

McDougall reading: *The Heavens and the Earth*, focused on Eisenhower's view of the space program.

- Eisenhower didn't see the space program as a very important thing; this might have been one of the reasons America didn't get to space first.
- He didn't *want* to get to space first.
- Eisenhower "represented the past"
- He wanted a minimalist government and limited use of resources for government expenditures

Americans (and probably the USSR, too) had some conception that winning (or losing) the space race would play a large role in determining the global perception of their sociopolitical system.

There was tension between small government and "technocracy." Technocracy here is supposed to mean:

- that technology can solve government problems
- that political decisions are made by engineers and scientists
- that political decision-makers can choose the direction of scientific development
- science and tech are used to political ends

The Soviet Union really ran with this idea. Many Soviet leaders were actually trained as engineers (as a side note, their engineering degrees were very specific).

"Command technology": from command economy; Eisenhower believes that in training scientists and engineers to pursue political goals would be a mistake, it would stifle their creativity and abilities, and would create a vast, faceless bureaucracy.

What is McDougall's opinion about small government vs. technocracy? He's more pro-small government.

Why didn't Eisenhower want to get to space first?

- didn't want an arms race
- wanted "open skies" – felt that if America allowed the Soviets to get there first, this freedom would be established.

Sputnik represented:

- global nuclear capability (kind of; it was a start, anyway)
- the Soviets had a superior political system
- ... and a superior educational system
- a concrete threat, instead of abstract worry
- Soviet expansion (now they're not just all over Europe, but also in space)
- Superior R&D system
- New arena for progress and competition

Eisenhower wasn't fazed by Sputnik's launch.

New Symbolic Politics: the Eisenhower administration felt that the American political system was obviously better than the Soviet system, and that they were in good shape in terms of getting to space because they had multiple different kinds of satellites being worked on in parallel. However, everyone in the administration missed the idea that whoever got to space *first* would win a symbolic victory (detailed above) in the eyes of the rest of the world (and even at home).

[political cartoon slides]

Timeline:

1957:

10/4: Sputnik

11/ -: Johnson / hearings

12/ -: Vanguard

Eisenhower appoints PSAC: President's Scientific Advisory Committee.

Jack Killian was the first, and wrote *Sputnik Scientists and Eisenhower*. Killian (the President of MIT, though he didn't have a science or engineering degree) was termed the "Missile Czar," and this is where the government trend of "____ Czar" nicknames began.

1/1958: Explorer

NDEA (National Defense Education Act): one of the biggest improvements made to high school and college programs in this country, ever, was due to the need for better-trained scientists and engineers.

- reorganized DOD, added DDR&E (deputy director of research and engineering)

DARPA: starts out overseeing all the military space programs.

- reports to the Secretary of Defense

Air Force invented the term "aerospace" to imply that space was just part of the continuum including the air/atmosphere

What are the themes played out in the development of NASA?

- Whether it should be a civilian or military organization
- Whether to keep the program and projects secret or open to the public
 - o Why is it important to consider a civilian+open project, rather than just wrapping it up in military secrecy? Because being open would allow industry to work on the technologies, and develop patents.
 - o Public interest; national prestige.
- external vs. internal contracting
- international collaboration versus keeping it national

“Military-industrial complex”: comes from Eisenhower’s farewell speech when he left office; it’s interesting that a president, in his farewell speech to the nation, chooses to comment on the changing face of research and how/who conducts research, and for what purposes.

Kennedy’s election

- This presidential election is the first televised campaign, a part of the television generation
- election of a young president who understands the new symbolic politics (though he’s not yet sold on space exploration).

Kennedy’s administration took a long time debating what to do about the space program, and how much of a role they should take.

- his science advisor (later another president of MIT) actually advised Kennedy to stay away from the program, since it could easily fail disastrously
- Weisner was generally an opponent of manned spaceflight anyway, because he thought it held little scientific value

When Shepard is given a hero’s welcome (1961), it clicks for Kennedy that this isn’t just an ordinary technological revolution – this is something people are emotionally invested in, which can be used for political purposes.

The press wasn’t uniformly in favor of manned spacecraft, either, until they realized that outside of being critical of the administration and government programs, there’s this human story – writing about the pilot and his experiences – that people really like to read about.

[flipped through and discussed the NASA Mercury schematics handout]

You could make the case that the tensions discussed today made their way into the way the spacecraft were designed, by looking at these schematics. (Spacecraft seems to be built around the human, etc.)