

Week 10 — Wellerstein *Unrestricted Data*

- Security is so intertwined with American Bureaucracy along with nuclear work in general
 - Need several clearances

7.1: The centrifuge conundrum

- US entered agreements for other nations regarding nuclear energy
 - So it can keep an eye on their work
 - If they need a reactor, the US could provide one and it would be able to monitor it
- Gas centrifuge was used to enrich uranium
 - Separating U-235 (fissile material) from U-238 (common)
 - Circulate gaseous uranium hexafluoride through a cascade of tubes spun at extremely high velocities
- Jesse W. Beams tasks with centrifuges during Manhattan project
 - Had bugs, defunded
- After WW2, Soviets got former Axis scientists Max Steenbeck and Gernot Zippe
 - Used Beams old publications and their own findings to debug
 - Soviets took it and kicked them out
 - Zippe patented it
- Zippe eventually invited back to University of Virginia to work on centrifuges
 - Produced papers that were released publicly
- US thought other nations would follow suit in nuclear development of big projects like the Manhattan Project but did not consider a smaller less advanced project
- McCone worries that West Germany might get enough enriched uranium to make a bomb
- Said that a high-competency country could make their own enrichment facility with this small centrifuge without the US knowing
 - US would not be able to monitor activities like it could previously with agreements
- Civilian centrifuge facility could become a military centrifuge facility easily
- AEC decided that it was time to clamp down on the secrecy of centrifuges once breakthrough happened in West Germany and Netherlands (Dutch)
 - Only then could it clamp down because it didn't want to randomly close all ties with their allies
- AEC wanted to extend the secrecy to other nations in order to better keep the centrifuge out of an Nth nation
- Atomic energy act in 1954 modified:
 1. open field of nuclear energy to private industry
 2. maintain flow of info over classified nuclear info
- "Restricted Data was not Restricted Data because of its association with the AEC, it was Restricted Data because it was about nuclear weapons" 296
- All progress made on centrifuges would thereby be declared as restricted by AEC
- Any private company working on gas centrifuges with public publications had to enter a permit with AEC to work on gas centrifuges even though they were not working with restricted data
- Centrifuge work allowed a nation to work toward a bomb with "relatively low capital investment, low electrical power requirements, and easy concealment." 299