

The essentials of stockpile stewardship were clearly understood long ago.

In 1958

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Andrei Sakharov

ban agreement might well be delayed for several years – meaning tens, perhaps even hundreds, of megatons of atmospheric detonations, and hundreds of thousands or millions of new casualties. Even if my estimates were on the high side, the number of potential human casualties was still colossal. I proposed that the USSR should:

- 1) In no case begin testing within a year of Khrushchev's announcement—the Americans and British said a year was all they needed.
- 2) Redesign the devices scheduled for testing, so that they could in principle be deployed without testing.
- 3) Renounce the doctrine that no device could be adopted without testing as being inflexible, dogmatic, and inappropriate to the coming "test-free" era.
- 4) Invest substantially in computers and new calculating techniques with a view to a wider use of calculations in place of tests.
- 5) Develop new experimental methods for modeling various functions of devices without full-scale testing.

In September 1958 I brought these proposals to Kurchatov, whom I regarded as the only person who had any chance of influencing Khrushchev, and the one official in our ministry who might be sympathetic to them. We met at his small house at his institute. We sat on a bench beneath dense overhanging foliage—Kurchatov called his cottage a "forester's hut," I think in memory of his father's house, his childhood home. Because of an illness two years earlier, doctors had severely curtailed his working hours, and he often summoned people to the cottage instead of going to the Institute. He would take notes in a thick notebook he camouflaged with the dust cover of Nehru's *Memoirs*.

Kurchatov listened closely to what I had to say. He was in basic agreement with me. "Khrushchev's in the Crimea now," he said, "vacationing by the sea. I'll fly to him if I can convince my doctors to let me go, and I'll present your ideas to him."

At the end of our conversation, which lasted about an hour, Kurchatov's secretary, Pereverzev, appeared with a camera and proceeded to take a series of pictures of us from a variety of angles. Kurchatov's dog, who'd been getting under his feet the whole time, also got into several of these shots. Pereverzev was putting together a photobiography of Kurchatov. He eventually produced several collections of photographs and gave me one that included the pictures he'd taken that day.

Kurchatov's trip to Yalta was unsuccessful. Khrushchev found our proposals unacceptable. I do not know the details of their conversation, but I heard that Khrushchev was extremely displeased and that from then until Kurchatov's death a year and a half later, he no longer enjoyed Khrushchev's trust.

A couple of months later new tests took place—and were indeed a great success and important from a technical point of view.

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WPP, LEP

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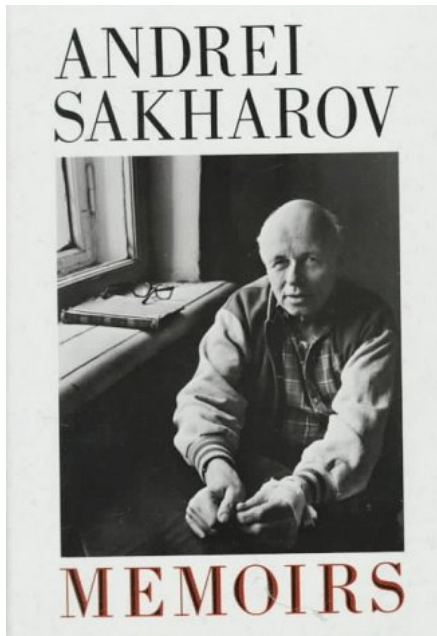
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AGEX

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Both Russia and the US need simulation.