

15. 1960s & 70s

Transition to the 60s and 70s

- S&T in the 60s
- *Problems & over-confidence*
- *Political & social change in the 60s & 70s*

Science and Technology in the 1960s

- Strong growth
- Strong government presence
- Non-government
- New government activities
- University research, strong and growing
- Major issues
- Some problems are emerging
- Conclusions drawn, mid-1960s
- Glory days may have come to an end
- Science policy makers understood that they were in for an uncertain future
- Did not and probably could not have anticipated what was to come
- Some of the problems were internal to science

Project Mohole

- Overview
 - ☑ Major science project, late 1950s and early 1960s
 - ☑ Objective - to drill a hole through the earth's crust
 - ☑ Advanced science and technology
 - ☑ Raised questions about how science is planned and funded
- Background:
 - ☑ Earth's "crust" 3 - 40 miles thick
 - ☑ rock "mantle" 1800 miles thick
 - ☑ interface ~ Mohorovičić discontinuity
- Origin of Mohole:
 - ☑ March, 1957, NSF review panel, geological sciences
 - ☑ Walter Munk, Scripps Oceanographic Institute, suggested drilling a hole through the earth's crust
 - ☑ Turned to AMSOC (American Miscellaneous Society)

→AMSOC

- ☑ started in 1952 by
- ☑ "miscellaneous sci."

→ NSF AMSOC connections

- ☑ AMSOC provided a convenient organization to submit a proposal for funding
- ☑ AMSOC members had good connections--ONR, NSF, NAS

→Building professional support, late 1950s

- ☑ first step was to make a recognized scientific priority
- ☑ second step NAS support
- ☑ third steps was to sell to larger scientific community
- ☑ Fourth step, demonstration project

→Project unravels, mid 1960s

- ☑ NAS began to have doubts as the project started to grow; they were not in the business of managing large science projects
- ☑ 1962, NSF set up a special committee, asked for bids to undertake project
- ☑ 1963, the scientific community splits over Mohole
- ☑ the dispute starts to make its way into public
- ☑ August, 1966, Congress voted to cut funding

Tuskegee Study

- 1926 Syphilis obstacle to Black economic development.
- 1929 Treatment with Mercury and Bismuth.
- 1931 funds for treatment end, decision made to follow untreated males
- 1934 First papers
- 1936 Major paper published
- 1940 Draft helps keep men from treatment
- 1945 Penicillin syphilis.
- 1947 US PHS establishes "Rapid Treatment Centers" to treat Syphilis.
- 1968 Concern raised about study
- 1969 CDC reaffirms need for study
- 1970 First news articles condemns studies.
- 1971 Congress holds hearings and law suit initiated.
- 1972 Study ends, participants compensated.
- 1997 May 16th President Clinton Apologizes on behalf of the Nation.

External problems and changes

→ Lyndon Johnson, 1963-1968

- ☑ Civil Rights Era
 - ☑ Vietnam War Era
 - ☑ Year of Transition 1967-68
- <http://www.67riots.rutgers.edu/>

Richard Nixon, 1968-Aug. 8, 1974

- some government reform
- - escalated then ended war in Vietnam
- 1969, continued racial unrest
- 1970, Kent State killings
- June 17, 1972, break in Watergate Complex
- 1973, Arab oil embargo, energy crisis

Gerald Ford, 1974-1976

- pardon Nixon likely cost him '76 election
- important initiatives

Jimmy Carter, 1976-1980

- major initiatives: environment, energy, social programs, and international relations
- arms control and peace in the Middle East
- 1979, 50 Iranian hostage crisis
- 1980 rescue mission failed
- was seen as an ineffective leader

Intellectual revolution

- Joseph Heller, Catch-22 (1960)
- William Lederer, The Ugly American (1958)
- Herbert Marcuse, One Dimensional Man (1964)
- Kenneth Boulding, The Organizational Revolution (1953)
- The Meaning of the Twentieth Century (1964)
- William Whyte, The Organization Man (1956)
- Rachel Carson, Silent Spring (1962)

→ Thomas Kuhn, The Structure of Scientific Revolutions (1962)

Social revolution

→ "beatniks" or "beats", 1950s

→ "folk" music emerges

1963 will start the switch to Rock

→ Beatles London Palladium concert

→ 1964 first Beatles movie, A Hard Day's Night

→ Rise of the drug and free-sex culture

Leaders of the counter culture

→ Timothy Leary and Richard Alpert begin experimenting with hallucinogenic drugs (LSD) in 1960-61

→ West Coast, Ken Kesey and his Merry Pranksters

made his money on *One Flew over the Cuckoo's Nest* (1962)

1965-1975 Period of transition

Science establishment, ca. 1965

