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ARROGATION BY ATOMIC SCIENTISTS OF LEFT AND RIGHT

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CONSCIENCE, ARROGATION AND THE ATOMIC SCIENTISTS

The 50th anniversary of the atomic era will take place in a world twice removed from the events themselves. The scientists who created the bomb during a hot war, and saw it manufactured in the tens of thousands during a Cold War, are about to be appraised, once more, in a novel period of post-Cold War.

Available for the assessment are not only new perspectives, but also new information—from both the West and from Russian files. In our May/June issue, we summarized, in particular, the charges made by KGB spymaster Pavel Sudoplatov against Oppenheimer, Fermi, Szilard and Bohr—charges we found to be wholly unsubstantiated and, after strenuous further investigation, continue to deplore. These four scientists deserve, in consideration for what they achieved, how they behaved, and how they have been treated, a Congressional resolution of commendation for, among other related contributions, their efforts to secure international agreements to control the atom.

The original atomic scientists in Britain, Germany, the United States and the U.S.S.R. had a variety of live options to encourage or discourage their nation states and/or the nation states of others in the invention of weapons that could destroy cities and, perhaps, civilization. How did they fulfill their personal moral responsibility to prevent that nuclear holocaust which, inevitably, they were the first to perceive?

German, British, American Choices

At the outset, the German atomic scientists of World War II maintained a quiet consensus to play down the possibilities of an atomic bomb, lest they be forced to put one in Hitler's hands. Thus they betrayed their government but served humanity well.

The British atomic scientists learned as early as the summer of 1943 that the Germans were *not* going to get an atomic bomb. They appear to have made no intense effort to alert U.S. Manhattan Project scientists. And what they did say was not accepted. The British Government and knowledgeable British scientists, facing Hitler, understandably may have put national interests first.

The main body of American atomic scientists were, on the whole, under the command of General Leslie Groves and under the thrall of Robert Oppenheimer, both of whom wanted, in the end, to use the bomb. Oppenheimer, sharing the views of many other scientists felt that only the bomb's use on Japan would provide a foundation of public perception on which the avoidance of a future nuclear holocaust could be based.

Perhaps ten still-unknown Western scientists, some of whom may now be dead, acted, as did Canadian Alan Nunn May and British Klaus Fuchs, at risk of imprisonment, and without thought of financial gain, in surreptitiously providing nuclear secrets to the Soviet Union. Some may have been communists, pure and simple. But some may have acted in a desire to create a prompt balance of terror so as to preclude a holocaust arising from strategic imbalance, or even a Western preventive war.

These "arrogators of the left", taken together, may have saved the Soviet Union's atomic scientists about two years, according to some estimates. But the West, as it turned out, was not inclined to exploit its window of opportunity through risky geopolitical expansion—much less through deliberate attack or preventive war.

Critical Escalation: The Hydrogen Bomb

One Western scientist, here dubbed an "arrogator of the right", Edward Teller, insisted, at first for personal intellectual reasons and later for geopolitical reasons, that a hydrogen bomb be built. Using tactics of exaggeration and even smear, he successfully manipulated the policy-making process for five decades, denouncing all manner of arms control measures and promoting arms-race- escalating programs of many kinds.

The Soviet Union, hearing of his H-bomb project, built its own H-bomb. As a direct consequence of the unusual personality of this particular individual and of the power of the H-bomb, the world may have risked a level of annihilation that might not otherwise have transpired, or might have come later and under better political controls.

If so, no scientist has ever had more influence on the risks that humanity has run than Edward Teller, and Teller's general behavior throughout the arms race was reprehensible, as is described within.

Meanwhile, inside the Soviet Union, among the Russian

This newsletter is a contribution to the inevitable debate of 1995 about the atomic scientists; it focuses on the morality of a tiny segment of the atomic scientists, herein called the arrogators (of right or left) who misled their fellow citizens out of a felt obligation to arm America or prevent nuclear holocaust. Because of the judgments this report necessarily makes, it represents the personal views of the author, FAS President Jeremy J. Stone. Readers are encouraged to send in their views. ■

atomic scientists, only Peter Kapitsa could opt out of bomb construction without dire consequences and even that was at the cost of seven years of house arrest. But the much younger Andrei Sakharov, as his political consciousness grew, managed to push the evolving envelope of his political and moral possibilities throughout his life.

Two Western atomic scientists, Leo Szilard and Niels Bohr, especially preoccupied themselves with issues of post-World War II policy and encouraged others to do so. A significant fraction of the rest of the world's atomic scientists joined them then, or later, in political agitation and education, nationally and internationally, to control the atom. In particular, of course, this community of scientists of conscience created and nurtured our organization, FAS.

Together, these non-arrogating scientists played an important role in the preservation of the peace, and in the struggle against proliferation of nuclear weapons. But they could not prevent the creation of unnecessarily large weapons (such as the H-bomb) or the endless multiplication of nuclear weapons of all kinds.

God only knows how all of these scientists should be ultimately judged. But we can, at least, try to understand the context in which they found themselves, what they were thinking and what they were trying to do. —*J.J.S.*

Did Bohr Favor Nuclear Proliferation?

The vast majority of American political scientists and atomic scientists have been, since World War II, emphatically against the proliferation of nuclear weapons to countries that do not have them. A notable dissenting theorist has been Kenneth Waltz of the University of California at Berkeley who has pointed, for example, to the stabilizing effect of nuclear capabilities in the Indian-Pakistani confrontation in dissuading each side from risking or implementing new conventional wars. (See his 1981 Adelphi Paper, "The Spread of Nuclear Weapons: More May Be Better".)

It appears from Terletsky's summary of Bohr's views [See page 14], and from other evidence, that Niels Bohr anticipated Waltz's theories and saw favorable aspects in the spread of nuclear weapons insofar as it would put an end to war—"completely changing all future conditions of warfare" and making it impossible to win. He appears to have expressed this view to Oppenheimer as early as when he arrived in Los Alamos in 1943. (19,532)

If one has such a view, and if one comes to consider international control of atomic weapons infeasible, albeit desirable, and if one believes, further, that the United States might act aggressively during an initial window of opportunity, one could be led in logic to support or condone the sharing of secrets with the Russians as a lesser evil to an unstable balance of terror during a post-World War II transitional period. (Though there continues to be no evidence that Bohr, Fermi, Szilard or Oppenheimer provided secrets to the Russians, this logic—which may have motivated the atomic espionage of others, such as Perseus— should have been highlighted, rather than overlooked, in the May/June PIR, inasmuch as it may reflect the only plausible motivation for atomic espionage of non-communist scientists). —JJS

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Scientists of Four Nations Confront Nuclear Holocaust

Under Conditions Of Dictatorship, German Scientists Lie By Omission

In the Fifties, Germany's leading atomic scientist of World War II, Werner Heisenberg, said:

"Under a dictatorship active resistance can only be practiced by those who pretend to collaborate with the regime. Anyone speaking out openly against the system thereby indubitably deprives himself of any chance of active resistance." (18,91)

In accordance with this view, the German atomic scientists— fear of whose talent and whose earlier discoveries had motivated the West to mobilize the Manhattan Project—just quietly dragged their feet.

According to *Heisenberg's War* by Thomas Powers, the early interest of German military officials in an atomic bomb had been " . . . deflated by German scientists who convinced officials the job was too big, would take too long and was too uncertain of success."

In particular, Heisenberg " . . . never warned authorities the Allies would build a bomb, never begged support for an all-out German effort, never insisted a bomb could be powerful enough to win the war, indeed never committed himself on paper to anything beyond the bare recognition that a bomb was theoretically possible." (28,478-479)

It was not easy and it was dangerous. Physicist Otto Haxel remembers how the consensus of German atomic scientists was built:

"By slow degrees more and more pledges of mutual confidence were given on both sides till eventually each of us, so to speak, carried the other's life in his hands. At that moment we began at last to talk freely together." (18,97)

Emilio Segrè Visual Archives

Werner Heisenberg stalled Nazi nuclear project

Heisenberg even tried, in mid-1941, to propose to Bohr that all the world's physicists should tell their governments that the job was too big. And one of his colleagues wrote to Americans in April 1941 that "Heisenberg himself tries to delay the work as much as possible." He and his colleagues were able to create a consensus for delay because, as Max von Laue put it, "No one of us wanted to lay such a weapon in the hands of Hitler." (28,482)

Russian Atomic Scientists Have Few Qualms About Catching Up

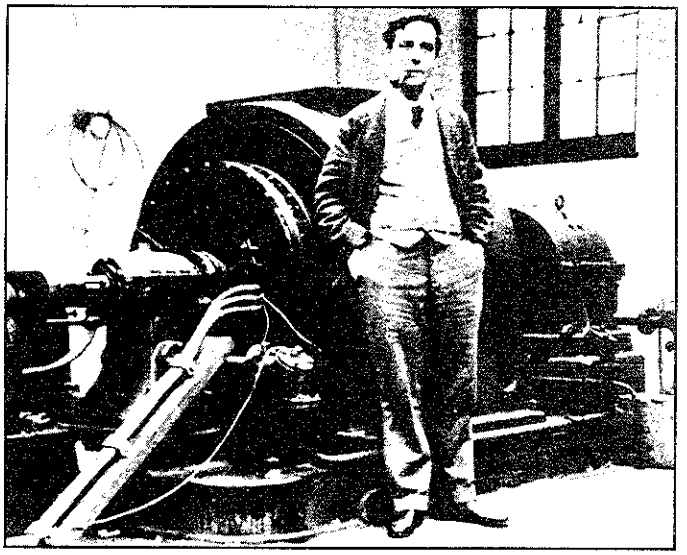
After Hiroshima, with work already started on a modest scale, Stalin told Kurchatov and others "provide us with atomic weapons in the shortest possible time! You know that Hiroshima has shaken the whole world. The balance [of power] has been destroyed!" Kurchatov's assistant, Igor Golovin, wrote that "anyone who lived at that time will confirm" that "we thought of just one thing: what we should do to complete the work as soon as possible—before the American atom bomb fell on us." (20,376) (According to Roald Sagdeev, Lev Landau was an exception who complained and even talked of suicide.)

But Kapitsa Opts Out By Criticizing Beria

In this atmosphere, only one well-known atomic scientist seems to have been able to avoid atomic research without imprisonment. Peter Kapitsa, the most distinguished Soviet physicist of his period, had worked with Lord Rutherford at Cambridge for 12 years when, during an April 1935 conference in Moscow, he was refused an exit permit. The resultant Western outcry was met with this explanation of his kidnapping: "As a result of the extraordinary development of national economy of the U.S.S.R. the number of scientific workers does not suffice." (33,454)

Kapitsa seems to have been a committed communist. Nevertheless, he twice asked Stalin, in letters of October 3 and November 25, 1945 to let him withdraw from atomic work. The letters were drafted as criticisms of Lavrenti P. Beria's imperious manner in dealing with scientists as both Commissar General of State Security and director of a committee for building the atomic bomb.

The second letter hinted that, if Beria was to be the "conductor" of the process, at least a scientist should be the "first violin" and he seems to have criticized a slavish process of just following the West's ideas rather than generating Soviet approaches to nuclear weapons. (42) According to Sudoplatov, there was "open rivalry" between Kapitsa and Kurchatov. (30,202)



Emilio Segrè Visual Archives

Peter L. Kapitsa, in front of the alternator that produced currents up to 72,000 amperes

Beria organized a campaign against Kapitsa and Stalin is said to have told Beria: "I will fire him for you but you do not touch him." And, with that, Kapitsa was removed from all posts and sent to his country house where he remained under de facto house arrest. (49,93-95)

In the Eighties, Kapitsa told Herbert F. York, in Moscow, that he had not acted "for moral or political reasons and that he knew that since your country had the bomb that my country would have to have it too."

In the mid-1980s, Kapitsa's widow, Anna, once described his period of isolation to FAS. The two never went out alone but only together to protect against revenge by Beria. The end of the seven years occurred when two KGB men arrived, demanded entry, and wandered around aimlessly for three hours. They left promptly at 12 noon, the time, it turned out later, of Beria's arrest. The Kapitsas concluded that these officials had been sent to ensure their safety at one of the tensest moments in modern Soviet history.

Sakharov Turns From Faithful Worker To Agitator

Andrei Sakharov was younger than Kapitsa and had no Western experience. He has written in "Memoirs" of how his conscience was first suppressed, then aroused. In the immediate post-war period, he wrote:

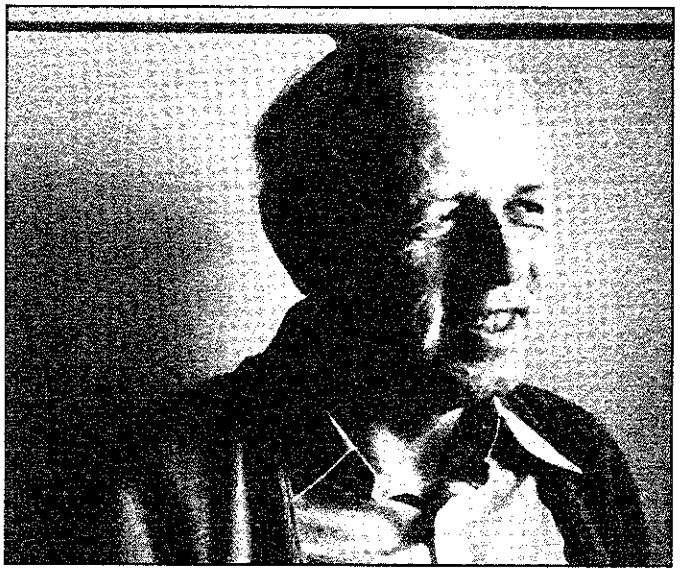
"We were encouraged to throw ourselves into our work by the fierce concentration on a single goal, and perhaps also by the proximity of the labor camp and the strict regimentation. We saw ourselves at the center of a great enterprise on which colossal resources were being expended. We shared a general determination that the sacrifices made by our country and people should not be in vain; I certainly felt that way myself. We never questioned the vital importance of the work. And there were no distractions; the rest of the world was far, far away, somewhere beyond the two barbed wire fences. High salaries, government awards, and other privileges and marks of distinction contributed to the psychological atmosphere in which we lived. It would require the passage of many years and radical upheavals for new currents to effect a shift in our view of the world." (32,116)

In 1955, after the test of Sakharov's thermonuclear device, a lewd toast by Marshall Nedelin made Sakharov feel he had been "lashed by a whip". This was the moment at which he lost his innocence. He wrote later:

"The point of his story (half lewd, half blasphemous, which added to its unpleasant effect) was clear enough. We, the inventors, scientists, engineers and craftsmen, had created a terrible weapon, the most terrible weapon in human history; but its use would lie entirely outside our control. The people at the top of the Party and military hierarchy would make the decisions. Of course, I knew this already—I wasn't *that* naive. But understanding something in an abstract way is different from feeling it with your whole being, like the reality of life and death. The ideas and emotions kindled at that moment have not diminished to this day and they completely altered my thinking." (32,194)

As the world knows, he turned to urging a halt to atmospheric testing in the early Sixties, became a proponent of an ABM Treaty in 1967 and 1968, and moved so far toward support of the U.S. MX that he was considered a traitor by hard-liners inside Russia in the Eighties. As he moved into dissidence, he feared Soviet misuse of its weapons more than he feared the misuse of those of the West. From the point of view of his fellow citizens he, perhaps like Heisenberg before him but in a more public manner, had put the interests of civilization above those of his nation-state.

While Kapitsa dropped out of the system, it was possible, two decades later, for Sakharov to work, within certain limits, to influence public policy—until, in 1979, he went too far and criticized the Soviet invasion of Afghanistan. He was promptly exiled to Gorky. Much earlier, other unknown Soviet physicists are believed to have refused to work on atomic weapons and been sent to labor camps.



Andrei Sakharov in the 1980s

Western Arrogators Of The Left Fear Strategic Imbalance

According to KGB sources quoted recently by Izvestia editor Sergei Leskov, there were "10 agents of similar caliber [to Fuchs and the oft mentioned Perseus] working in the West," of whom six worked in the U.S. and four in Britain, and whose names will "become known in the twenty-first century, not earlier." (1,36) This confirms an estimate in 1955 by David J. Dallin in *Soviet Espionage* that "about ten physicists of various scientific institutions in the U.S., Britain, and Canada were sporadically sending information to Moscow" (33,461) and is consistent with quotes that Anatoli A. Yatskov said the FBI uncovered "perhaps less than half" his network. (30,189)

If these spies were anything like Alan Nunn May, Klaus Fuchs, or David Greenglass or the description of Perseus, they were not mercenaries. Fuchs' courier, Harry Gold, related in his confession that he was once given $1,500 for Fuchs and told "to be very diplomatic" about offering it. Gold reported: "He turned it down cold." (2,199)

Alan Nunn May, a physicist working on the bomb in Canada had a bottle of whiskey with dollars in it forced upon him by an enthusiastic control whose reputation had just been made by his having received a small sample of enriched uranium to pass along to Moscow. May said "The man gave me 200 some dollars (I forget how many) in a bottle of whiskey and I accepted these against my will . . . .The whole [espionage] affair was extremely painful to me and I only embarked on it because I felt this was a contribution I could make to the safety of mankind. I certainly did not do it for gain."

Indeed, May explained that in early 1945, he " . . . had given very careful consideration to correctness of making sure that development of atomic energy was not confined to U.S.A. I took the very painful decision that it was necessary to convey general information on atomic energy and make sure it was taken seriously."

After he passed the uranium, he decided not to keep future appointments with Soviet agents because "this clandestine procedure was no longer appropriate in view of the official [post-war] release of information and the possibility of satisfactory international control of atomic energy." (29,455-456) He received a ten-year sentence in Canada.

Greenglass Also Sought Strategic Balance

His reasoning seems roughly the same as that of the Los Alamos technician David Greenglass who first told his wife that he would not help Julius Rosenberg but then reflected, according to his testimony: "Russia was our ally. If the two great powers had the atomic bomb, they would offset each other. Perhaps this was the best road to peace. The next morning, I told my wife I had decided to give the information". (44,78) Greenglass, it should be noted was extremely naive and believed that Stalin and the Soviet leadership were "really geniuses, everyone of them" who had only ever used force "with pain in their hearts."

Fuchs, in his full confession, said that when he started his espionage, " . . . I had complete confidence in Russian policy and I believed that the Western Allies deliberately allowed Russia and Germany to fight each other to the death". (This view was encouraged by those like then-Senator Harry Truman who said, two days after the Germans attacked Russia: "If we see that Germany is winning we ought to help Russia and if Russia is winning we ought to help Germany and that way let them kill as many as possible . . . ").

Emilio Segrè Visual Archives

Klaus Fuchs (left) at 1947 Cambridge Conference

Later, in the post-war period, Fuchs said: "I began again to have doubts about Russian policy . . . and eventually I came to a point where I knew I disapproved of a great many actions of the Russian Government . . . but I still believed that they would build a new world and that one day I would take part in it and that on that day I would also have to stand up and say to them that there are things which they are doing wrong." He received a 14-year sentence in Britain and served 9 years.

Fuchs did not volunteer information to the Soviet Union about Edward Teller's H-bomb investigations at Los Alamos. In Fuchs' confession, his interrogator, British atomic scientist Michael Perrin, recorded:

"During 1947, Fuchs was asked on one occasion by the Russian agent for any information he could give about 'the tritium bomb'. He said that he was very surprised to have the question put in these particular terms and it suggested to him (as had the earlier request for information about the electromagnetic isotopes separation process) that the Russians were getting information from other sources." (2,192)

But he certainly provided this information when asked for it.

Perseus: Trying To Avert Nuclear Holocaust

Perseus, said to be an American physicist, told his recruiter, Morris Cohen, that he volunteered because "I am convinced that America's military quarters have cheated

nuclear physicists into developing the atomic bomb by telling them that the bomb was intended to save mankind from the danger of Nazism which had engulfed Europe. As a matter of fact, the Pentagon is of the opinion that it will be quite some time before the Soviet Union harnesses atomic energy. This will take your country decades, it thinks, and in the meantime, America will destroy socialism by means of the Uranium bomb."

In short, he thought the world would be safer if both sides had the bomb rather than only our own. As far as money was concerned, when Cohen offered "material support if necessary", Perseus said:

"Oh; no, for God's sake. I'm willing to cooperate with them for a cause, not for money. I want to dedicate my life to averting the danger of a nuclear holocaust looming over mankind, because I have just realized how real the threat of such a holocaust is, and this prompted me to counter it in the ranks of the Soviet intelligence service." (31,38)

Were US Bomb Builders Misled?

Each of these scientists operated in a significantly different context, and only they can fully explain what motivated them. But, as an illustration, the Perseus case is interesting.

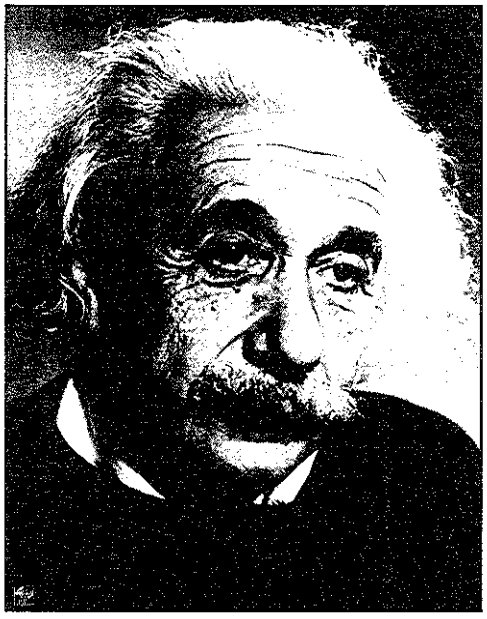
What he meant by "cheat" the physicists into building the bomb is fairly obvious. In effect, Heisenberg's influence in stopping a German effort led Perseus to dark speculations about why the U.S. was going forward anyway. One basic source on World War II summarizes the fears of the German bomb as follows:

"By the summer of 1942 the critical resource allocation decisions had been made; there would be no German atomic bomb. In the summer of 1943 the British were convinced of this, and by the summer of 1944 the Americans had come to the same conclusion, a view reinforced by the special 'Alsos' mission, whose task it was to check on German atomic bomb progress." (24,570)

Since Los Alamos only started in March 1943 and its mobilization of scientists depended upon the German nuclear threat, the British might have squelched the whole project, had they had an interest in doing so, by insisting, in the summer of 1943, that there would be no German bomb.

But the British had no serious interest in dissuading the U.S. from building a bomb that might win the war—just because the Germans would pose no nuclear problem. (Ironically, it was Klaus Fuchs, working with his superior, the Nobel Laureate Rudolph Peierls, assessing literature on German progress, who concluded by February 1942 that German sources gave no "very new indications on work of interest".) (20,314) And in 1943 when Michael Perrin, the chief scientific adviser on nuclear matters for British intelligence, took General Groves aside and told him what the British thought, Groves said "Well, you may be right, but I don't believe you." (45)

Nor did the U.S. military have any interest in disclosing the conclusion that the Germans would pose no problem—they also wanted the bomb for its own sake. Even when, in late 1944, at Strasbourg, the papers of a key German physicist, Carl Friedrich von Weizecker, were closely examined



Albert Einstein in 1945

and found to show that the Germans had gotten nowhere, General Groves said:

"Unless and until we had positive knowledge to the contrary, we had to assume that the most competent German scientists and engineers were working on an atomic program with the full support of their government and with the full capacity of German industry at their disposal."

Indeed, Oppenheimer himself was not eager to slow the project by breaking out the champagne over Germany's failure. He felt, by late 1944, that only the bomb's use would provide public understanding sufficient to make public policy over the bomb sensible—perhaps to internationalize it.

The US Establishment Wanted The Bomb

This is why historian Martin J. Sherwin could write that "Even before Truman took office, the race for the bomb had already changed from a race against German scientists to a race against the war itself." (41,145)

Accordingly, it is conceivable, in this climate, that an atomic scientist who, somehow, found out early how badly the Germans were doing, and how little was being said about it, concluded that American scientists were being "cheated" into building a bomb with a false motivation.

Einstein himself felt "cheated" in this larger sense and later said: "If I had known that the Germans would not succeed in constructing the atom bomb, I would never have lifted a finger." (18,87)

Some scientists may also have been disturbed by being discouraged from discussing what was happening. Regarding seminars Oppenheimer agreed with Groves "to avoid matters that whatever their importance in other ways, were of little scientific interest" and to severely restrict those eligible to attend. (41,62) Thus no discussion of the purpose of the project was permitted. At the Metallurgical Laboratory in Chicago, military officials refused to permit more

than three people to enter into discussions on issues such as international controls at laboratory meetings. (18,203) A petition circulated by Szilard protesting against the use of the bomb was first declared "secret" and, then to slow its circulation, it was argued that troops could not be spared to protect it so that it had to be locked up. (18,203)

Was The Military Prepared To Misuse The Bomb?

For those on the left who were also anti-establishment it was not *that* clear that America would not misuse the bomb. There was a lot of apocalyptic talk around. AEC Chairman David E. Lilienthal talked to the Chairman of the Joint Chiefs and other military officials in late 1949 and wrote in his diary:

"The view of some of the military is that war is inevitable. The top, however, do not go so far; they believe it's 'likely' in a relatively short time, four to five years. After it comes we must use the atomic bomb, as we can't hold Europe without it. . . . [They] regard the next four to five years as the most critical in the entire history of the country."

A few days later, talking to the Chairman of the Joint Congressional Committee on Atomic Energy, Lilienthal found not only "inevitability" but thoughts of preventive war; his diary records: " . . . what he says adds up to one thing: blow them off the face of the earth, quick, before they do the same to us—and we haven't much time." (10,432)

Indeed, there is credible evidence that in the mid-Fifties, in violation of standing orders from President Eisenhower, the Strategic Air Commander, General Curtis LeMay, sent aircraft over Russia in an apparent attempt to provoke a preventive war. He told one such flight commander, after presenting him with a private decoration: "Well, maybe if we do this overflight right, we can get World War III started." LeMay also told a high Eisenhower civilian defense adviser "If I see that the Russians are amassing their planes for an attack, I'm going to knock the [expletive] out of them before they take off the ground." (50, C-9)

General Groves himself thought that the danger of nuclear war would pass only when other countries had the bomb. He wrote in 1961: "Not until each of the great powers had produced a full atomic arsenal would the threat of one-sided atomic war pass. . . . Once this state was finally achieved, and I feel that it has been, with sane national leadership, major war is impossible." (14,414)

How Great Did the Danger Seem to the Scientists?

In such a context, it is not surprising that a free thinker like Leo Szilard was worrying about America:

"In 1945, when we ceased worrying about what the Germans might do to us, we began to worry about what the government of the United States might do to other countries." (18,178)

He said that Congressmen "should also be warned that the A-bomb creates the danger of a preventive war if an arms race develops" (23,282) and later called this danger of a "*preventive* war" the "greatest danger" of such an arms race (23,260) arising out of what Thomas Schelling later characterized as the "reciprocal fear of surprise attack" by two opposing nuclear powers.

FBI officials looking into the Fuchs affair quoted a Los Alamos scientist as saying that Fuchs was " . . . perhaps the only one of the group [in Los Alamos] who acted on a theory [urging strategic balance?] accepted by almost all of them" and that "conversations engaged in by the scientists at Los Alamos might well have spurred Fuchs on".(2,85—bracketed question added)

Four decades later, the scientist Martin Deutsch clarified these remarks to FAS by saying that "most people thought the Russians should be told there was such a thing as the bomb" because they would find out anyway and it would just cause post-war tensions. His own fear was that "we might successfully keep the secret by not dropping the bomb and then start pushing the Russians around which might lead to a war". It was this kind of talk of a "need to base peace on a balance of power" that could have inadvertently egged Fuchs on.

What Did Happen?

Notwithstanding the Korean War, and an unexpectedly low temperature of the international climate, the West did not engage in preventive war. In the end, as Los Alamos physicist Robert Serber pointed out in a recent interview with FAS, "People who had these fears did not understand America." America *was*, for a dangerously long time, primed with a hair trigger, to respond to outbreaks of conflict with strategic war—this was, after all, the philosophy of massive retaliation the Eisenhower Administration adopted in 1952.

But President Eisenhower was a cautious man when faced, for example, with the Soviet suppression of the Hungarian revolution. And efforts to maintain positive control over such instruments of war as the Strategic Air Command, and thus to prevent accidental and inadvertent war, succeeded. But as one observer, CIA Director William Colby, put it, it is a "miracle" that we got through the 50 years without nuclear war.

The arrogators of the left had marginal impact on the length of the period of an initial Soviet window of vulnerability that they feared. According to William Shurcliff, after Hiroshima, Groves thought it would take "at least 10 years" for the Soviets to get the bomb; his error, according to his chief of security, John Lansdale, was to underestimate what the Soviets could do, economically.

In 1993, the official Russian TV program said that Klaus Fuchs had provided "extremely valuable information" and that "thanks to him, our country was able to speed up its own program by at least two years." Roald Sagdeev reports that Stalin himself decided the last question: whether to use the stolen U.S. design for a first test or to use an original Soviet design (which was later found quite workable). Stalin opted for the American design and urged them to hurry up with the first test "before the Americans blast us." (38,74)

ATOMIC SPYING: GETTING AT THE TRUTH

Open warfare has broken out in Moscow between different generations of KGB spymasters. In particular, Pavel Sudoplatov's sensational charges against Oppenheimer, Fermi, Szilard and Bohr have been described as disinformation.

It started in 1991, when the KGB public relations office published a "puff piece" about two aging Americans then living in Moscow, Morris and Lona Cohen, who had functioned as Soviet agents during (and after) World War II. Called "How Soviet Intelligence Service 'split' the American Atom," it included a conversation according to which a still-living American atomic scientist, code-named Perseus, was recruited. More publicity resulted, in October 1992, when the KGB's New York representative in the Forties, Colonel Anatoli Yatskov, now dead, gave an interview about Perseus.

Sudoplatov seems to have shared a view that this article was a KGB indiscretion designed to advertise not only the Cohens but the KGB's achievement. His approach to the revelations—which came before and during the preparations of his book—is protective of Perseus, his unpaid volunteer. When asked about Perseus by his co-authors, Sudoplatov answers in gobbledygook: "It should not be excluded that Perseus is a creation by Yatskov or his colleagues to cover the real names of the sources."

In the July/August issue of the *Bulletin of the Atomic Scientists*, Izvestia correspondent Sergei Leskov reports that current KGB employees were outraged about Sudoplatov's "falsifications" in attacking Bohr, Oppenheimer, Fermi and Szilard who, they said, were scientists "out of our reach." Revealingly, they say, "In years past," Sudoplatov's book would have made them happy as a way of "misinforming our opponents" and defusing suspicion.

Instead, they make the disclosure, indicated earlier, that, besides Fuchs, they got help from six other such agents in America and four in Britain.

In sum, in their view, the 87-year-old Sudoplatov is dishing out traditional "disinformation" about the famous dead to protect the anonymous living. For their part, they provide the number of anonymous living while exculpating the dead. What a world!

How much truth was there in the belief of Perseus that the military were hiding intelligence from the Manhattan Project scientists? Even General Groves told British atomic scientist Joseph Rotblat, at Los Alamos, that the real purpose in making the bomb was to subdue the Soviets.(37,18) (Rotblat promptly left the Manhattan Project on the grounds that the Germans were not going to get the bomb—but was not allowed to give his colleagues his reason.)

As noted, such a preventive war, during an initial Soviet window of vulnerability, was much discussed in the 1940s, often favorably, by those who considered nuclear war inevitable. By 1948, even Bertrand Russell thought the "remedy might be the threat of immediate war" to force nuclear disarmament on Russia.

Could a more rapid creation of the Soviet A-bomb have been plausibly expected to make nuclear war less likely by closing a window of vulnerability of the Soviet Union? This is the "higher loyalty" case for Perseus if there is one.

Today, we have no idea to what extent any remaining living Americans who helped Russia were pro-communist or bought or trapped or, like Perseus perhaps, idealists seeking to jump-start the balance of terror. Will we ever hear it from the American side? Congress may hold the key.

Could Congressional Hearings Be Useful?

A relevant Congressional subcommittee of Foreign Relations or Foreign Affairs, Judiciary, or Intelligence could hold a hearing to determine how the truth could be secured, a half century after the war, on World War II atomic spying. This hearing would provide a forum to clear the reputations of those great scientists who had built the bomb in America's hour of need: Oppenheimer, Fermi, Szilard and Bohr. Witnesses could be invited—scientists, historians and security agencies—and could include the Sudoplatov authors.

In particular, Perseus might, at personal cost, help shore up Oppenheimer's reputation by testifying, since this could free Sudoplatov to admit to disinformation induced by his effort to protect Perseus. But Perseus's electrifying first-hand testimony would clearly require immunity from prosecution since there is no statute of limitations on espionage.

A congressional committee can offer a witness immunity by a two-thirds vote, at the request of a subcommittee. If the Justice Department has little interest in prosecution (defendants are in their 80s and 90s) and little chance of success (memories faded, evidence lost, witnesses dead, spying always hard to prove), it might interpose no prior objection to such immunity. Similarly, the CIA and FBI, might have a residual interest in knowing the full truth, as would the public.

In any case, the scientist arrogators of the left, to the extent they exist and are still alive, owe America, their colleagues, and themselves a full public explanation. If immunity is not possible and plea bargains are not workable, they should, at least, leave with their lawyers, protected by client-attorney privilege, a sealed account with their wills. The truth should out—and not just the KGB's version. —*J.J.S.*

Edward Teller: A Scientific Arrogator Of The Right

Imagine a man so intent on pursuing his own thing that—even while living and working at Los Alamos during World War II—he declines to help his colleagues build a weapon considered critical to the defeat of the then-enemy. And imagine that the thing he insists on developing is a bomb 1000 times more powerful than the conscience-disturbing atomic bomb, something that cannot be built in time for World War II, and something that no one else thinks is necessary to any war they can conceive.

This scientist later calls this instrument of potential extermination of humanity "my baby" and complains when articles persist in pointing out that another person provided the critical insight that made his campaign succeed. When a patent application is put before him to which Stanislaw Ulam has already affixed his signature, he refuses to sign saying: "What is this? *I* am the inventor of the hydrogen bomb!." (5,365)

This was Edward Teller, a man who dared to defect from the consensus of the scientific community not just once but on two other major occasions: the loyalty hearings on Robert Oppenheimer and the campaign for a Star Wars defense based on an X-ray laser.

In each case, he succeeded in creating enormous havoc. The American political community of this period—in which the scientific community was embedded—was badly frightened by communism. Teller's post-World War II determination to build bigger and bigger bombs fit well with the popular fears that the Soviets might steal a march in the arms race. His subsequent determination to destroy the power of Robert Oppenheimer to advance his own aims fit well with the popular fears of disloyalty in high places. And his determination in the 1980s to advance Star Wars missile defenses pandered to the desire of the public for a "defense" against nuclear war.

One Scientist Can Defeat The Scientific Community

In such circumstances of popular fear, one determined and highly political scientist could win a consensus in the political community so long as he was willing to oppose and confront the great majority of his colleagues. Nothing better illustrates the powerlessness of the scientific community to control itself than this experience.

Had the German community of World War II scientists had a single "Edward Tellerberg," Heisenberg's strategy of quietly "dragging his feet" would have failed. "Tellerberg" would have used his scientific special knowledge to persuade the Nazi political community that the bomb would be built in six months and would certainly win the war and that, were it not built, the West would build one to defeat Germany. "Tellerberg" would then have testified against Heisenberg in hearings for "deliberately going slow" and being of questionable loyalty. The other scientists would have been forced into working hard on the bomb.

Heisenberg said in the 1950s: "In the summer of 1939 twelve people might still have been able, by coming to mutual agreement, to prevent the construction of atom bombs." (18,81) But how to maintain this consensus when a single Edward Teller could—by defecting from the scientific consensus and appealing to the political community of his nation—defeat it?

Lawrence Radiation Laboratory

Edward Teller in the 1960s

Edward Teller's influence extended to many other areas of arms control, which he normally opposed. Herbert F. York who, as Director of Teller's Livermore Laboratory, had worked closely with him for years, wrote in 1975:

"In my opinion, he deserves very much of the credit (or blame), probably more than any other single individual, for the failure of the 1963 Nuclear Test Ban Treaty to prohibit underground tests along with those in all other environments, and for the inclusion in the 1968 Non-Proliferation Treaty of the provision making a special place for the so-called peaceful uses of nuclear explosives, a provision which in the long run will probably prove the undoing of that treaty if something else does not do so first." (7,145)

When Does Optimistic Exaggeration Become Deceit?

William J. Broad's *Teller's War: The Top-Secret Story Behind the Star Wars Deception* spends several epilogue pages trying to decipher Teller's personality. Some who know him well, such as Sidney Drell and Hans Bethe, called his X-ray laser fervor "self-deception." Broad said his support of the X-ray laser, after its collapse, "bespoke an emotional commitment so deep it defied logic" and spoke of his "long track record of greeting difficult technical endeavors with excessive optimism." (22,279-280)

Co-workers at Livermore, such as Roy Woodruff, said it was impossible to know Teller's state of mind but that the evidence suggested a "conscious act of exaggeration if not outright deception," while Ray Kidder "never believed that his egregious exaggerations . . . were the result of an overdeveloped sense of optimism" but thought they were just a way of blocking arms accords and gathering money for the x-ray ambitions. (22,280)

Kidder's analysis points to the similarity between right-wing arrogators and those of the left. Comparing Teller to Oliver North, he says that both were right-wing ideologues "who feared that knowledgeable policy makers would fail to do the 'right' thing". Teller was "obsessed with the threat of Soviet world domination" and "*knew* he was right". Kidder said: "One could fruitfully and enjoyably talk about science with Edward—but never politics . . . 'The Russians were coming!' That was it." (22,282)

This was not the first time optimism became a front for deception. In April 1946, Robert Serber sat down with Teller to rewrite a Teller report on the feasibility of the H-bomb which was, to Serber, so "incredibly optimistic" as to be "completely misleading". It was rewritten to be "still quite optimistic but not ridiculously so." Three months later, a Berkeley librarian showed him that Teller had gone back to the original version. By 1952 a letter from Hans Bethe to the AEC Chairman noted that "every important point of the 1946 program had been wrong." Los Alamos scientists had been, many felt, "swindled".

Teller's efforts to destroy Oppenheimer to prevent any opposition to his program were evident to the FBI. One agent reported: "Teller states he would do most anything to see subject [i.e. Oppenheimer] separated from GAC." Teller called back two weeks later with more attacks on Oppenheimer and asked the FBI not to disseminate this material to his fellow scientists because it "could prove very embarrassing to him personally" and worse, "make his position in H-bomb program untenable" [For these last two paragraphs, see the May 1990 book review in *Scientific American* by Priscilla Johnson McMillan (40,130-133)]

Was Humanity Unnecessarily Imperiled?

What would have happened if Edward Teller had done the work he was assigned by Hans Bethe at Los Alamos and failed to push the notion of a hydrogen bomb?

As Herbert York explained to FAS, the atomic bomb was not so much invented as discovered. The discovery was that sufficient U-235 or plutonium brought together would explode, and the residual problem was simply to assemble the fissionable material—a vast technological undertaking.

The hydrogen bomb, by contrast, York observes, had to be invented. A complicated process, still secret, had to be found to "burn" non-fissionable materials. This process, he believes, might not have been found for 50 years had not someone been determined, as Teller was, to find it.

Even for ICBMs, atomic bombs (which have been tested up to 500 kilotons) could be effectively used as warheads once ICBM accuracies declined to a mile or so. There was no need for the H-bomb.

Of course, the possibility was out there; it was Fermi who had suggested to Teller that atomic bombs might be used to set off hydrogen reactions. (22,34) But the general distaste among Western scientists for building larger bombs might well have prevailed into the Cold War.

In effect, the Western moderates had the kind of consensus against placing the H-bomb in the hands of even the U.S. political system that Heisenberg had against putting the atomic bomb in the hands of Hitler. Except for Edward Teller.

But What About The Soviets?

In June 1948, according to Andrei Sakharov, the Soviet Council of Ministers and the Party Central Committee decided to order an investigation into the possibility of building a hydrogen bomb. Accordingly, Igor Tamm organized a group, including Sakharov, to "verify and refine" calculations produced at the Institute of Chemical Physics which, Sakharov surmises in his "Memoirs", were "directly inspired by information acquired through espionage." (32,94) (These were presumably the unworkable notions mistakenly agreed to at a super-secret U.S. conference of June 12, 1946 that included Teller.) Thus the Russians got encouragement to go ahead, but a bum steer on how, and the U.S. required another five years before it had the right "invention." (7,24)

A few months after the successful Soviet A-bomb test in August 1949—according to Kurchatov's deputy/biographer, Igor Golovin— Kurchatov began "the new attack" on the H-bomb. (7,87) Thus this new Soviet priority on the H-bomb preceded, by a few months, the January 27, 1950 confession of Klaus Fuchs—which stirred Western concern about a Soviet H-bomb. And, by the same token, it also preceded President Truman's January 31, 1950 public decision, four days later, to direct the AEC to "continue its work on all forms of atomic weapons, including the so-

Teller Confesses On Fermi's Deathbed

"During the first months after the Oppenheimer hearing Teller was treated like a leper by his professional colleagues, or, even worse, as a government informer, in whose presence it was impossible to speak frankly. . . . Teller turned for advice to Enrico Fermi . . . Fermi was in bed . . . suffering from cancer and had little hope of recovery. The fact was no secret to Teller either. It encouraged him to speak more openly than he had ever dared to do before. 'One usually reads,' he remarked in recalling the occasion, 'that dying men confess their sins to the living. It has always seemed to me that it would be much more logical the other way about. So I confessed my sins to Fermi. None but he, apart from the Deity, if there is one, knows what I then told him. And Fermi can at most have passed on the information in heaven.' "
—*Brighter Than A Thousand Suns*, Robert Jungk, pg. 331

called hydrogen or superbomb." (7,69) (Fuchs's confession did not determine the recommendation to Truman but may have made Truman's decision politically inevitable.)

Was there, at this stage, any way to halt the deployment of H-bombs? We could have tried a "no first test" of hydrogen bombs policy. This would have provided a firebreak to deployment of H-bombs without risk to ourselves since we could have moved to test and deploy after seeing that a halt was impossible—secure in our capacity to deter with atom bombs any "breakout" of hydrogen bombs.

AEC Advisers Warned Of H-Bomb Dangers

This is exactly what the General Advisory Committee to the Atomic Energy Commission, under Robert Oppenheimer's chairmanship, said on October 30, 1949. The majority concluded "that the extreme dangers to mankind inherent in the proposal wholly outweigh any military advantage that could come from this development" and said "we all hope" that this development can be avoided and "are all reluctant" to see the U.S. take the lead in it.

In a minority statement, Enrico Fermi and Isidor I. Rabi went further and said the hydrogen bomb is "necessarily an evil thing considered in any light" and urged, that nations pledge, if necessary without enforcement machinery, not to develop this bomb, secure in the knowledge that a test violation "could be detected by available physical means" and atomic bombs used as deterrents.

As it was, faced with Teller's insistence, during and after World War II, the western scientific opponents of the H-bomb could only urge a "moderate", rather than a "crash", program of developing the bomb. And once the "technically sweet" solution to inventing the bomb was available, it was, as Oppenheimer explained, irresistible. Now, as Herman Kahn once wrote, post-attack survivability became an issue not of what atomic bombs could destroy but what, after thermonuclear war, would be left.

This deployment of the H-bomb is what risked, for two decades, the destruction of most of humanity's civilization and, perhaps, life on the planet.

It may well be that the Russians would have thought of, and attempted, an H-bomb without the encouragement provided by their learning of Teller's Los Alamos project—simply to top the Americans. And it may be that it would have been impossible, in the Stalinist period, to reach agreement with Russia to halt tests (perhaps because Stalin would have wanted to be sure the weapons worked) or even to halt the deployment of such weapons no matter how hard the U.S. tried. But none of this is certain.

And, in the alternative, Edward Teller's fixation on the H-bomb may have led him to do more to imperil life on this planet than any other individual in our species.

Moderate Statesmen Of Western Atomic Science

Compared to Teller, the leaders of Western atomic science were frequently babes in the political woods—their leadership having been determined by their professional skills rather than by, in this case, their political skills.

The gentle and wholly well-meaning Albert Einstein was always ready to sign a letter, often drafted by his friend Leo Szilard, looking toward peace and rationality. But his own capacity to engage in sustained lobbying for control of nuclear weapons was limited, and he died in 1954. In retrospect, he, like Teller, had been at peak effectiveness politically only when he urged his society to *build* weapons via, in his case, a letter to President Roosevelt.

The second greatest physicist in this century, Niels Bohr, was thoughtful but amazingly inarticulate. Half an hour into a meeting with Secretary of State Dean Acheson, Acheson cautioned him that (a) the meeting would have to end after another half hour; (b) he was deeply interested in Bohr's views and (c) so far, he had not understood one word. (26,516)

Hans Bethe described Bohr to FAS as "like an uncle, kind, obscure, difficult for him to formulate ideas in a straight forward manner—his main points were invariably hidden in a subordinate clause." This style of speaking so confused Churchill that he, and Roosevelt, agreed at their September 1944 meeting, that "enquiries should be made regarding the activities of Professor Bohr and steps should be taken to ensure that he is responsible for no leakage of information, particularly to the Russians." (26,502)

And were Bohr's ideas practical? He urged, on August 11, 1945 that there be international control of atomic energy but he himself noted:

"No control can be effective without free access to full scientific information and the granting of the opportunity of international supervision of all undertakings which, unless regulated, might become a source of disaster . . . ." (26,504)

Conscious Acts of Deception?

"The notion that Teller was involved in a conscious act of deception is consistent with some of his past behavior. He failed to credit Ulam with H-bomb advances. He brazenly denied that his FBI testimony led to charges against Oppenheimer, contrary to the man who drafted the charges. He called for clandestine growth of the X-ray laser program and for secrecy in the lofting of Brilliant Pebbles, apparently ready to keep the public in the dark or actively misled.

Perhaps most conspicuously, he downplayed his role in the origin of Star Wars. "I am blamed or credited entirely unduly for having persuaded the President," he told GAO investigators. "I did not do much, very little." This from a man who, over two long years, lobbied a host of White House advisers, labored tirelessly to sell the kitchen cabinet on the X-ray laser, battled to make a White House antimissile report more upbeat, repeatedly wrote the President in ostentatious prose, connived to get a one-on-one presidential audience, and even penned a speech in which Reagan was to announce a crash program to develop space arms."

—*Teller's War*, William J. Broad, pg. 282

But such control, and Bohr's general belief in complete openness, were inconsistent with the Soviet system. As Robert Oppenheimer put it in his loyalty hearings, in commenting upon the March 1946 Acheson-Lilienthal plan, "perhaps a half" of which he admitted to have drafted himself:

"I think that no one at that time could with much confidence believe that [the Russians] would accept these proposals. I think it was important to put them forward, and it was also important not to express too much doubt that they might be accepted." (12,38)

He went on to say that after a "summer of work with Mr. Baruch" on this, it "became difficult even for a dedicated optimist" to think that a real agreement could be reached with the Russians. (12,40)

Indeed, it would be almost two decades more before President John F. Kennedy and Premier Nikita Khrushchev could negotiate the first real agreement between these nuclear powers—the Atmospheric Test Ban of 1963; it was another decade before agreement was reached on the 1972 Anti-ballistic Missile Treaty. And even then, these treaties were possible only through unilateral technological means of inspection rather than international supervision.

Robert Oppenheimer's political skills were an exception that proved the rule. He had become a supreme leader of the atomic-scientific community because General Groves knew scientific-administrative talent when he saw it and could not find a more eminent Director of the Los Alamos Laboratory.

Oppenheimer's political skills were, accordingly, of the very first rank and, as a direct result, he became a threat to all who wanted to move full speed ahead on weapons in general, and the H-bomb in particular. He was promptly and pointedly destroyed politically in loyalty-security hearings that were completely unnecessary, since his consultantship was running out 36 hours after the hearings terminated and he was willing to let it lapse if no issue had been made of it.

Some Conclusions

In the end, what transpired? The specter of Hitler induced restraint in Germany but such fear outside Germany as to stimulate bomb research that continued even after the Germans were known not to be getting the bomb. And because the bomb was ready by the very end of the war, it was used—not against Germany but against Japan.

A handful of Western atomic scientists—some communists and some distrusting the ability of the American political system to control its new nuclear strength in a poorly understood and novel nuclear era—arrogated to themselves the right to dishonesty (viz. to violate their word that they would maintain security) so as to provide atomic secrets to the Soviet Union. In the latter category were those who wished to provide a strategic balance promptly, the lack of which they feared might make nuclear holocaust more likely.

Taken together, these arrogators of the left may have accelerated Soviet construction of the first bombs by about two years. But it made little difference in avoiding preventive war, because, in the end, America was not of a mind to use this Russian window of vulnerability to destroy communism, as these few feared and some (other few Americans of the right) may have desired.

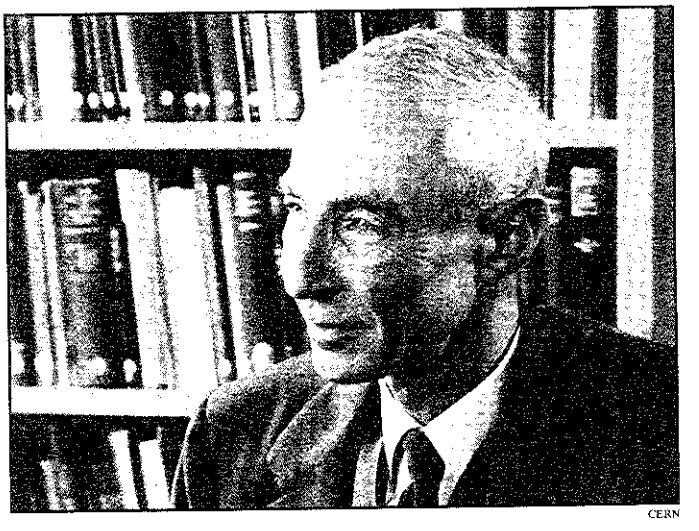
Another scientist of foreign origin, whose native Hungary had been cruelly suppressed by communism, also distrusted the American political system but thought it too *weak*. Like the arrogators of the left, he sought to finesse the rights of our national political community by arrogating to himself the right to dishonesty: distortions, exaggerations and unworthy political maneuver.

His purpose seems to have been to catalyze the development and production of weapons he wanted—first for personal intellectual reasons and, later, as a means to contain communism—weapons which he felt might not otherwise be pursued with sufficient vigor by American society. During World War II, he seems to have been an enfant terrible—vindicating his personality and without the slightest qualms of conscience: "[I] worked because the problems interested me and I should have felt it a great restraint not to go ahead." (41,218)

As part of his baleful influence, he may have singlehandedly induced the possibly avoidable, and horrendously dangerous, development of a hydrogen bomb. Obviously, this discovery was predictably as much a danger to the one side as the other since it would, inevitably, be duplicated by the other. And, obviously, it had nothing to do with deterrence. As the General Advisory Committee said at the time, the use of hydrogen bombs against us could, if necessary, be deterred by "our large stock of atomic bombs."

Was One Man Of Decisive Importance?

Accordingly, in this weird case, one man may have played a decisive role, at no risk to his liberty, in doing something that threatened humanity and, quite predictably, served his nation not at all but only endangered it.



CERN

J. Robert Oppenheimer in the 1960s

The morals are pretty obvious. Scientists have special knowledge, and some special standing—as do other groups of persons in special circumstances—and these characteristics can be misused. As a result, for good or ill, such people can, in unusual cases, defeat what their society might otherwise determine to do, through some kind of societally unexpected dishonesty. The atomic age shows that a few scientists, both of the left and right, felt an obligation to humanity, or personal vindication, in doing so. Different readers will certainly appraise, and characterize, all this differently.

Norbert Wiener wrote after World War II:

"The experience of the scientists who have worked on the atomic bomb has indicated that in any investigation of this kind the scientist ends by putting unlimited powers in the hands of the people whom he is least inclined to trust with their use. It is perfectly clear also that to disseminate information about a weapon in the present state of our civilization is to make it practically certain that that weapon will be used." (18,289)

Certainly, history shows that inventions once made by science cannot be withdrawn, and their use will be decided by the political process of their nation-states. Efforts to suppress the invention-making process are far more difficult than efforts to stimulate it and require greater unanimity than can be expected from a scientific community that is, after all, made up only of human beings with different political perceptions. But it worked in Nazi Germany at least.

Subsequent efforts by scientists, however well-meaning, to try retroactively to balance the dangers wrought by scientific invention by disseminating the secrets more broadly seem likely not to work out. And, indeed, the later furor over Fuchs's espionage could have closed the door on U.S. efforts to control the H-bomb.

In any case, by the 1960s, U.S. Secretaries of Defense had given up on maintaining what Herman Kahn called "not-incredible first-strike" threats. They began urging that same strategic balance which the arrogators of the left had tried to champion two decades before. By 1972, the ABM Treaty institutionalized the balance of terror. By the 1980s, crisis stability had become a watchword of establishment strategists and by the 1990s, the arms race was over—the longest such contest in 200 years. In the end, strategic balance was a wholly acceptable goal that may, in part, vindicate the arrogators of the left.

Not summarized here are the heroic, constant efforts of a politically conscious segment of the scientific community, of all developed countries, to push the political process in their nations, and between them, toward control of the atom. In particular, FAS was founded on the slogan: "no secret, no defense and international control"; history has vindicated our belief that there was, indeed, no secret to the atom bomb and no defense. But, obviously, the work of arms control is not yet complete. Evaluating the success of this still-continuing effort by non-arrogators is beyond the scope of this brief summary. *— Jeremy J. Stone* □

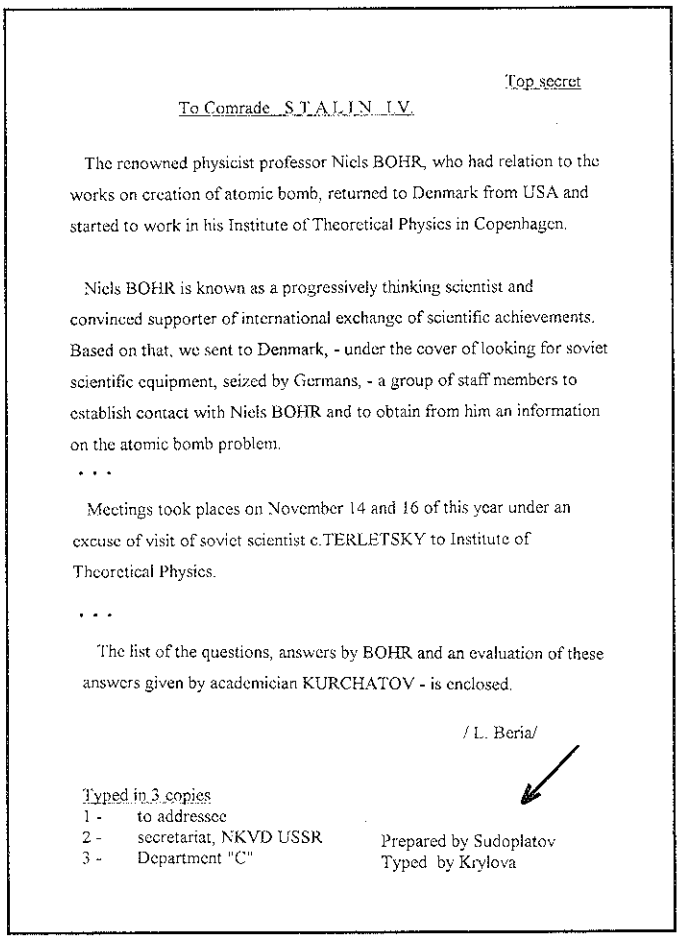
What's New in the Sudoplatov Affair?

FAS has been combing the literature in further investigation of the Sudoplatov allegations to get a better understanding of what the current KGB called a "mosaic of truthful events, semi-truths and open inventions." Nothing has come to light in two months of further research to change FAS's conclusion that Bohr, Oppenheimer, Fermi and Szilard were unfairly accused by the Sudoplatov book. And, as noted below, evidence in defense of Bohr has increased.

The chief of the KGB's press bureau for its Foreign Intelligence Service, Yuri Kobaladze, reaffirmed on July 26, 1994 that "Sudoplatov's book is causing the same kind of dismay within the Foreign Intelligence Service as it is among scientists and as I hope it is amongst the general public." He said it was "unprecedented" for the usually "cautious" intelligence service to react but in this case, we claim "the allegations in the book of getting information on the atom bomb directly from such well-known scientists as Fermi, Oppenheimer and Szilard and some others do not correspond to reality." (48,13)

Smoking Gun: Sudoplatov Disagrees With Sudoplatov

Of special note, a just-declassified (top secret) letter from Beria to Stalin, reporting on the KGB scientist Terletsky's visit to Niels Bohr, confirms that Bohr told no



Top secret

To Comrade S T A L I N I.V.

The renowned physicist professor Niels BOHR, who had relation to the works on creation of atomic bomb, returned to Denmark from USA and started to work in his Institute of Theoretical Physics in Copenhagen.

Niels BOHR is known as a progressively thinking scientist and convinced supporter of international exchange of scientific achievements. Based on that, we sent to Denmark, - under the cover of looking for soviet scientific equipment, seized by Germans, - a group of staff members to establish contact with Niels BOHR and to obtain from him an information on the atomic bomb problem.

. . .

Meetings took places on November 14 and 16 of this year under an excuse of visit of soviet scientist c.TERLETSKY to Institute of Theoretical Physics.

. . .

The list of the questions, answers by BOHR and an evaluation of these answers given by academician KURCHATOV - is enclosed.

/ L. Beria/

Typed in 3 copies
1 - to addressee
2 - secretariat, NKVD USSR
3 - Department "C"

Prepared by Sudoplatov
Typed by Krylova

Beria cover letter to Stalin, prepared by Sudoplatov, on the Terletsky interview with Bohr

secrets at all. Beria's letter conveys the 22 questions put to Bohr and the answers that Terletsky remembers, and they can be derived from the unclassified Smyth report that, in fact, Bohr handed to Terletsky. A few brief theoretical observations of a non-secret character were included, and according to our physicists, at least one is wrong. A letter from Kurchatov to Stalin, provided in the package, confirms that Kurchatov could find little or nothing to praise in the visit's product.

Of special interest in this is the fact that the Beria letter contains a notation in its lower corner indicating that it was prepared by P. Sudoplatov. And, in particular, the letter does not report Bohr saying, as Sudoplatov's book alleges, that Bohr solved a Soviet problem of starting its first reactor by saying: "There's your problem right there."

In fact, a recent article in the Kurchatov Institute's "Archive" by Yury Smirnov says that veterans of the period "speak about Sudoplatov's 'legend' as with one voice, 'a typical lie'! It just didn't happen. There were no doubts in equipping and starting our first reactor. It is all nonsense!"

Accordingly, critics of Sudoplatov's version of the Terletsky affair now have complete agreement from: (a) Terletsky (who called his two meetings on November 14 and November 16 of 1945 failures, both in his diary and decades later before he died); (b) from Bohr's son, Aage Bohr (who witnessed it); and (c) from Beria's final report to Stalin (prepared by a 39-year-old Sudoplatov who might be expected to know better than Sudoplatov at age 87 what transpired).

Terletsky, who was party to the drafting of the Beria letter, according to his memoirs, has provided the world with a fairly complete deposition. In Terletsky's view, the "most important" thing that Bohr wanted to communicate was his high opinion of Lev Landau—so as to protect Landau.

Terletsky does say of Bohr that "in his opinion, all the countries should have nuclear bombs and next Russia. Only the proliferation of these powerful weapons in different countries could guarantee its non-use in future . . . Thus when the maximum number of countries get the atomic bomb, it will be a guarantee of peace in future. This was the main idea of Niels Bohr."

In light of the absurd charges that Bohr was a spy for Russia, it is amusing to note that Terletsky learned in early November 1945 that Bohr was considered by the KGB to be "an agent of the British intelligence service" which he recognized, to his horror, as an organization "defending the interests of the bourgeoisie, i.e. our class enemies."

Much less amusing, and startling, is the fact that Terletsky's diary for October 11, 1945, his first working day in the KGB secret Department C, shows he found "ten thousand pages of, in the bulk, American secret reports (including some British)."

But perhaps the most amazing aspect of the Terletsky affair is that, despite the very complete information in "defense" of Bohr, Sudoplatov may be sincere in believing his story. The evidence for this lies in the fact that the same story with many of the same details—in particular that this visit to Bohr had been quite helpful to the Soviet Union—was told by Sudoplatov in the document he sent to the Soviet Central Committee in 1982 asking for rehabilitation. (30,480) Conceivably, as Roald Sagdeev has speculated, the KGB files contain a Beria-inspired lie about the success of the mission which Sudoplatov has assimilated.

What Difference Soviet Espionage?

It appears that, without the help of espionage, the Soviet Union would have gotten the atomic bomb in the early 1950s rather than in 1949. How much difference would that have made in geopolitics?

Although Stalin seems to have felt endangered by the imbalance of power, it did not dissuade him from starting the eleven-month Berlin Blockade from June 1948 to May 1949.

Would it have delayed the June 25, 1950 North Korean attack on South Korea, i.e. the Korean War? We now know that Kim Il Sung secured Stalin's agreement to this war only with persistent appeals that included 48 telegrams. (46,14) Stalin agreed only because he had reason to believe the U.S. would not intervene and no world war would result. Still, conceivably, Stalin's agreement would have been delayed and the war would have broken out later.

On the other hand, the West was not deterred by the 1949 Soviet bomb from threatening to use the bomb in Korea. When asked about the use of the atomic bomb, Truman said "Consideration of the use of any weapon is always implicit in the very possession of that weapon" (20,395) And, later, President Eisenhower did threaten such use. ■

Pontecorvo Seems Definitely A Spy

The May/June FAS *Public Interest Report* implied twice, in passing, that the late Italian physicist Dr. Bruno Pontecorvo was engaged in espionage for the Soviet Union. This is a widely shared, though legally unproven, view. [For that reason, FAS Fund Chairman Richard Garwin regrets having inadvertently stated as a fact, rather than as a surmise, in the last issue of this publication that Pontecorvo committed espionage.] The circumstantial evidence is, however, overwhelming and there is, also, credible testimony.

In early 1943, Pontecorvo joined the Anglo-Canadian research team where he worked for six years. He was granted British nationality in 1948 and, in 1949, was offered a senior position at Harwell. While the Fuchs case was pending, he volunteered to British security that he had a communist brother in Italy.

He was not, at that time, engaged in secret work. A few days later, on being confronted with the fact that security knew he had recently met with his brother in Italy, he regarded himself as being under suspicion.

In July, 1951 he and his wife bought expensive camping equipment which they could have borrowed from startled

friends, paid off some small debts, left their goods behind and house locked up, and set off for a vacation in Europe.

In the next month, they made their way to Italy from which they booked flights to Sweden—where they did not show up at the hotel where rooms had been promised and are believed to have stayed at the Soviet Embassy. They flew the next day to Helsinki, were met by a car, smuggled out of Finland, and never seen again outside the Iron Curtain. [See (9,170-200)]. Pontecorvo surfaced only three and one-half years later, in March 1955, with an article in Pravda and a press conference. (33,466)

A few decades ago, KGB officials familiar with his case told KGB London Station Chief Oleg Gordievsky—who later defected to the West—that they rated Pontecorvo's work as an atom spy "almost as highly as that of Fuchs." (20,318) [It is a significant "dog that does not bark in the night" that Gordievsky's informants make no reference to Fermi, Oppenheimer or Szilard.]

According to Gordievsky, Moscow Center evacuated Pontecorvo "along a well-tried escape route through Finland" because of fears of arrests fanned by the Fuchs case in Russia. Pontecorvo publicly denied any involvement in atomic espionage and won two Orders of Lenin for his work in nuclear physics. (20,379)

Sudoplatov Supports These Accounts in Detail

In a reasonably diligent search of the public espionage literature, FAS has found no explanation, outside of Sudoplatov's book, to explain Gordievsky's credible report that Pontecorvo was an important spy or, indeed, anything Pontecorvo had done. We turn now, therefore, to summarizing Sudoplatov's discussion of Pontecorvo in an effort to figure this out—particularly as it bears on the charges against Enrico Fermi.

According to Sudoplatov, Lev Vasilevsky, who was Pontecorvo's controller, had provided Pontecorvo in 1946 with the above described "escape route" that was used in 1950. (30,212) Pontecorvo is said to be the person who passed on to a control officer, Semyonov, a full report on the first nuclear chain reaction, in January 1943 and, also, the person who, "early in 1943" said "Fermi was prepared to provide information".

Pontecorvo is said to have met, at this time, with "illegal moles" planted in the U.S. and Mexico in 1940 and 1941. (30,182) There is said to be a "mole who worked with Fermi and Pontecorvo." He is said to have provided a detailed report in September 1945 on the imminent Trinity test explosion. (30,201) And it is said that, in Soviet retirement, he wrote "a marvelous autobiography published in Italy about his work with Fermi" (30,212) and that his connections in Moscow as an Academician helped Vasilevsky rehabilitate himself. (30,406)

But, above all, Pontecorvo is said to be the "conduit supplying atomic secrets to us from Enrico Fermi". (30,85) And both Fermi and Pontecorvo are said to have been "targeted" as dedicated anti-fascists and potential sources" in the 1930s in Italy, (30,175) although Vasilevsky was in 1943 the first intelligence officer to approach Pontecorvo "directly". (30,189)

Accordingly, when Sudoplatov reports that Vasilevsky was made a deputy director of Department S "for his work in handling the Fermi line", (30,197) it sounds like much was gained, directly or indirectly, from Fermi and that Pontecorvo's high valuation was probably derivative of being the "conduit" to information connected somehow to Fermi.

How could they link up? According to Manhattan Project Security Officer John Lansdale, a scientist like Pontecorvo could leave his Canadian Chalk River installation and visit the Metallurgical Laboratory in Chicago, or even Los Alamos where Fermi worked, if only his laboratory certified that his visit was necessary—something Lansdale agrees might not be too hard. (The Quebec Agreement between Churchill and Roosevelt made it difficult for U.S. security to prevent the attendance of British and Canadian scientists, although Lansdale said they did once try to prevent Alan Nunn May from attending a Chicago conference.)

Fermi's Real Defense: Scrupulous

Virtually all observers in the West, including John Lansdale and Edward Teller, consider it pretty inconceivable that Fermi would wittingly help provide information to the Soviet Union. The usual defense, which FAS put forward in the May/June publication, echoed Teller's judgment that Fermi was "anti-communist and apolitical".

In fairness to the Sudoplatov charge, on October 30, 1949, Fermi joined I.I. Rabi in the minority report on the H-bomb to the Atomic Energy Commission that called it "necessarily an evil thing considered in any light." He was not, therefore, apolitical with regards to the politics and morality of atomic weaponry.

He was, however, according to Nobel Prize winner Emilio Segre, "right of center" politically in American terms, a member of the Republican Party, and "never participated actively in politics." (47,101-103) In fact, a friend of Fermi advised Roald Sagdeev, after a talk recently, that Fermi once allowed that Pontecorvo was a communist and "not trustworthy"—and that Pontecorvo was engaged in oil exploration with neutron-monitoring during the war.

In any case, there is absolutely no presently available corroborative evidence to support the Sudoplatov charge that "Fermi was prepared to provide information" (30,182), and the present KGB specifically denies such "direct" help.

It is not presently clear how best to get to the bottom of the Sudoplatov charges. The suggestion of Robert Conquest that "deciphered intercepts" by the U.S. be consulted does not seem workable. Robert J. Lamphere, who as head of a FBI counterintelligence unit was instrumental in supplying the secret documents to the agency that broke the code, says that, in effect, they were breaking only a New York-Moscow link. Accordingly, this source is not robust enough to base any conclusions upon. □

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Editor's Note: References are in parentheses with source first, page second. For example, (a,b) means page b of source a below.

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