor of chemical engineering at Massachusetts Institute of Technology, to chairman of the department. . . . **Thomas A. Gonda**, professor of psychiatry at Stan-

ford University, to director of the university hospital. . . . **John F. White**, president of National Educational Television, to president of the Cooper Union for the Advancement of Science and Art in New York. . . . **Thomas K. Cowden**, dean of the College of Agriculture and Natural Resources at Michigan State University, to Assistant Secretary of Agriculture for Rural Development and Conservation. . . . **George W. Beadle**, former president of the University of Chicago, now director of the Institute for Biomedical Research of the AMA, has also been appointed William E. Wrather distinguished service professor at the University of Chicago. . . . **Morton B. Wallach**, assistant director of Creedmoor State Hospital in Queens, to director of Brooklyn State Hospital. . . . **Charles A. McCallum, Jr.**, dean of the University of Alabama School of Dentistry, has become president of the American Association of Dental Schools. . . . **Robert L. Ringler**, chief of Institutional Research Programs at the National Heart Institute, to deputy director of the institute. . . . **David G. Freiman**, pathologist-in-chief at the Beth Israel Hospital, to Mallinckrodt professor of pathology at Harvard. . . . **Sydney Howe**, acting director of the Conservation Foundation, to vice president and acting president of the foundation. . . . The National Institutes of Health has elevated **Harry W. Bruce, Jr.**, assistant director for manpower and education in the division of dental health of the Bureau of Health Professions and Manpower Training, to director of the division of educational and research facilities and **Daniel Whiteside**, acting director of the division of health manpower educational services, to director of that division. . . . **Claude R. Sowle**, dean of the University of Cincinnati College of Law, to president of Ohio University at Athens. . . . **R. Keith Arnold**, dean of the School of Natural Resources at the University of Michigan, to deputy chief of research in the Forest Service, Department of Agriculture. . . . **John J. Turin**, chairman of the department of physics and astronomy, and engineering physics, to dean of the Graduate School at University of Toledo. . . . **Graham H. Jeffries**, associate professor of medicine and chief of the division of gastroenterology at Cornell University Medical College—New York Hospital, to professor and chairman of medicine in the College of Medicine at the Milton S. Hershey Medical Center of the Pennsylvania State University.