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**Title:** An April Fools' Day read from Lab history Famed physicist Richard Feynman's safecracking, cipher-creating sense of play

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## **An April Fools' Day read from Lab history**

### **Famed physicist Richard Feynman's safecracking, cipher-creating sense of play**

By Patty Templeton, archivist, [National Security Research Center](#)

Richard Feynman was fresh out of Princeton University's doctoral program when recruited to assist in the creation of the atomic bomb at Los Alamos. In 1943, Lab director J. Robert Oppenheimer wrote that the 24-year-old was, "by all odds the most brilliant young physicist here, and everyone knows this."

Feynman attempted to live and examine life in a state of play and, as such, it's only fitting to take a look back at the Nobel Prize winning scientist's years at the wartime Lab as April Fools' Day approaches.

Manhattan Project colleague Philip Morrison said Feynman had, "the flowing, expressive postures of a dancer, the quick speech we thought of as Broadway, the pat phrases of the hustler and the conversational energy of a finger snapper." He arrived at the Lab as a mischievous whirlwind willing to arrange his absent wife's nightgown on a male dormitory bunk bed and her powder on the bathroom floor to avoid being assigned a roommate.

Hans Bethe, Feynman's Theoretical Division boss, became known as The Battleship with Feynman nicknamed The Mosquito, reflecting how Bethe would plow steadfastly ahead while Feynman paced and yelled, "That's nuts!" Biographer James Gleick stated Feynman, "was just what Bethe was looking for, someone who would perform the severest and most imaginative criticism, who would find flaws before an idea went too far."

This ingenuity extended into the early computational work done at the Lab. When a collection of IBM Punched-Card Accounting Machines (PCAM) arrived, Feynman and his colleagues assembled them with only a set of wiring blueprints, unwilling to wait for the technician to arrive. Gleick wrote that he "could program them to clatter out the cadence of well-known songs." That is, in addition to refining implosion-simulation calculations from three months each down to less than three weeks.

### **Coded messages, safe cracking**

Always in a wrinkled white shirt and brown wool pants rolled up over work shoes, Feynman was often found banging his drum in the woods and infuriating the military censors that monitored Los Alamos mail for sensitive disclosures. Feynman's wife, Arline, and his father both wrote him coded messages, and eventually agreed to include a key with their correspondence. Feynman later wrote in *Surely You're Joking, Mr. Feynman!*, "As a result of all these experiences with the censor, I knew exactly what could get through and what could not get through. Nobody else knew as well as I. And so I made a little money out of all of this by making bets."

Feynman became known as the Lab's premier safecracker by tinkering with office safes and locks on filing cabinets. He wrote to Arline in April 1945, "The key to my interest in all this is probably because I like puzzles so much. Each lock is just like a puzzle you have to open without forcing it."

Feynman was also known for off-duty theatrics, and "had no difficulty learning to make an impromptu xylophone by filling water glasses; nor had he any shyness about playing them all evening, at a dinner party for an astonished [Nobel laureate] Niels Bohr," Gleick wrote.

Feynman stated that during Sunday canyon walks with his colleagues, “it was [mathematician John] von Neumann who put the seed in that grew into my active irresponsibility...I have no responsibility to be like [people] expect me to be. It’s their mistake, not my failing.” This vigorous self-discovery continued after World War II ended in 1945. Feynman left Los Alamos for a professorship at Cornell University, as did Bethe.

### **After Los Alamos**

No matter a person’s joie de vivre, if you work overtime for years on one of the most complex scientific endeavors in history and you [become a widower](#) during it, burnout can strike. Feynman realized he needed to revitalize his sense of wonder.

In *Surely You’re Joking, Mr. Feynman!*, he reflected, “I used to do whatever I felt like doing – it didn’t have to do with whether it was important for the development of nuclear physics, but whether it was interesting and amusing for me to play with.”

While a professor at Cornell University, Feynman saw a student throw a plate in the air in the cafeteria. He calculated the physics associated with its spin and told Bethe about it. Bethe asked about its importance, and Feynman replied, “There’s no importance whatsoever. I’m just doing it for the fun of it.”

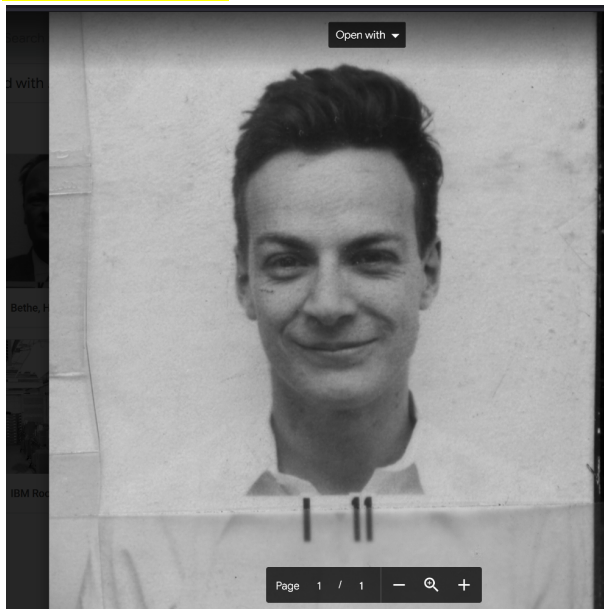
However, these calculations would prove quite important: “The diagrams and the whole business that I got the Nobel Prize for,” Feynman wrote, “came from that piddling around with the wobbling plate.”

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## IMAGES

### 1.- - NSRC OWNS



Richard Feynman's Lab badge photo is part of the collections in the National Security Research Center. Physicist Murray Gell-Mann said Feynman worked, "with a zest and humor. When we were discussing physics, we could exchange ideas and silly jokes in between bouts of mathematical calculation – we struck sparks off each other, and it was exhilarating."

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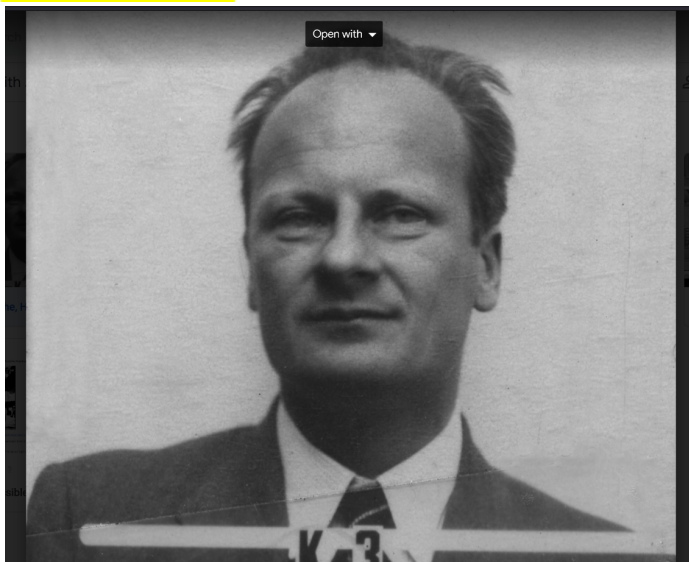
## 2 - - NSRC OWNS



Feynman helped assemble the Lab's first IBM punched-card machines, the operation of which was led by a woman at a time when women were often excluded from math and science fields. NSRC Historian Nicholas Lewis explains, "The 601 Multiplying Punch [pictured here in December 1945] was the heart of the Los Alamos punched-card operation, performing the bulk of the calculations for the implosion weapon. The mathematician Naomi Livesay programmed the machines and led their operators, who were mostly members of the Army's Special Engineer Detachment (SED)."

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## 3. - - NSRC OWNS



Hans Bethe, shown here in his Lab badge photo, worked with Richard Feynman at various times in his early career. In *Most of the Good Stuff*, Bethe recalled working as a consultant with Feynman after the war but before his professorship began at Cornell in 1947. “During this time, he [Feynman] was called for a physical examination with the purpose of drafting him into the Army. In a hilarious session, the psychiatrist of the examination board declared him unfit. When he came back to General Electric and told me the details, he and I laughed uproariously for half an hour.”

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#### 4 - - NSRC OWNS



Los Alamos post office, pictured here not long after World War II ended. In *Surely You're Joking, Mr. Feynman!*, Feynman noted that his wife mailed him an advertisement. “It said, ‘Send your boyfriend a letter on a jigsaw puzzle. We sell you the blank, you write the letter on it, take it all apart, put it in a little sack, and mail it.’ I received that one with a [censor’s] note saying, ‘We do not have time to play games. Please instruct your wife to confine herself to ordinary letters.’”

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