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The Politics and Contexts of Science Studies During the Cold War: Instituting the Studies of Science in the U.S.A., U.S.S.R., and the U.K. in the 1950s–1970s

My current research is divided between two projects. My first project, *The Cold War and the Politics of Science in the U.S., U.K., and U.S.S.R., 1950s–1970s*, which was my dissertation at UCSD, investigates the history of Science Studies as it became a distinct area of expertise and academic inquiry during the Cold War. Using five case-studies, each focused on a confined mode of analysis of science that articulated, evaluated, and rationalized Cold War sensibilities and concerns, I show how the promotion of the studies of science as a politically relevant area of expertise, undertaken outside academia, helped to legitimize the disciplinary identity of science studies in the age of the Cold War. The case studies in question are: (1) UNESCO and the “transnational” history of science promoted by its two visionary founders, Julian Huxley and Joseph Needham, and implemented in UNESCO’s major history of science project, *History of Mankind*; (2) the Congress for Cultural Freedom and its quest, in the 1960s and 1970s, to promote “science studies” as part of its broad

agenda to offer a renewed, “post-Marxist,” framework for liberalism, (3) the Salk Institute for Biological Studies, which in the first ten years of its existence, 1962–1972, undertook the bold initiative of launching a sustained inquiry into social studies of modern biology; (4) the short-lived “philosophical phase” in medical ethics, marked by medical ethicists’ interest in and appropriations from post-positivist philosophy of science, which I explore by analyzing the series of workshops organized under the auspices of the Hastings Center in the late 1970s and early 1980s; and (5) a particular mode of reflection on science and its intellectual foundations developed by Soviet philosophers in the 1960s–1970s under the name of “naukovedenie.”

While preparing the manuscript for publication as a book I am pursuing research on my new project, *Big Science in the Archive*, which examines the world-wide data collection initiatives in Cold War America and the Soviet Union, focusing on the history of World Data Centers in the U.S. and U.S.S.R. and tracing it from the organization of Data Centers during the International Geophysical Year (IGY) in 1957–58 to their reorganization and activities following the end of the IGY.

Elena Aronova

Projektbericht

Scientific disciplines are spaces where the political and epistemic dimensions of science are intrinsically and complexly interconnected. Endorsing the approach that historian Timothy Lenoir has called “the cultural production of scientific disciplines,” my project investigates the history of Science Studies and History of Science as they became professionalized and institutionalized in the second half of the 20th century. In my project I shift the focus of a disciplinary history from what Lenoir called the “regimes of the reproduction of knowledge” (focused on such conventional disciplinary markers as professional journals, university chairs and professional societies), to the “regimes of legitimation” of what constitutes authoritative new knowledge, by examining the activities of different organizations that promoted studies of science as a distinct, and politically relevant, area of expertise in the aftermath of the WWII. I argue that the activities of powerful national and transnational organizations *outside academia* helped to legitimize the disciplinary identity of science studies and history of science in the age of Cold War, and provided an institutional niche for these fields before Science Studies and History of

Science became institutionalized within academia a decade later.

Thus, within UNESCO the major prewar framework for the history of science – the rhetoric of scientific humanism that emphasized the universal character of scientific knowledge – was transformed to accommodate the scientific and the political concerns of the time. At the height of the Cold War, two visionary founders of UNESCO, Joseph Needham and Julian Huxley, modified this rhetoric, in order to promote a new cross-cultural synthesis by means of documenting the history of humanity’s scientific and cultural development. In their different visions of “scientific humanism” they deployed this notion as a powerful rhetoric for translating the notion of “internationalism” in terms that accommodated the new, multicultural agenda of the age of decolonization and the human rights movement. Both visions were implemented in UNESCO’s major history project, *The History of Mankind*, which sought to offer an account of civilization not written from the ethnocentric or Euro (or Western)-centric perspective, by placing history of science in the center of world history. As a transnational

effort undertaken with the organization with considerable structural power, it gave momentum to the reflection on the methodology of history of science writing that would escape the pitfalls of universalist stories.

Within the Congress for Cultural Freedom – an influential anti-communist organization of elite American and European intellectuals – “science studies” as a distinct and politically relevant area of expertise resurfaced at the very center of the cultural and political landscape of the Cold War. The quest to promote “science studies” was part of the CCF’s broader agenda to offer a renewed framework for liberalism in the age of Cold War. As a transnational organization, the CCF embodied the goals of negotiation and reconciliation across political divides, both in its “ideology,” epitomized in two twin concepts the CCF had promoted – the “end of ideology” and the theory of “post-industrial society” – and in its transatlantic institutional structure. The “end of ideology” was as much a normative position as it was an attempt to secure, in Michael Polanyi’s words, “a post-Marxian basis for liberalism” – an umbrella term for various reconciliations of the *free market*

(a cherished ideal of capitalist system) and centralized *planning* (firmly associated with Soviet economic system), in the political economy of a post-WWII world shaped by the dramatically increased role of science and technology. With its emphasis on “sober,” sophisticated and dispassionate socio-economic analysis of modern industrial societies (or, rather, “post-industrial societies,” according to the CCF-born conceptualization) and their political systems, the “end of ideology” turned the studies of science, its organization and its politics into a topic of central concern. Science, or, more specifically, Big Science – a new mode of scientific research promulgated in the aftermath of WWII – and its changing relation to the state and politics, which apparently reconciled conflicting claims for planning and laissez-faire, needed to be assessed by social analysts, especially with regard of its implications for democracy, liberalism, and freedom. The CCF intellectuals sought to offer such an assessment, and they did this in a big way. By means of its Study Groups, seminars, conferences and scholarly journals such as *Minerva*, the CCF developed into an influential forum for examining the ways Big Science impacted the relations bet-

ween science, society, and politics. In this way the CCF provided a "semi-institutional" niche for the studies of science broadly conceived, helped to legitimate the disciplinary identity of Science Studies, and contributed to the construction of public space in which science was reconceptualized as a social activity, challenging the universalist ideal of science.

The newly created institutions struggling to establish their reputations and to distinguish themselves from the traditional institutional settings also promoted studies of science that emphasized the social, political and ethical dimensions of science. During the first decade of its existence, the Salk Institute for Biological Studies developed a wide range of programs, many of them pioneering, in order to examine broader social and political implications of molecular revolution in biology. British "scientific humanism" provided the initial intellectual agenda for what the Institute's founders conceived as the humanistic component of the Salk Institute. Julian Huxley's close associate Jacob Bronowski was recruited by Jonas Salk to launch what was originally called the "Department of Humane Studies." The Department, which ended up being a

"one man show" of Bronowski, was expected to extend the description of nature offered by molecular biology to a broader understanding of the world, connecting molecular biology to linguistics, philosophy, and the humanities in general, through the invitation of such luminaries as Karl Popper and Roman Jakobson as "Visiting Fellows" of the Institute. In 1968, the agenda of the humanistic component of the Salk Institute was transformed. The Institute's new President, Joseph Slater, a long-term officer of the Ford Foundation International Affairs program, used his contacts and the Institute's scientific standing to involve distinguished scholars, many of whom had been previously associated with the Congress for Cultural Freedom, in the Council for Biology in Human Affairs, established under the auspices of the Salk Institute in 1969. The Council developed innovative programs focused on studies of the implications of modern biology for the American concerns of the time: abortion, drug abuse, the threat of biological warfare, the effects of genetic manipulation upon human society, and the legal, ethical and social implications of the contemporary advances in molecular biology. The Salk Institute's initiatives were an important

experiment in constructing a public space in which the relationship between science and the humanities could be debated, discussed, and reformed.

Similarly, The Hastings Center – the world's first institute of bioethics, founded in 1969 by the Roman Catholic philosopher Daniel Callahan – during its short-lived “philosophical phase” promoted an active dialogue between scientists and physicians, on the one hand, and philosophers of science, on the other, to chart a common ground between the emerging field of medical ethics and philosophy of science in the wake of Kuhn, and exploring, in different ways, the “normative” and ethical dimension of science. In the 1970s and 1980s, The Hastings Center attracted philosophers who had a parallel interest in moral philosophy and the philosophy of science. In their discussion of the validity of Kuhn's work, these philosophically-minded bioethicists suggested a distinct interpretation of Kuhn, emphasizing the elements in his account that had been independently developed by Michael Polanyi, and advancing a view of science that retreated from idealizations of scientific method without sacrificing philosophical re-

alism. In the process, they reconciled ethics, medicine, and philosophy of science. Not only did they hope to discover the “soul in science,” they also engaged in “a bit of soul-searching” themselves, as they examined the practical policy implications of the epistemology they endorsed, and political appropriations of their work. This forgotten dialogue between medical ethicists and philosophers of science reveals that the ways in which Science Studies proved vulnerable to political appropriation had already been identified as potential weaknesses when Kuhnian and post-Kuhnian philosophy of science was applied to the field of medical ethics.

On the other side of the Iron Curtain, the new field called *naukovedenie* was widely publicized in the Soviet Union, as a new mode of reflection on science, its history, its intellectual foundations and its management. In the 1960s and through the 1980s the *naukovedenie* project was encouraged and supported by Soviet officials at the highest-level, as part of a campaign to formulate more effective national policies and to mobilize support for the major decisions of the late 1960s to early 1970s: to pursue détente and increase

East-West trade, foreign credits, industrial cooperation agreements and the importation of Western technology. The new political climate of détente stimulated a theoretically significant discussion epitomized in the theory of Scientific-Technological Revolution (STR) – the Soviet counterpart of the notion of Big Science in the U.S. The STR theory was one of the most evident and valuable developments in social theory in the Soviet Union in the 1970s and 1980s, a status which legitimized the disciplinary identity of “Soviet science studies” as a distinct area of expertise within the social sciences and philosophy.

The story of “Soviet science studies” demonstrates that Soviet naukovedy responded to the same anxieties and concerns of the Cold War as their Western counterparts, while adapting and transforming them in highly specific and often peculiar ways responding to the local economic and political needs of Soviet state during the Cold War. In the 1960s, on both sides of the Iron Curtain, social theorists problematized the phenomenon of Big Science, articulating the awareness that the large-scale growth of science after WWII had significant implications for modern societies. Big

Science, as a cultural phenomenon and a particular mode of organization of science, was deployed as a resource to debate, negotiate, and rationalize the concerns and anxieties of the Cold War. Throughout the Cold War, both the United States and the Soviet Union advocated their ability to offer and display different visions of modern industrial society, and Big Science, with its paradigmatic Manhattan Project, played a major role in these powerful Cold War imageries. Reflection by natural scientists and social analysts on the social and political consequences of Big Science in its relation to state and politics, and the articulation of the need for independent expertise on science as a social institution and “political instrumentality” (in the words of Stephen Toulmin) was an important context for the nascent field of “science studies,” both in the United States and in the Soviet Union. On both sides of the Iron Curtain, Big Science had been seen by social and political analysts as a cultural and political phenomenon: not merely as a mode of organization of scientific research, but as a complex phenomenon requiring assessment by social analysts. In both political settings, as I argue, the discussion of the social and political consequences of Big

Science provided legitimation for the disciplinary identity of science studies as a distinct – and politically relevant – area of expertise.

In the 1960s and early 1970s, this loosely connected network of intellectuals, largely in the U.S. and the U.K., helped to construct a public space in which the relations between science and politics were debated and discussed. In the process, they helped to invent a new subject, or set of subjects, reconceptualizing science as a social and political activity, promulgating the view that science is inseparable from politics, and in various ways exploring the science-society nexus. These settings outside academia constituted a semi-institutional niche for Science Studies before the discipline became institutionalized in academia during the 1970s and 1980s.

The visions of history of science and “science studies” these organizations were promoting differed from the science studies we know today. Yet, I argue that rather than being a moment of rupture, Science Studies as a legitimate and separate area of expertise within the human and social sciences grew out of these early projects and intellectual programs

driven by political developments and political concerns of the Cold War.

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