

# How the U.S. hydrogen bomb secrets disappeared

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Given a choice of items to lose on a train, a top-secret document detailing the newly developed hydrogen bomb should be on the bottom of the list. In January 1953, amid the Red Scare and the Korean War, that's exactly what physicist John Archibald Wheeler lost.

In the December 2019 issue of *Physics Today*, science historian Alex Wellerstein details the creation of the [document](#) and Wheeler's day

leading up to its mysterious loss.

"I like the absurdity of the sequence of events, but beyond the absurdity, it connects up with some bigger Cold War themes," he said.

Wellerstein, from the Stevens Institute of Technology, collects FBI files of physicists, obtained via the Freedom of Information Act, as part of his research into the history of nuclear secrecy.

"Theoretical physicists were in particular targeted by the FBI and anti-Communists during the Cold War, both because they were thought to know the secrets of nuclear weapons, and because they were considered politically naïve," he said. "Together, it made for a dangerous combination."

Wheeler is perhaps best known for coining the term "black hole," and his contributions to physics span different fields of study to include the hydrogen bomb project. When the Congressional Joint Committee on Atomic Energy decided to compile a history of the hydrogen bomb as part of a smear campaign against controversial physicist J. Robert Oppenheimer, they sent a six-page extract to Wheeler to ensure the accuracy of the report's technical aspects. The pages contained information about the discoveries of Edward Teller and Stanislaw Ulam that led to the creation of thermonuclear weapons.

Wheeler read the document overnight on a sleeper train. After reading it, he recalled placing it into a white envelope, putting the white envelope into a manila envelope, then the manila envelope into his suitcase, and placing his suitcase in between himself and the wall of the train.

When Wheeler used the lavatory the following morning, he took the manila envelope out of his suitcase and into the stall with him but mistakenly left it there. He returned and retrieved it, but when he opened

it later, the white envelope inside was missing, with the secret hydrogen bomb history inside of it.

The FBI dismantled the train car, searched the entirety of the rail line, tried to track down a list of passengers and conducted investigations on Wheeler and others involved, but their efforts were fruitless. The document was gone.

Wellerstein said the "lurid details" are what made him want to dig further into this story.

"There was one moment where John Wheeler is standing to peer at a guy sitting at a toilet on a train to see if he has a secret document in his hand," Wellerstein said. "When I read that, I was hooked."

Though its loss derailed multiple careers and was part of the sequence of events that led to Oppenheimer's famous security hearing, the mystery of whatever happened to those six pages in the white envelope remains.

"I find it very likely that he did read the document on the train, because his memory of that was very distinct, but then the fuzzy part comes in. Did Wheeler put it back correctly?" asked Wellerstein. "And if he didn't put it back correctly, what happened to it?"

"My personal favorite theory is that the porter found it and just threw it away, because he would have known there's no way this would have worked out well for him, and he'd have been better off to just pretend he never saw it," Wellerstein joked. "I would love for it to be a spy, because that would be much more exciting. But there's no evidence of that, and there are a lot of reasons to think that's very improbable."

As for Wheeler, despite the dire punishments for mishandling nuclear secrets, he got off with only a letter of rebuke from the U.S. Atomic

Energy Commission.

"He was too valuable as a scientist," Wellerstein said. "They said they couldn't punish him without hurting the nuclear program."

**More information:** Alex Wellerstein. John Wheeler's H-bomb blues, *Physics Today* (2019). DOI: [10.1063/PT.3.4364](https://doi.org/10.1063/PT.3.4364)

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