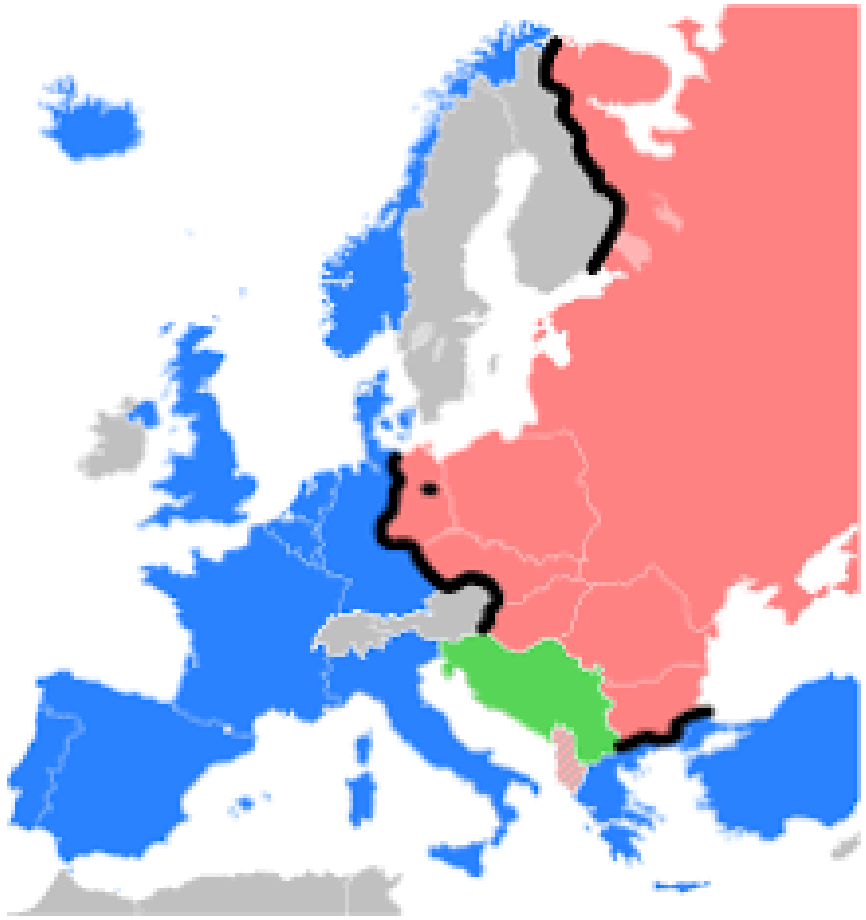
Apollo in 60 Minutes

INST 154

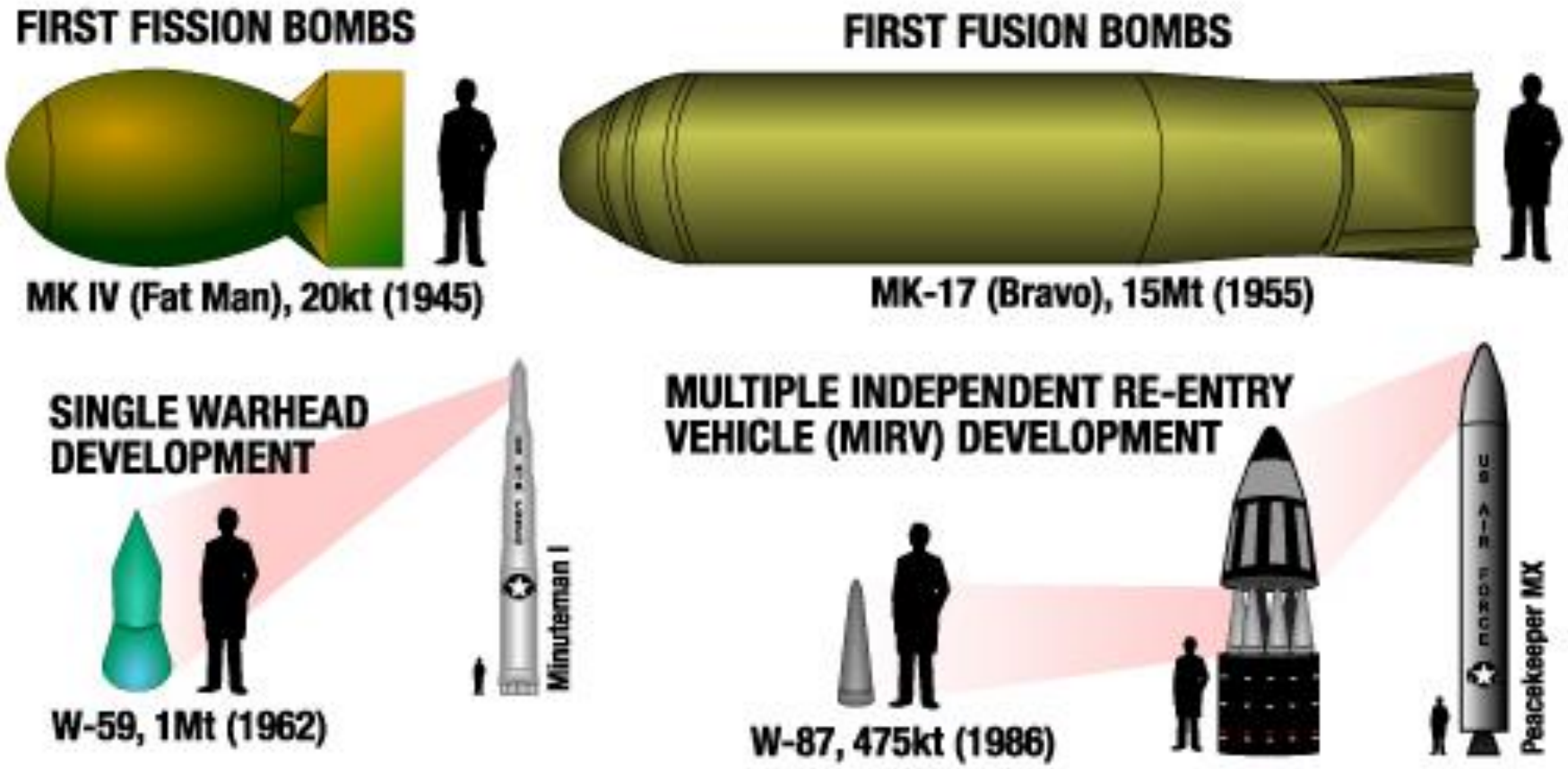
Apollo at 50

The View From Moscow

The “Cold War”

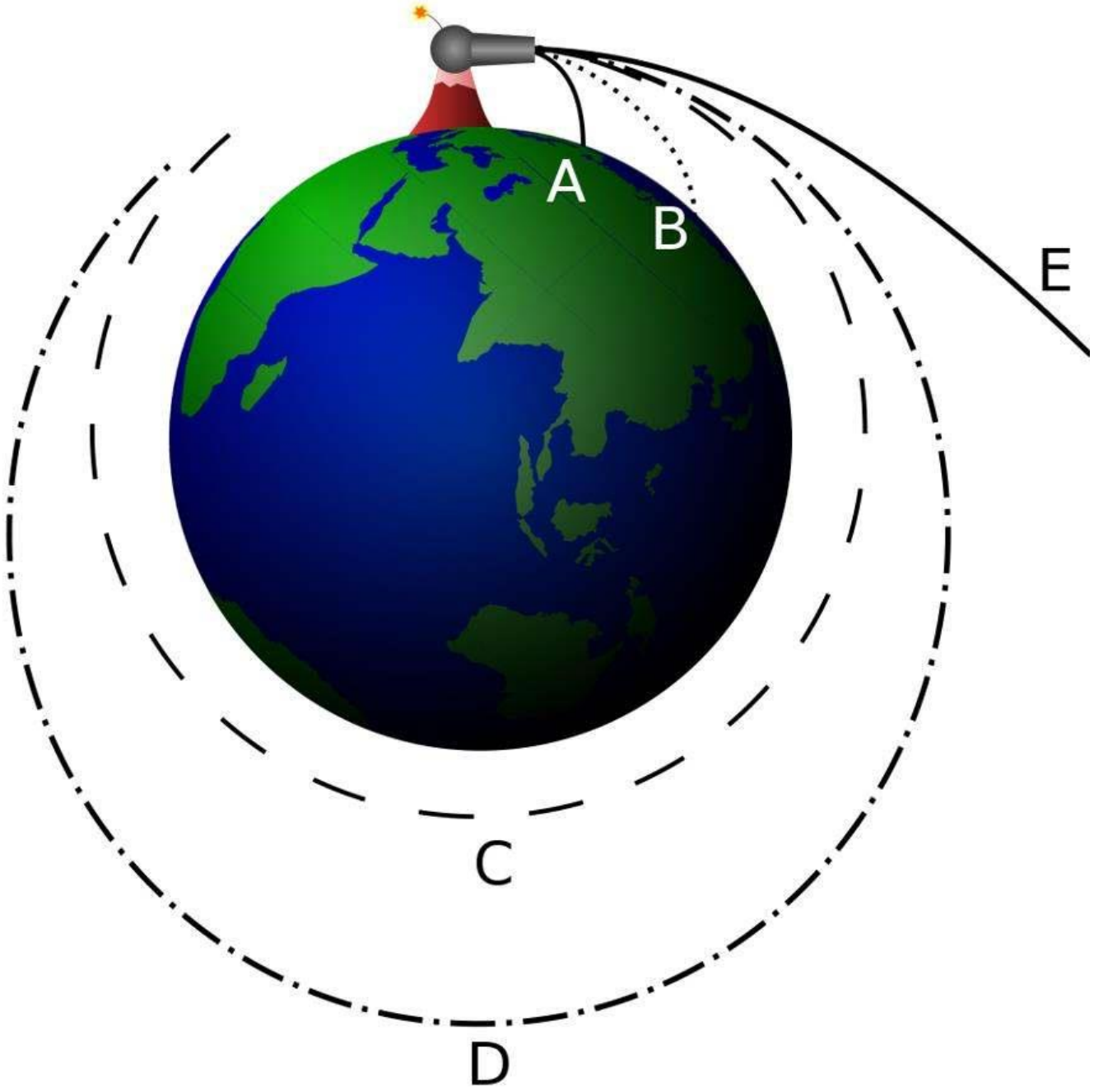


Nuclear Weapons

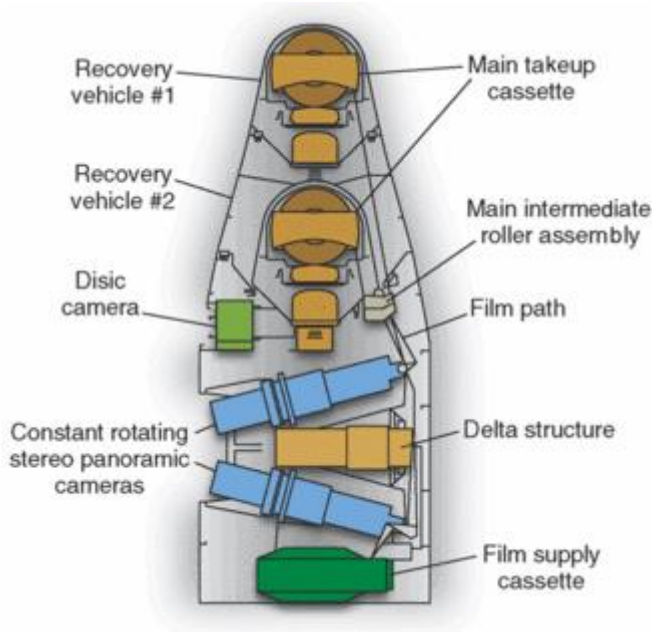


Intercontinental Ballistic Missiles

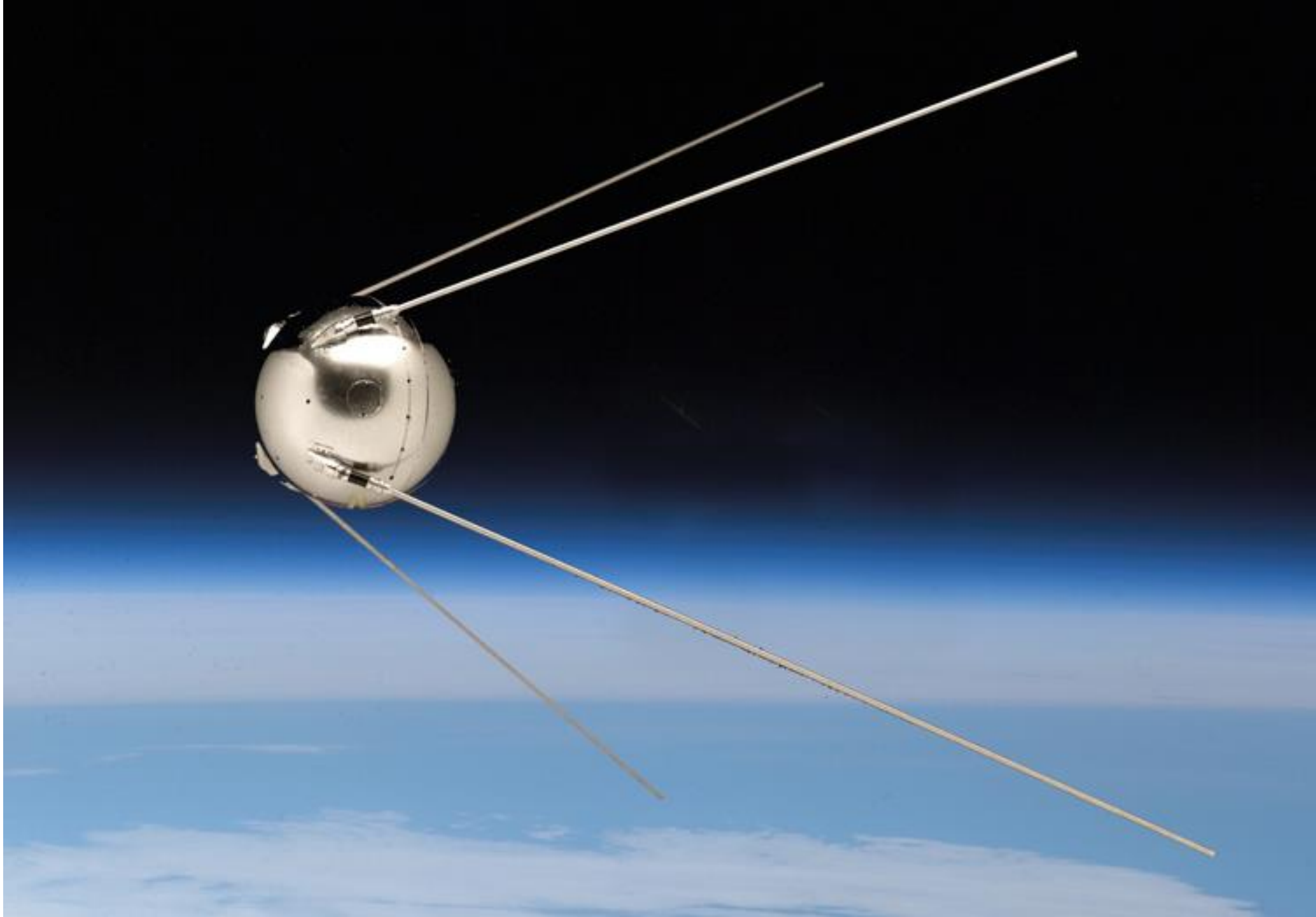
Orbital Mechanics



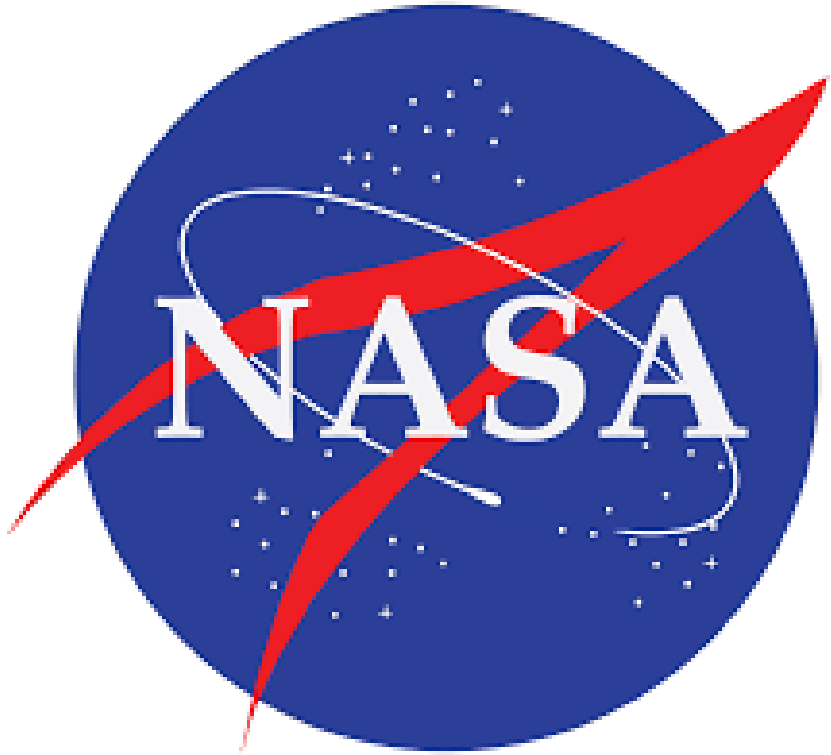
Reconnaissance

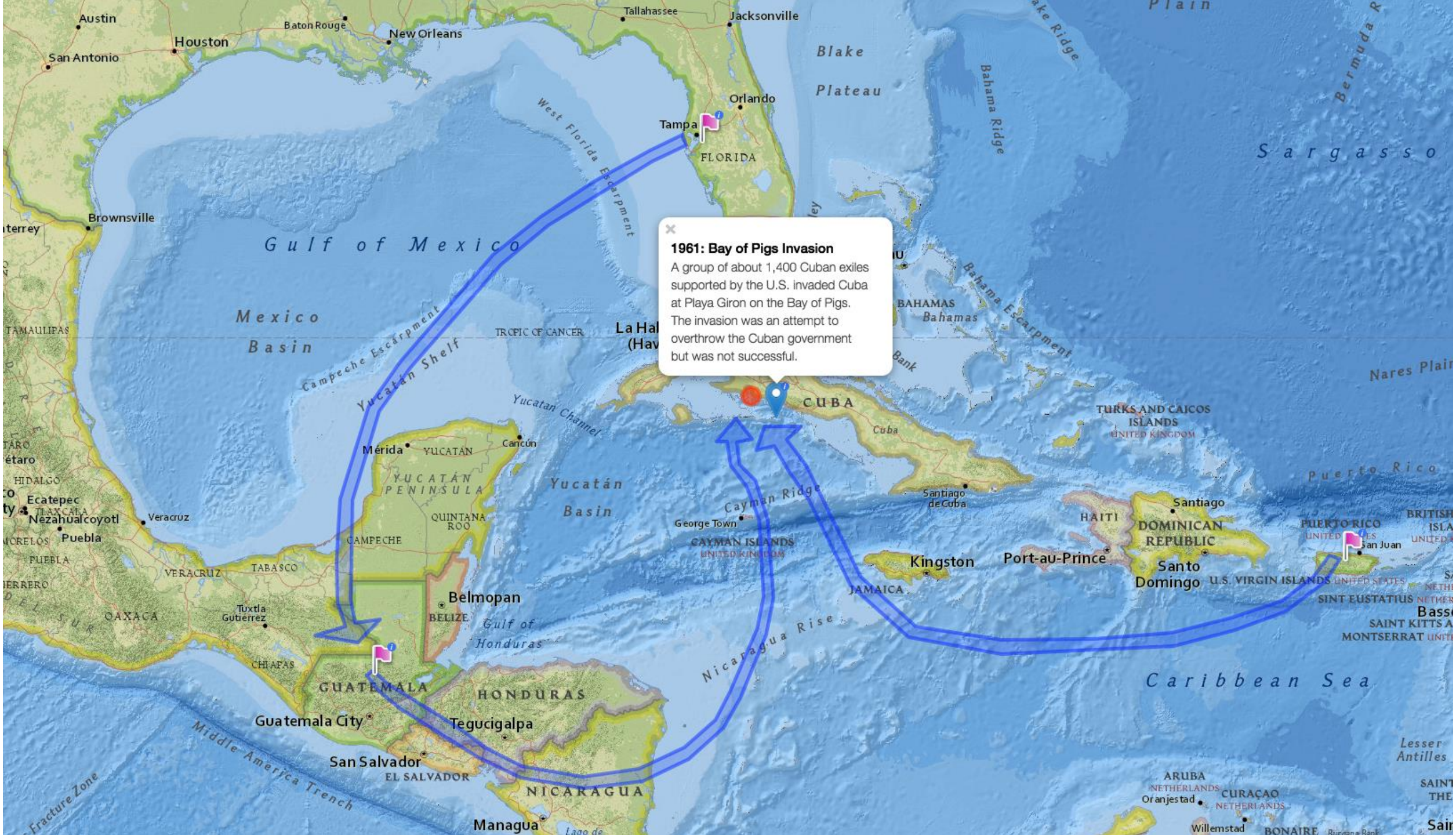


Sputnik

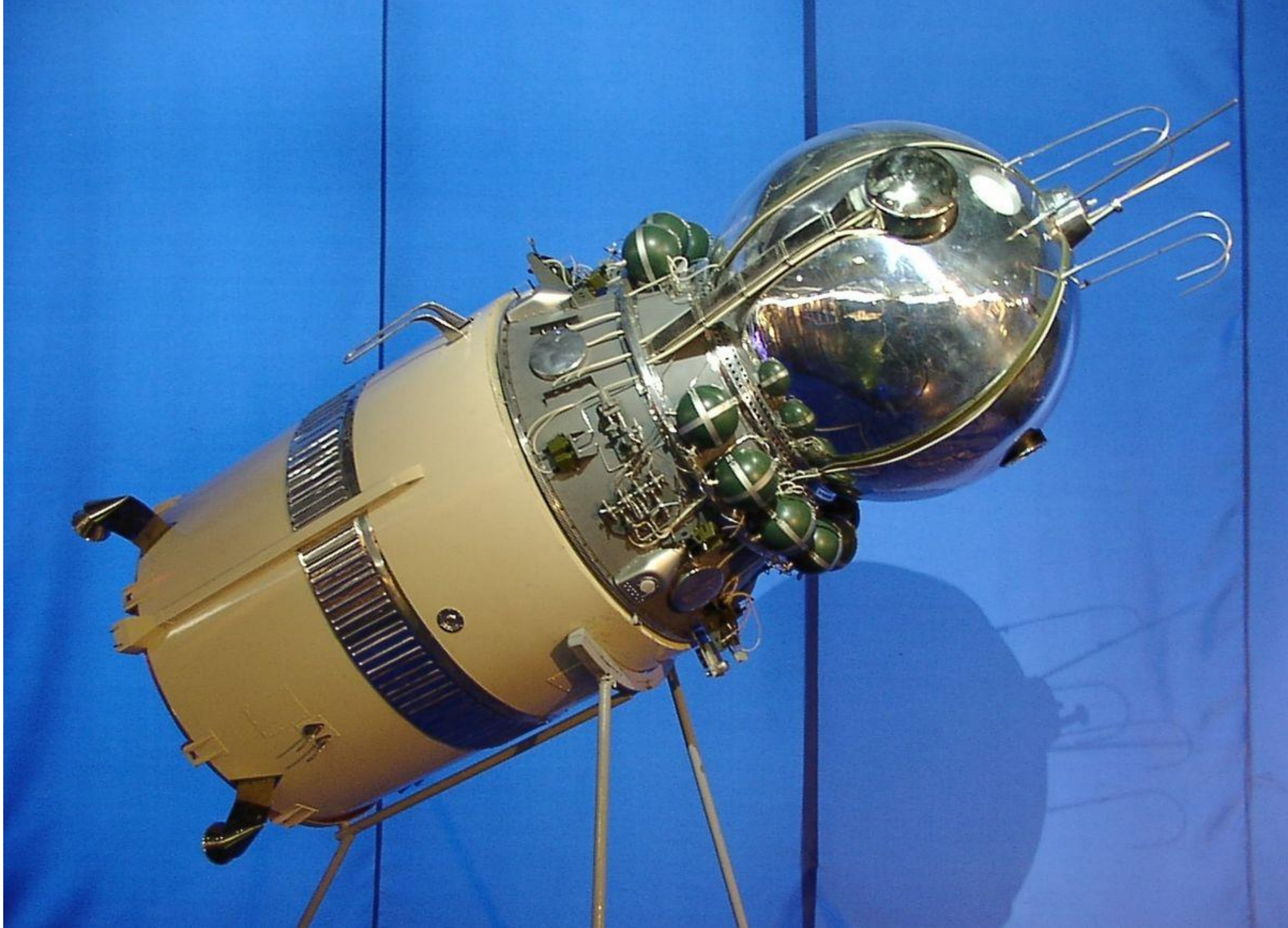


American Domestic Politics


NASA

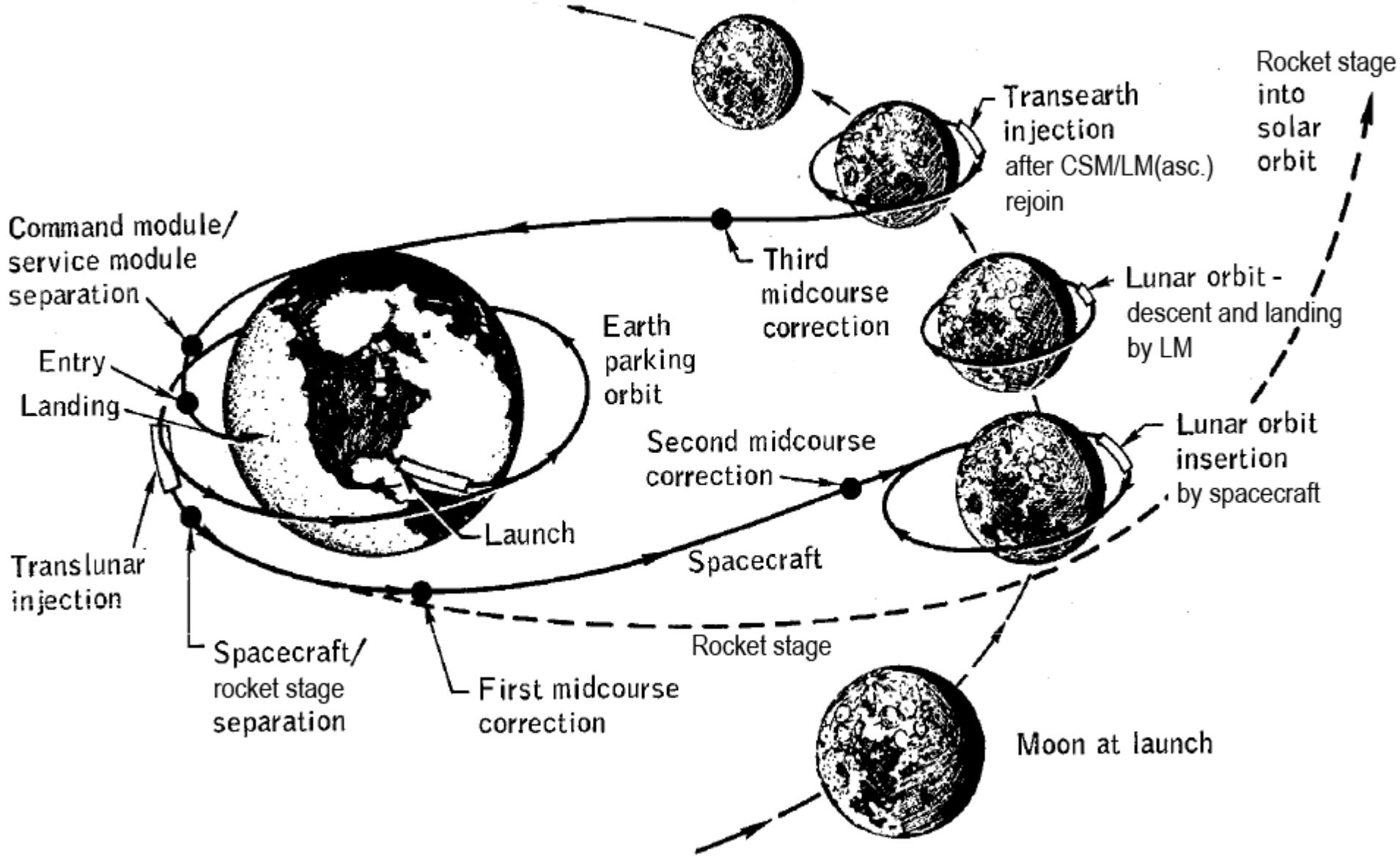

1961: Bay of Pigs Invasion
A group of about 1,400 Cuban exiles supported by the U.S. invaded Cuba at Playa Giron on the Bay of Pigs. The invasion was an attempt to overthrow the Cuban government but was not successful.
Gulf of Mexico
Mexico Basin
Yucatán Basin
Caribbean Sea
Sargasso
Austin
Houston
San Antonio
Baton Rouge
New Orleans
Tallahassee
Jacksonville
Orlando
Tampa
FLORIDA
Brownsville
Blake Plateau
Bahama Ridge
Bahama Escarpment
BAHAMAS
Bahamas
West Florida Escarpment
Campeche Escarpment
Yucatán Shelf
TROPIC OF CANCER
Yucatan Channel
Cayman Ridge
Nicaragua Rise
Middle America Trench
Fracture Zone
Nares Plain
Puerto Rico
Lesser Antilles
CUBA
Cuba
Santiago de Cuba
TURKS AND CAICOS ISLANDS
UNITED KINGDOM
HAITI
DOMINICAN REPUBLIC
Santiago
Santo Domingo
PUERTO RICO
San Juan
U.S. VIRGIN ISLANDS
BRITISH ISLA
SINT EUSTATIUS
SAINT KITTS A
MONTSERRAT
Kingston
JAMAICA
Port-au-Prince
George Town
CAYMAN ISLANDS
UNITED KINGDOM
Mérida
YUCATAN
Cancún
YUCATÁN PENINSULA
QUINTANA ROO
CAMPECHE
Veracruz
Puebla
Ecatepec
Nezahualcoyotl
TAMAULIPAS
HIDALGO
TLAXCALA
MORELOS
PUEBLA
VERACRUZ
TABASCO
OAXACA
CHIAPAS
Tuxtla Gutiérrez
Belmopan
BELIZE
Gulf of Honduras
GUATEMALA
HONDURAS
Guatemala City
Tegucigalpa
San Salvador
EL SALVADOR
NICARAGUA
Managua
Lago de
ARUBA
NETHERLANDS
Oranjestad
CURAÇAO
NETHERLANDS
Willemstad
BONAIRE

Vostok



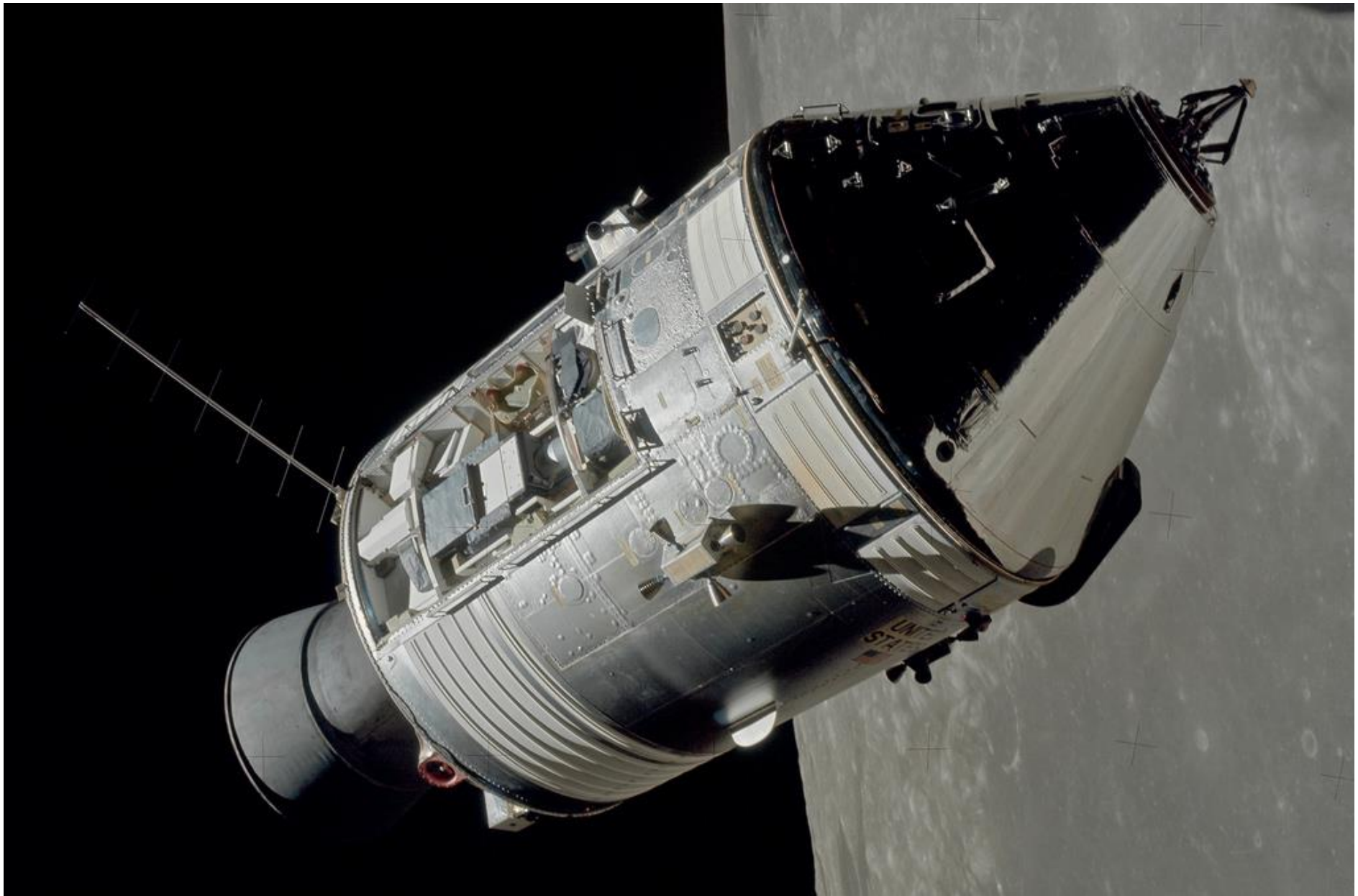
The Apollo Decision

Lunar Orbit Rendezvous

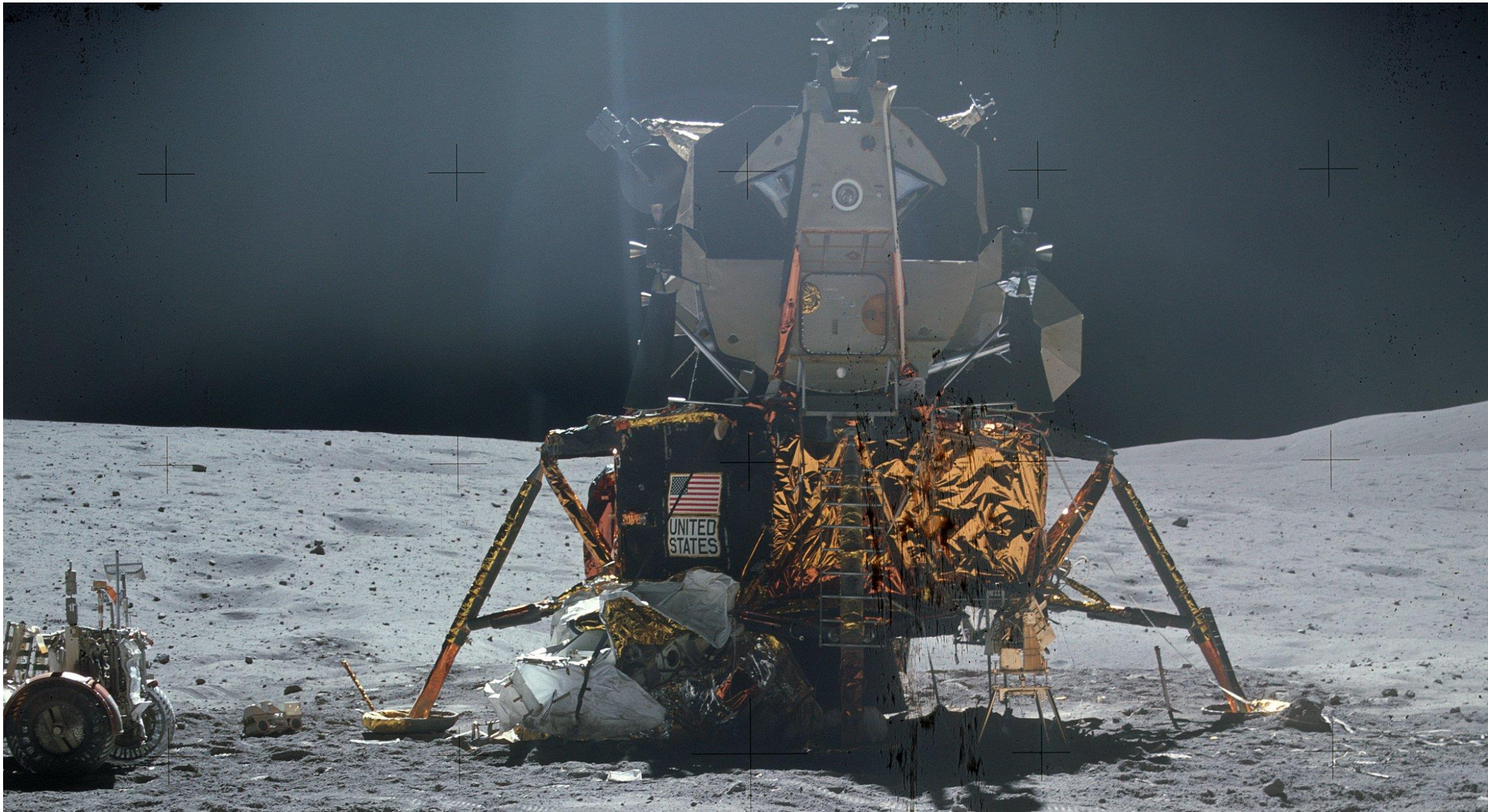


The Saturn V Rocket

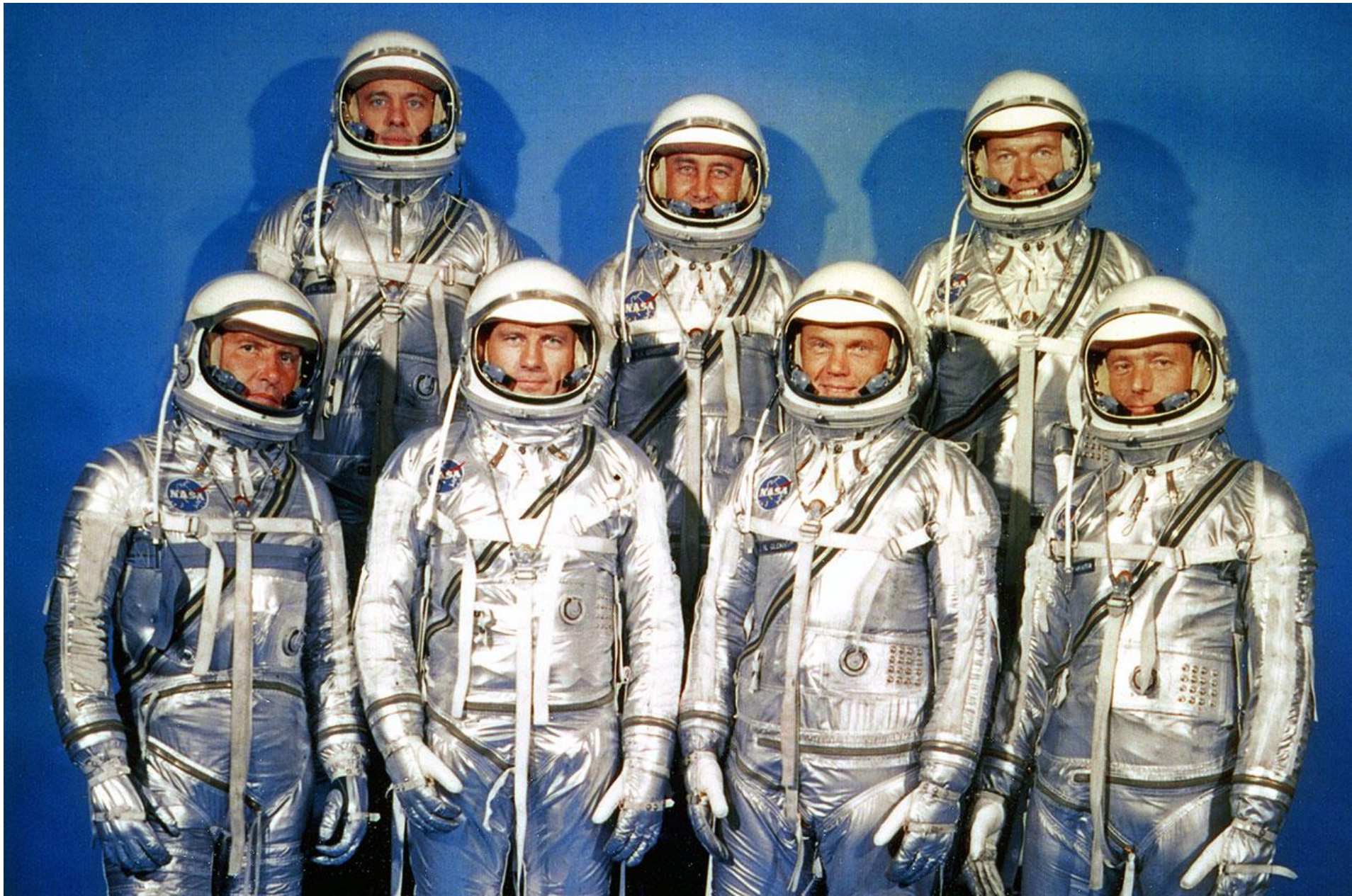
The Apollo Command and Service Modules



The Lunar Module

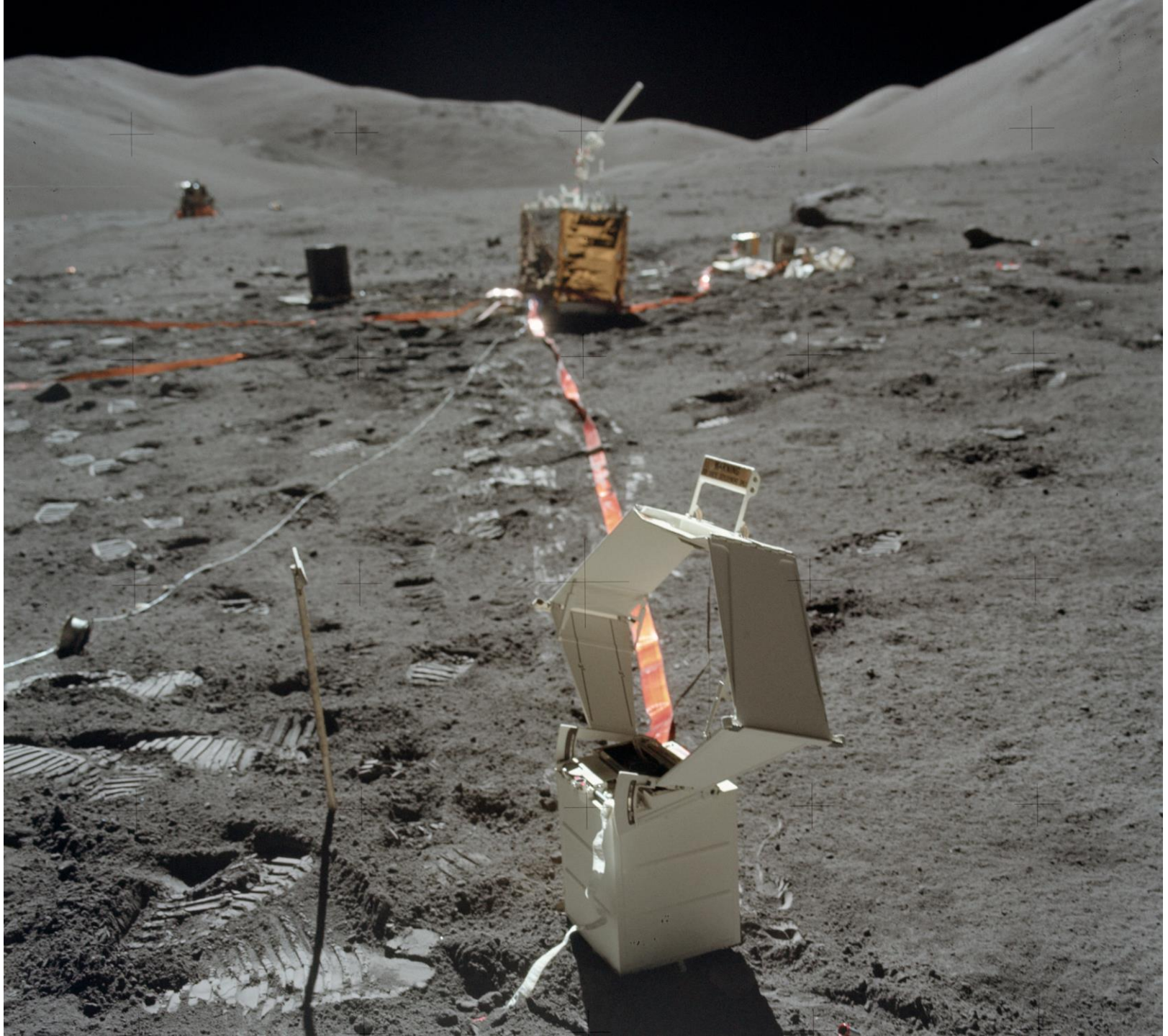


Astronauts



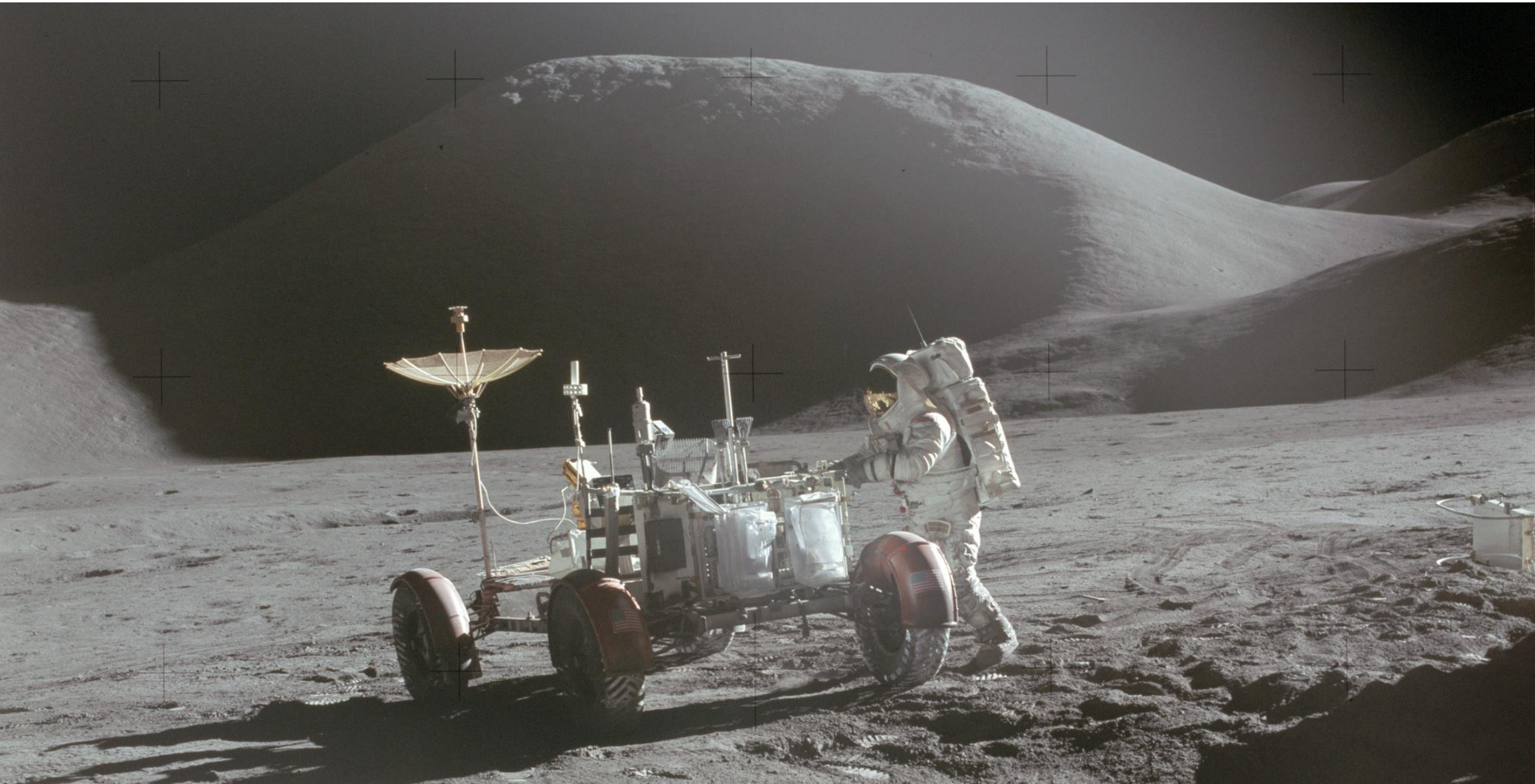
Gemini

Science



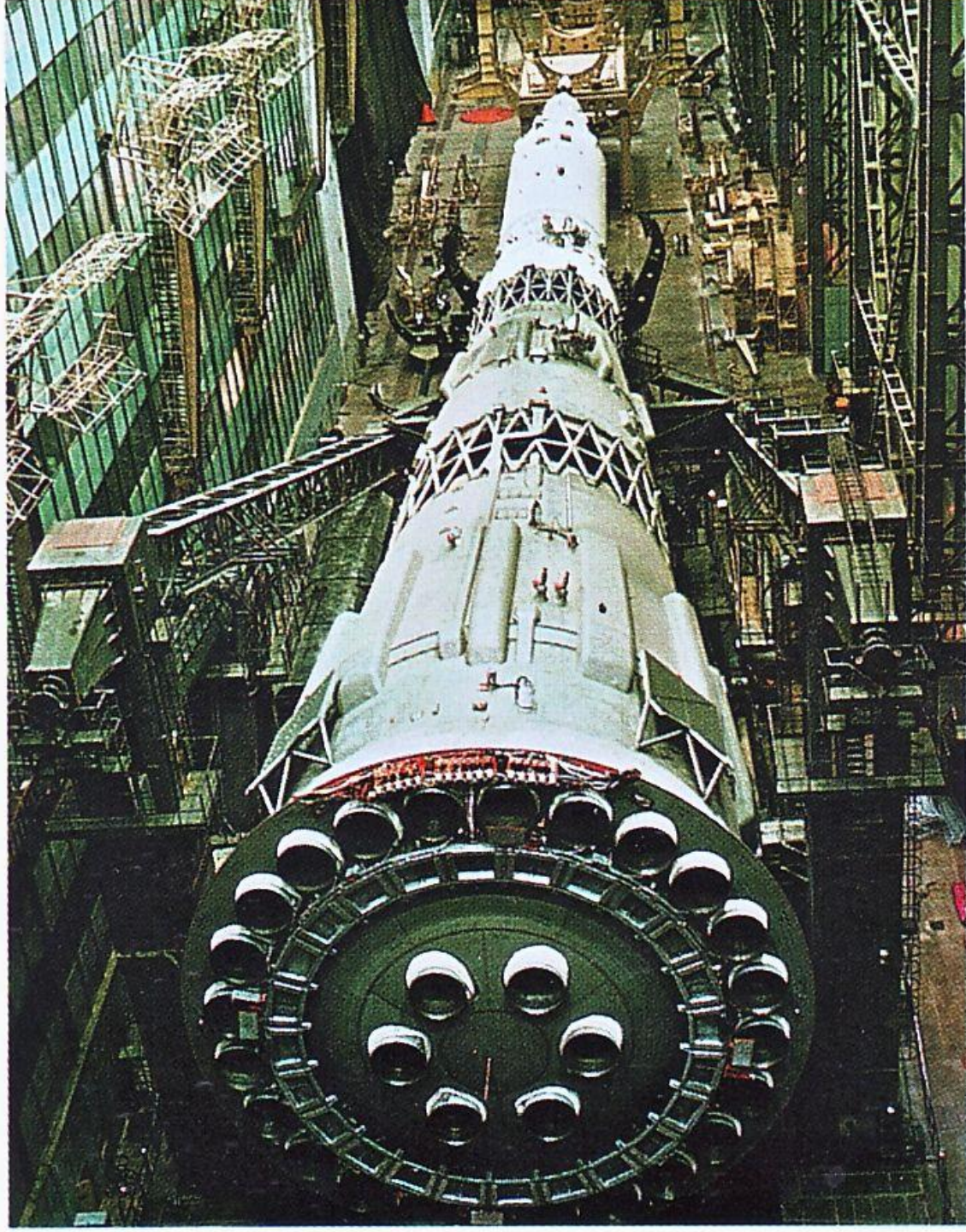
Public Relations

Operational Apollo



The Space Shuttle Decision

The Soviet Lunar Program



Some Lessons of Apollo

- Clarity
- Political commitment
- Societal support
- Near-term time frame
- Economic capacity
- Organizational capacity
- Technology readiness
- Existing infrastructure
- …

Wicked Problems

1. The problem is not understood until after the formulation of a solution.
2. Wicked problems have no stopping rule.
3. Solutions to wicked problems are not right or wrong.
4. Every wicked problem is essentially novel and unique.
5. Every solution to a wicked problem is a 'one shot operation.'
6. Wicked problems have no given alternative solutions.

Jeff Conklin, Wicked Problems and Social Complexity, 2005

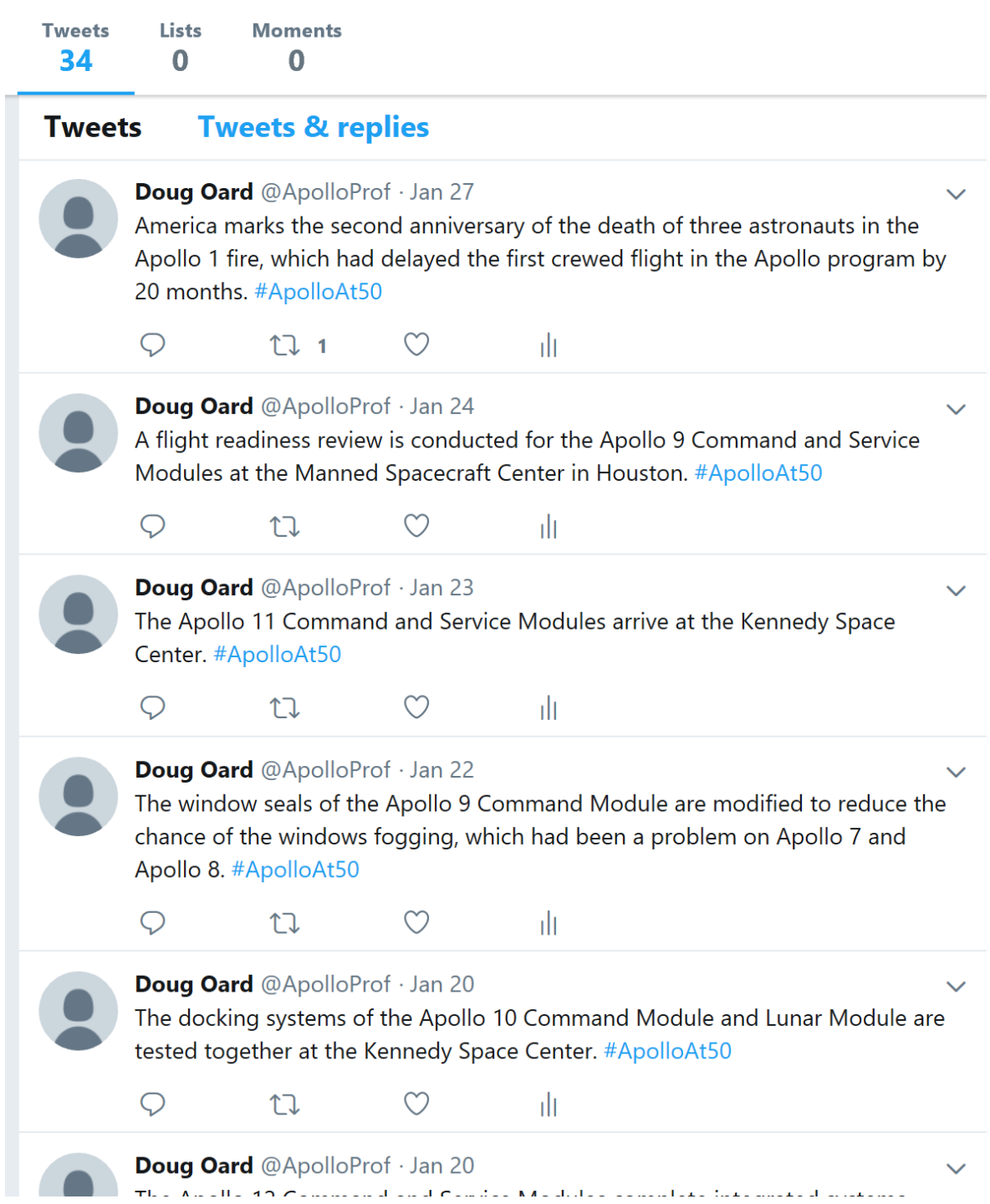
Learning Together

- 40-minute lecture
  - Provides some common background
- 25-minute group discussion
  - Collective sensemaking
  - Guided by written discussion questions
  - Scribe uploads a one-page summary to ELMS (same day)
- 10-minutes of support for your current “activity”
  - Activities are designed to be completed in 3 hours per week
  - Class discussion is intended to help you make progress

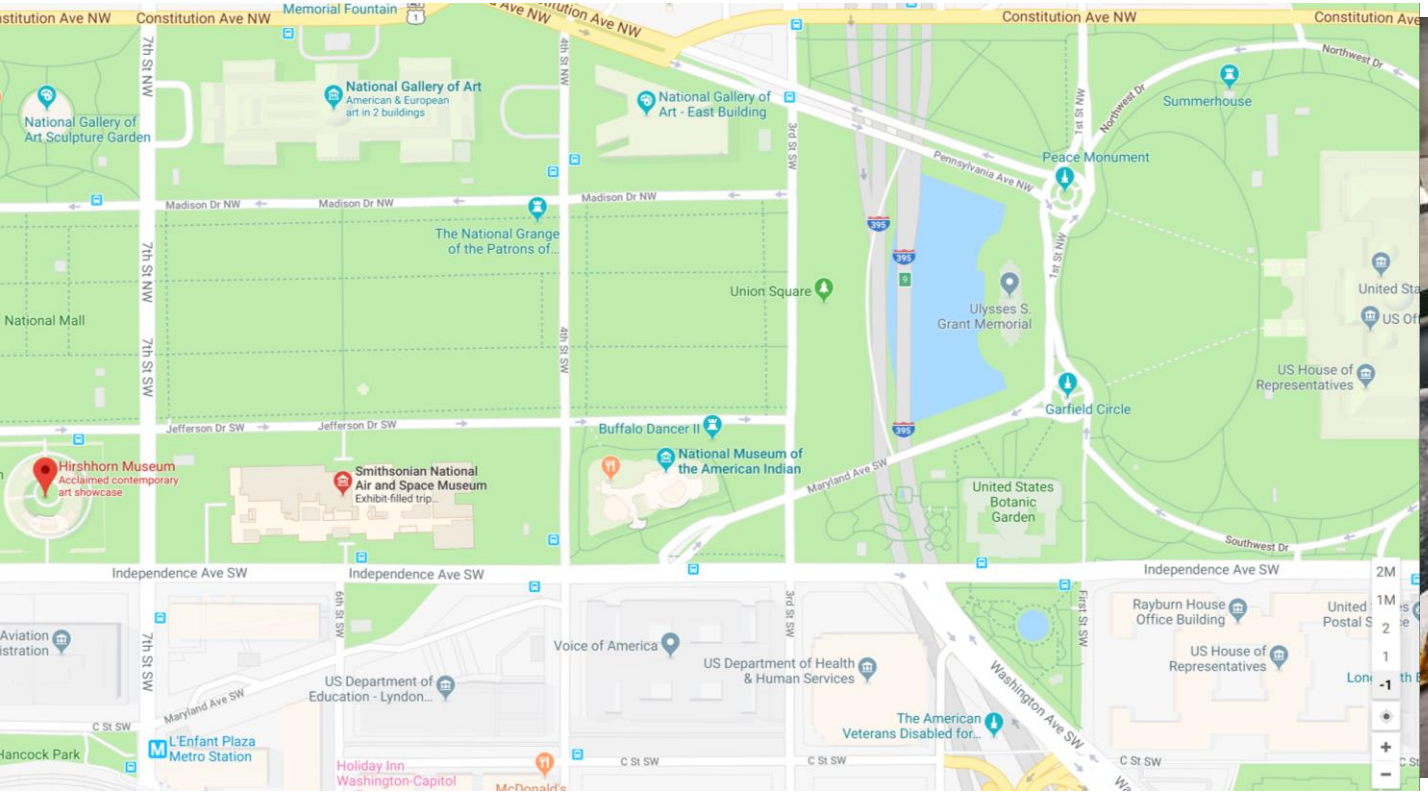
Reading, Watching, and Listening

- One hour of preparation for **every** class session
  - Reading, video, or audio
  - Assignments are linked from the schedule (keyed to “student number”)
- Skim first to allocate your time well
- Read for comprehension, not for detail
  - Goal is to bring important points to the discussion

Tweeting 1969



National Air and Space Museum

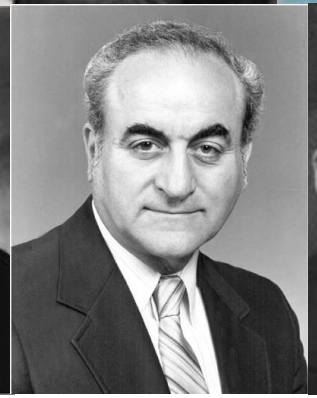


Adopt Someone: An Individual Perspective









Archival Records: An Organizational Perspective

Mission Control: An Operational Perspective

Term Paper

- Pick one big thing to study
  - A social challenge, a large-scale technology challenge, an armed conflict, …
  - Choice is due after team project is submitted

- Draw on the lessons of Apollo
  - Compare and contrast, at the level of enablers and inhibitors
  - Learn about your chosen challenge –what do we know already?
  - Compile insights throughout the semester
  - Write early and then get several people to read it!

What's Where

- Course Web Site
  - Schedule
  - Grading, etc.
  - Links to most things (including most readings)
- ELMS
  - Copyrighted materials (Files for PDF, Modules for Video)
  - Recorded class sessions (Panopto)
  - Student work
  - Grades
- Twitter (#ApolloAt50 or @ApolloProf)
- Email (please don't use ELMS to send messages)
- Office Hours