



**WELCOME TO THE LAST CLASS OF STS**

**SPECIAL GREETINGS TO 4<sup>TH</sup> YEAR!!!**





# **Science, Technology and Public Policy (State): "policy for science" and "science in policy"**

**Do read** Science, Government, and the Politics of Knowledge.

**Page No. 533, Handbook of science and technology Studies from exam point of view.**

Recent work in science studies has rendered this picture highly problematic by calling attention to the multiple, mutually constitutive, and mutually reinforcing relationships in which science and technology engage with the state.

In current STS scholarship, it is almost unthinkable that **"knowledge" and "power"** should be treated as autonomous black boxes that can interact without being transformed by the very processes of their interaction.

### When did it begin?

The conception in the 1990s is of a system of **"coproduction,"** in which scientific and political order are simultaneously created and recreated so as to sustain each other through complex rituals of interdependence.

**What Impact Science and State? Example:** Funding policies, technical controversies, public participation, science advice, social regulation) as well as to open up new areas of inquiry (law and science, comparative policy, international trade, and global change etc.

**What this Lecture is About?** It begins with a chapter by Susan Cozzens and Edward Woodhouse that surveys the implications of the social constructionist assumption for the study of science and politics.

Title of chapter: Science, Government, and the Politics of Knowledge.  
Page No. 533, Handbook of science and technology Studies

An important theme in the chapter is that the authority of science is ultimately political, resting as it does on the ability to hide assumptions and worldviews behind a veneer of objectivity that is taken for granted by billions of people in their everyday lives.

Cozzens and Woodhouse show how the production of knowledge is at every step bound up with politics.

**Few examples:** In late 2010, Dr. Anil Potti resigned from his job at Duke University amid questions of research fraud; Two University of Kansas computer scientists, Mahesh Visvanathan and Gerald Lushington, were found to have plagiarized major portions of their research; In 1998, physician Andrew Wakefield published a study in *The Lancet*, claiming that his research indicated a connection between autism and the measles-mumps-rubella vaccine; In 2006, Korean researcher Hwang Woo-suk was found to have fabricated a series of experiments in stem cell research; At Penn State, professor Craig Grimes has been accused of defrauding the National Institutes of Health and Advanced Research Projects Agency of federal grant monies, to the tune of \$3 million.

The daily news is filled with stories of **university pork barreling**, **research fraud**, and **controversies over climate warming** and **ozone depletion**, **cancer-causing chemicals**, **high-fat diets**, and **interventions in human genetics**.

#### OLD and NEW understanding:

**The old understanding** assumed that good science produced truth and that truth-producers deserved a special role in politics.

**The new understanding** treats scientific knowledge as a negotiated product of human inquiry, formed not only via interaction among scientists but also by research patrons and regulatory adversaries.

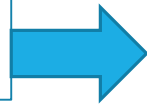


the public image of scientists has declined: From guardians of the common good producing objective knowledge, scientists are now perceived as hired brains of special interests and lobbyists for their own.

# WHO WILL MONITOR?

**Government** becomes the **key mediating institution** where social actors participate, with varying degrees of influence and in a variety of structures, **in shaping, interpreting, and using scientific knowledge claims.**

**A. research knowledge is a product of politics.**



**HOW?**

Scientific claims are generally **accepted as unproblematic truth**; but, when controversy arises, science policymaking is perceived as being so much like any other kind of political activity as to be unworthy of special attention.

## WHAT HAPPENS?

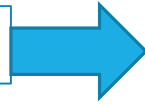
### **Resource Coalitions:**

science-government relation has depended on coalitions between scientists and agency officials.

The authority structure of the funding system—who participates in it, in what network of power relationships—is a dominating influence. Because most research is supported with government funding, distributed through agencies established and maintained through political negotiation, the balance of knowledge among fields is a political product

Physics grew within the emerging research universities of the United States in the late nineteenth century, supported by the wealth of a growing educated upper class desiring prestige. Early on, physicists developed two attitudes that still appear among scientists in government: **best-science elitism**, an unrelenting lifestyle of invidious comparison, reinforced by competition for prizes and other forms of recognition, and **political elitism**, the notion that by virtue of their knowledge scientists should have a strong say in political matters. For example: Atomic Bombs, Senator and Cancer Research

## B: the role of expertise in policymaking



### HOW?

Outside research policy, members of the scientific establishment have long assumed that they should have substantial influence over a range of government decisions by virtue of their claims to specialized knowledge.



In weapons policy, for example, a narrow set of participants, including the technical community, defense contractors, congressional committees, and military management, frame issues in terms that screen most people out of the discussion.

necessary contradiction between government's use of expertise and its responsiveness to public concerns. In actuality, conflicts abound.

Professional scientists and their allies often win substantial autonomy to promote knowledge and resource claims in ways that advantage them at the expense of other equally legitimate social interests. Among other issues considered in this section is the extent to which environmental, consumer, and other public interest organizations serve as countervailing forces to the knowledge/power alliance.

### Accountable Expertise



Many elected officials, citizens, and scientists express a desire for scientific expertise to enter the regulatory arena as a neutral, mediating force, contributing to good or even "correct" decisions. They seem to want regulation to be a pocket of technocracy, working toward publicly defined ends.

## C: science stands in a special relationship to industry



HOW?

When governments leave the development and distribution of technologies to private corporations, publicly funded research serves primarily as an inducement to the private sector to perform this function, and only secondarily as a form of public choice of knowledge or technology.

## CONCLUSION

Seen in a broad context, then, science-government relations mediate a number of better-understood power relationships between state and society.

- form the arenas of struggle over authoritative professional knowledge. STS perspectives reveal how deeply these dynamics reach into the content of scientific knowledge and how broadly they spread into the everyday lives of citizens.

We noted earlier that big business has played a distinctive role in the politics of funding for basic research. It gave the nod to the formation of a basic rather than an applied research agency as the flagship of the postwar research system (Kleinman, 1993), and industry executives participated directly and indirectly in basic research policy discussions over the years



As physicist Charles Schwartz found in examining the corporate affiliations of members of the President's Science Advisory Committee, at least 69% of the academic scientists supposedly giving "independent" advice to PSAC "had strong ties to private industry"

- A major accomplishment of STS is to show that scientific practice is inherently political, because scientists help define a large part of what is taken for granted by billions of people—a type of influence that in some respects is the ultimate form of authority.

### **Documentaries to be seen from the exam point of view:**

1. The World According to Monsanto: <http://topdocumentaryfilms.com/the-world-according-to-monsanto/>
2. An Inconvenient Truth: <https://fmovies.se/film/an-inconvenient-truth.6lv27/5947r0>
3. Race to Space: <http://topdocumentaryfilms.com/race-space/>