THE MANY LEGACIES OF THOMAS KUHN

THE BIRTH OF THE SOCIOLOGY OF SCIENTIFIC KNOWLEDGE

WHAT WAS THE SSK?

- **SOCIOLOGY OF SCIENTIFIC KNOWLEDGE – A RADICAL NEW DISCIPLINE WHICH TOOK AWAY SCIENCE FROM PHILOSOPHICAL MOORINGS TO SOCIOLOGICAL QUESTIONS.**

- **THEY SIMPLY ASKED HOW AND WHEN DOES A SCIENTIFIC FACT BECOME A SCIENTIFIC FACT?**
- **WHO DECIDES WHAT HAPPENS AFTER AN EXPERIMENTAL DEMONSTRATION?**

THE BIRTH OF LABORATORY STUDIES

- **Laboratories were the sites where facts were made, so they were the organizational focus of inquiry (Bruno Latour and Woolgar 1979, Lynch 1985).**

- **Making a scientific fact was, by these accounts, a collective accomplishment, requiring the coordination of the cognitive practices both within and across laboratories.**

SOCIAL STRUCTURE OF LABS, SOCIAL CREDIBILITY OF RESEARCHERS

- **Laboratories had their own social structures— In most cases laboratory members distinguished between principal investigators and laboratory technicians, who had different roles in the constitution of knowledge.**
- **The significance of research results depended on the social credibility of the researchers. Science was work for gentlemen whose word could be trusted—not tradesmen or women even if they did the work (Shapin and Schaffer 1985).**

ALLIANCES ACROSS LABORATORIES

- There were alliances across laboratories forged with ideas and techniques that were shared by researchers and were dedicated to common problems or ways of solving them (Pickering 1984).
- To make scientific truths required more than just an experiment that would confirm or disconfirm an hypothesis. The results had to be witnessed and circulated within scientific communities to make the 'facts' known

DEFENDING A PARADIGM- LIKE A MILITARY CAMPAIGN

- Scientific paradigms needed proponents to defend and promote them. Creating a scientific fact was much like a military campaign;

- it required a high degree of coordination of both people and things. It was a matter of gaining the moral stature in the scientific community to have a scientist's ideas taken as truthful. The tools accomplishing these ends were both social and cognitive

PARADIGMS AND POWER

- **Power circulates through laboratories, and scientific experts circulate through the halls of power (Haraway 1989, Jasanoff 1990, 1994, Mukerji 1989).**

- **Ways of organizing research affect both the constitution of knowledge and ways of life (Rabinow 1996). The world we know is defined and engineered through patterns of cognition that include manipulation of nature—in the laboratory and beyond.**

LEGACIES OF KUHN

- **REJECTION OF THE OLD LINEAR MODEL OF SCIENTIFIC PROGRESS**
- **GREATER UNDERSTANDING OF THE IMPORTANCE OF SOCIAL PROCESSES IN SCIENTIFIC KNOWLEDGE MAKING**

HSS AND SCIENCE – THE NEW PARTNERSHIP

- **KUHN'S IDEAS WERE TAKEN OVER BY SOCIOLOGISTS, HISTORIANS, ANTHROPOLOGISTS WHO GAVE A BROADER MEANING TO THE IDEA OF SOCIAL PROCESSES.**
- **CONSENSUS –BASED ON BIAS, POWER ETC**
- **RACE, GENDER, ETC PRIME EXAMPLES**
- **KUHN HAD ONLY REFERRED TO THE SOCIAL PROCESSES WITHIN SCIENTIFIC COMMUNUTIES.**

NEW HISTORIES OF SCIENCE

- **OLDER HISTORIES OF SCIENCE- DOMINATED BY INDIVIDUAL HISTORIES OF DISCOVERY, SCIENTIFIC BIOGRAPHIES OR INTERNAL HISTORIES OF SCIENCE I E HISTORY OF SCIENTIFIC CONCEPTS-**
- **LARGELY INTERNAL ACCOUNTS**

- **NEW HISTORIES OF SCIENCE- PUT SCIENCE IN SOCIAL CONTEXT-INCLUDED BOTH INTERNAL AND EXTERNAL CONTEXTS- STEVEN SHAPIN –THE SCIENTIFIC REVOLUTION**

CHANGES IN THE HISTORY OF TECHNOLOGY TOO

- **KUHN INFLUENCED NEW WRITINGS OF TECHNOLOGY TOO.**

- **OLDER UNDERSTANDING- LINEAR MODEL OF TECHNOLOGICAL INNOVATION**
- **BASIC SCIENCE- APPLICATION- DEVELOPMENT - PRODUCTION**

THE BIRTH OF CONSTRUCTIVISM

- **FROM SOCIOLOGY OF SCIENTIFIC KNOWLEDGE THERE EMERGED A MORE CRITICAL VIEW OF SCIENTIFIC KNOWLEDGE AS NOT DISCOVERED BUT AS CONSTRUCTED.**

- **TO MAKE SCIENCE AND TECHNOLOGY SERVE THE NEEDS OF HUMAN PROGRESS AND WELLBEING ONE MUST UNDERSTAND THE PROCESSES, POWER STRUCTURES AND ALLIANCES THAT MAKE SCIENTIFIC KNOWLEDGE AND DEFINE ITS PURPOSES.**