Politics, Science and the Public

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The Public Understanding of Science

- Shape of Popular Science and Technology
 - STS has no grounds for skepticism by itself
 - Humanizing science and technology has undermined some of its authority
- Manufacture of Ignorance
 - Purposefully bringing doubt to science to push agendas
 - Global Warming
 - Smoking
- Popular Science creates a "Narrative of Nature" (Myers 1990)

Dominant Model

- Genuine Knowledge
 - General public is not capable of understanding
 - Requirement of a Mediator
 - Simplification of the explanation pollutes the science
- Popularity feeds back on itself
 - Scientists see the more popular science more often
- Popularity of specific sciences leads to policy making
 - Threat of Asteroids hollywood movies nuclear weapons research
- Hwang Affair

Deficit Model

- Lack of scientific literacy
 - "Good in short supply" (Sismondo 2010 pp.174)
- Public Understanding of Science
 - Studies of the application of science to the public's problems
- Distrust of technology due to politics
 - Wynne on Sheep Farming

Questions

What are the implications of the fact that common styles of science journalism emphasize findings and their importance over processes?

Should popularization have an impact on scientific authority?

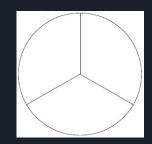
What are some possible methods to bridge gap between scientists and the general public?

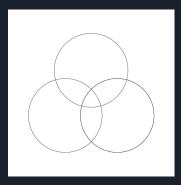
Can/should you convince people it's ok not to understand everything about science but still believe it?

Expertise and Public Participation

Problems with Expertise

- Science and Technology = Apolitical?
 - o Possibly.... Distribution of Expertise / Spheres of Expertise
 - Contributors to fields
 - Those who interact with contributors
 - Those who can successfully evaluate contributions
 - Issues with Approach
 - Not all distinctions will be straightforward
 - Problem origination
 - Problem framing
 - Cultural differences
 - Civic Epistemologies
 - Variety of related components
 - Solutions identified locally
 - Scientific Governance
 - Expertise and power are not two completely separate entities





Brian Martin (2006) Four Radical Visions for Alternative Science:

- Technocratic science for the people
- Pluralistic science for the people
- Science by the people, allowing popular participation
- Science shaped by a more democratic world

AIDS patient groups - power of "lay experts"

AZT vs Placebo - Was placebo ethical?

Public Participation in Technical Decisions

STS Assumption: More public participation in technical decision-making improves the public value and quality of science and technology

- Deliberative Democracy Encouraging public participation in decision-making
 - Pros: Better reflection public interests
 - Establish trust between lay people, experts, and decision makers
 - "Decide, announce, defend" vs Participatory Model
 - Danish Consensus Conference (1980)
 - Mobile
 - Cons: Inefficient
 - Participants must represent the population, be independent, be involved, and have influence
 - Must be well organized and field a comprehensive list of experts
 - Must allow for enough time
 - Must be culturally aware (Japan polite agreement)

Citizen Science and Technology

- Successful technologies are the result of the interplay among multiple actors and materials to produce artifacts that can be said to serve specific interests
 - Latour (2004) Centrality of science and technology to contemporary societies
 - "...blurring the distinction between nature and society.
 - Technoscientific democracy Republic of things, human and nonhumnan
- Science shops
- Grassroots vs Astroturf Organizations
- Participatory Action Research & Community Ownership
- Power of the Independent Tinkerers

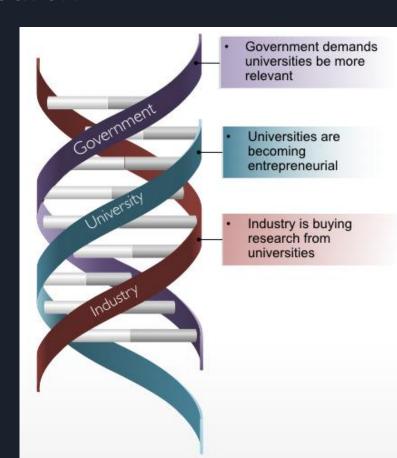
Political Economies of Knowledge

Political Economies of Knowledge

- Knowledge is a quasi-substantial resource
- STS studies the production, distribution and consumption of knowledge
- Traditionally, science is regarded as a free market of knowledge
 - Science is not always free though, as it is regulated by cultures and practices and responsive to external demands and forces
- The political economy of knowledge can be seen in the intersection of the new commercialization of biotech and medical research
 - New forms of research, obvious commercial value, and exploitation of research subjects

Commercialization of Research

- Bayh-Dole Act patenting federally funded research
- Modes of Knowledge Production
 - Mode 1: Discipline bound, problem oriented
 - Mode 2: Transdisciplinary work, application oriented
- Academic Capitalism profit centers
- Triple Helix
- Sources of Funding
 - Corporate, donations (1890 WWII)
 - Military Funding (WWII 1980)
 - Privatization, outsourcing (1980-Today)



STS and Global Development

- Conflicts STS describes in development
 - Localized science and technology
 - French uranium mining in African colonies
 - Indian Giant Metrewave Radio Telescope
 - Western medicine vs traditional medicine
 - Scientific exploitation of development
 - Bioprospecting and biopiracy
 - Intellectual property regimes
- Potential lessons from STS for development
 - Cumulative advantage
 - International support networks
 - Cultural interpretation of technology
 - Democratic control of technical issues

Questions

Is science a free market or not?

Which mode of knowledge production is your research? Problem oriented or application oriented?

What do you think best defines the commercialization of research: Academic Capitalism, the government-university-industry triple helix model, or source of funding?

Can STS offer positive lessons for development, or can it only show conflicts?

Thank you