## **BOOK REVIEWS**

## Charges of Espionage

**Special Tasks**. The Memoirs of an Unwanted Witness—A Soviet Spymaster. PAVEL SUDO-PLATOV and ANATOLI SUDOPLATOV with Jerrold L. and Leona P. Schecter. Little Brown, New York, 1994. xxiv, 509 pp. + plates. \$24.95 or \$C32.50.

Pavel Sudoplatov had a grisly career in the Soviet secret police. Born in Ukraine in 1907, he began to work for the CHEKA (the first Soviet security service) at the age of 14. In the 1930s he penetrated the Ukrainian nationalist movement abroad and killed one of its leaders with a boobytrapped box of chocolates. On Stalin's personal instruction he organized the assassination of Trotsky. This success gave his career a boost. In 1941 he was put in charge of the Administration for Special Tasks to organize sabotage operations against the German forces. After the war he headed a special group to carry out assassinations at home and abroad. In 1953, after the fall of Lavrenti Beria in a Kremlin power struggle, Sudoplatov was arrested and was imprisoned until 1968. He was rehabilitated in 1992 as a victim of political repression.

Sudoplatov was a specialist in assassination, sabotage, and disinformation. After Hiroshima, however, Beria placed him in charge of a new Department S, which was given the task of collating and evaluating atomic intelligence. According to a statement issued recently by the Russian Foreign Intelligence Service, Sudoplatov headed Department S from September 1945 until October 1946. In this book he claims that the physicists J. Robert Oppenheimer, Enrico Fermi, Leo Szilard, and Niels Bohr all knowingly passed atomic secrets to the Soviet Union during and after World War II. More specifically, he charges that Oppenheimer, Fermi, and Szilard believed that information about the atomic bomb should be shared with the Soviet Union and that they accepted "moles" into their laboratories through whom they could pass information to Moscow. It is the chapter on atomic spies that I will review here.

In writing this book Sudoplatov was helped by his son Anatoli and by Jerrold and Leona Schecter, two American journalists. Quite how the chapter on atomic spies was written is not clear. Sudoplatov was interviewed, but it was evidently the others who substantially put the text together, with the help of documents and reports recently published in the Russian press. It appears that the KGB did not cooperate in the preparation of the book.

The best way to examine the book's charges is to consider first the evidence it adduces to support them. This is not extensive. No specific accusation is made against Szilard, for example, and therefore no specific rebuttal can be offered. (The book does state that Szilard passed information from Los Alamos, but Szilard did not work at, or visit, Los Alamos during World War II.) Specific charges are made, however, regarding Fermi, Bohr, and Oppenheimer.

Fermi is accused of passing atomic secrets to the Soviet Union through Bruno Pontecorvo, who had worked in Fermi's group in Rome in the early 1930s and was employed in the Montreal Laboratory from 1943 on; Pontecorvo defected to the Soviet Union in 1950, and it is not surprising therefore to find him accused of espionage. The book implies-though it does not say so directly-that Fermi informed the Soviet Union immediately about his success in achieving a self-sustaining fission chain reaction in a nuclear pile in Chicago on 2 December 1942. According to the book, the message "The Italian sailor has landed in the New World" was sent to a Soviet agent in New York a few hours after the pile went critical, and by the end of January 1943 Moscow had received a "full report" of the experiment.

There are two reasons this story is not credible. The first is that the coded message is almost identical to what Arthur Compton said in the famous call he made from Chicago to James Conant at Harvard on the day of Fermi's success. The second, and more serious, reason is that the documentary evidence indicates that Igor Kurchatov, who had just been appointed scientific director of the Soviet atomic project, did not know about the Chicago pile in the early months of 1943. According to Sudoplatov and his coauthors, "Kurchatov, on March 22, 1943, after receiving our report on the chain reaction at the University of Chicago, asked Deputy Prime Minister Pervukhin to have the intelligence organs clarify what was being accomplished in the United States" (pp. 182-183). Part of this memorandum to Pervukhin is included in

the book. In that part Kurchatov refers to Fermi as being at Columbia University, even though Fermi had moved to Chicago in the first half of 1942 to work on the pile. In the same memorandum-in a section not included in the book-Kurchatov writes that "a 'uranium pile' is a system of natural uranium, mixed with a substance which slows down the neutrons (ordinary water, heavy water or graphite). Whether or not it is possible to create a 'uranium pile' on this basis (i.e. without separating the isotopes of uranium) is now still an open question." (This part of the memorandum may be found in Voprosy istorii estestvoznaniia i tekhniki, 1992, no. 3, p. 116.) In other words, Kurchatov did not know on 22 March 1943 of Fermi's success with the Chicago pile, which consisted of natural uranium and graphite. Sudoplatov and his coauthors evidently did not read, or did not understand, the documents they offer as support.

I have labored this point, but the charge of espionage is a serious one, and it is important to give the book's allegations careful scrutiny. The same must be done to the accusation against Niels Bohr. There are three parts to this charge. First, Bohr went to the Soviet Embassy in London in 1944 and talked to the NKVD chief there. That is true, but the authors do not mention that Bohr went to pick up a letter from the Soviet physicist Peter Kapitsa inviting him to spend the rest of the war in the Soviet Union. Bohr kept the British security authorities informed about this and showed them the innocuous reply that he sent to Kapitsa. (See Margaret Gowing, Britain and Atomic Energy, 1939–1945 [Macmillan, 1964], pp. 348-361; this is the official history of the British project.)

Second, the authors claim that Bohr urged Churchill and Roosevelt to give atomic secrets to the Soviet Union and that he encouraged American scientists to do the same thing. That is misleading. Bohr tried to persuade Churchill and Roosevelt to tell Stalin that there was a bomb project, so that mistrust caused by secrecy would not lead to a postwar arms race; exchange of information would have to take place in the context of cooperation between the Soviet Union and the Western powers (Gowing, *ibid.*).

Third, the book states that a young physicist, Iakov Terletsky, was sent by Sudoplatov to see Bohr and to get his advice about a problem that Soviet physicists had with their first reactor. Terletsky, according to the book, showed Bohr a diagram. Bohr pointed to this and said, "That's the trouble spot," thus solving the problem with the Soviet reactor.

This account is garbled. Terletsky did indeed go to see Bohr in November 1945 to

SCIENCE • VOL. 264 • 27 MAY 1994

put some technical questions to him, about the development of the Soviet reactor perhaps, but not about the reactor itself, assembly of which did not begin until August 1946. Bohr gave Terletsky some very general answers and provided him with a copy of the Smyth Report on the bomb, which had been published by the U.S. government in August.

In his unpublished account of the visit to Bohr, Terletsky makes the point that Bohr told him nothing that Soviet physicists did not know already. Bohr spoke in very general terms, according to Aage Bohr, Niels Bohr's son and himself a Nobel laureate in physics, who was present at the conversations between Bohr and Terletsky. What Sudoplatov does not recount-and may not know—is that Bohr told Danish intelligence about the visit, which took place at his Institute, and also informed the British and American authorities. Sudoplatov, whose knowledge of nuclear matters is minimal on the evidence of this book, may indeed believe that Bohr was supplying useful information. But such a belief does not in itself constitute evidence of espionage. This book's charge that Bohr was a spy does not stand.

The evidence in support of the charge against Oppenheimer is even flimsier. Sudoplatov reports that Oppenheimer had lunch in December 1941 with Grigori Kheifetz, the NKVD man at the Soviet consulate in San Francisco. During this lunch Oppenheimer allegedly told Kheifetz about the letter that Einstein had written to Roosevelt in August 1939 pointing to the possibility of an atomic bomb. It is certainly possible that such a lunch took place; it is also possible, though perhaps unlikely, that Oppenheimer knew of Einstein's letter to Roosevelt, and that he told Kheifetz about it. That might have been indiscreet, perhaps, but the letter did not contain any secrets.

The book claims that Oppenheimer made a special effort to bring Klaus Fuchs to Los Alamos. This is wrong. Fuchs went to Los Alamos in August 1944 (not in 1943 as the book says) after working in New York on gaseous-diffusion isotope separation as part of the British delegation to the Manhattan Project. There is no evidence that Oppenheimer made any special effort to recruit him. The list of names for the British delegation was submitted by the British and ultimately accepted by General Leslie M. Groves (as Groves recounts in Now It Can Be Told [Harper, 1962], pp. 142-143). Fuchs went to Los Alamos because Rudolf Peierls, whom Hans Bethe invited to join the theoretical group there, wanted to bring Fuchs, his assistant, with him (see Robert Chadwell Williams, Klaus Fuchs: Atom Spy [Harvard

University Press, 1987], pp. 73-74).

The evidence provided by Sudoplatov and his coauthors to support their charges is largely untrue. Sudoplatov's American coauthors, the Schecters, have argued in response to criticism that Sudoplatov was in a position to know who spied for the Soviet Union and that his word should be taken even if he has misremembered the details. They have also argued that the role played by Oppenheimer et al. was such that there is no documentary evidence to show that they caused information to be passed to the Soviet Union. It might be added, moreover, that intelligence information from the United States played a very important role in the Soviet project; the first Soviet bomb, exploded in 1949, was a copy of the first American plutonium bomb.

Several responses may be made to these points. The first is that the authors are wrong not only about details but also about the essential elements of their charges against Oppenheimer, Fermi, Szilard, and Bohr. Almost nothing in these charges stands up to scrutiny. Moreover, these errors are embedded in an account that is mistaken about other aspects of the American and Soviet atomic projects that do not bear directly on the specific charges. There is in this whole account a pattern of carelessness (to put it kindly) that does not inspire trust.

Second, there is no need to invoke the names of the four physicists in order to explain how the Soviet Union received information about the American bomb. Klaus Fuchs, in particular, provided a detailed description of the American plutonium bomb. The fact that the Soviet Union received extensive information from the United States is not in itself evidence in support of the charges that the authors make.

Third, Sudoplatov is a self-confessed assassin and organizer of disinformation operations. To believe the charges of espionage on the basis of his testimony alone would be reckless. If all we are ever going to have is his word, then the evidence in support of charges against such men as Oppenheimer, Fermi, Szilard, and Bohr is weak in the extreme.

Sudoplatov could have various motives for making his accusations: to make money or to cause mischief, for example. It is also possible that he wants to magnify the role of the KGB, and thereby belittle the role of Soviet physicists, in the Soviet nuclear program; this is a campaign that some former KGB people have conducted over the last four years in order to discredit Andrei Sakharov and other Soviet physicists. It is even possible that Sudoplatov believes the charges, though that, as I have indicated, does not constitute evidence, since many of the things he believes or remembers can be shown to be wrong.

Sudoplatov's motives may be understandable, but his American coauthors are very much to blame for not making the effort to check out his serious, but unsubstantiated, charges.

> David Holloway Center for International Security and Arms Control, Stanford University, Stanford, CA 94305, USA

## A Blossoming under Totalitarianism

**The Making of a Soviet Scientist**. My Adventures in Nuclear Fusion and Space from Stalin to Star Wars. ROALD Z. SAGDEEV. Susan Eisenhower, Ed. Wiley, New York, 1994. xii, 339 pp. \$24.95 or £14.95.

As a one-time Soviet scientist Roald Sagdeev begins this book of memoirs by introducing himself as belonging to an "extinct species." It is worth considering how this species evolved and flourished in a very specific society that has disappeared before our eyes.

The role of physics in this extinct civilization was particularly striking. Not only did nuclear and space achievements serve as a showcase for the Soviet state, it was physics that enabled the Soviet Union to become a superpower. Isn't it a puzzle that

SCIENCE • VOL. 264 • 27 MAY 1994

in a country where spiritual freedom was so totally suppressed such scientific prowess could be achieved?

Though the development of the Soviet atomic bomb has been attributed by some to the exploitation of espionage, there is general agreement about the independence of the Soviet achievements in the cases of thermonuclear fusion and space exploration. In fact, Russian capabilities in physics reached the height of their fame in the 1930s, and the later achievements were in a sense by-products of that era. This blossoming under totalitarianism had clear material reasons. To create state power the government was generous toward the physicists at a level incommensurate with the ordinary standard of living in the Soviet Union and even with that prevalent in the West, then suffering a

1347