

Reflections on the Sokal Affair: What Is at Stake?

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Had Alan Sokal not published in *Lingua Franca* his confession that his article in the May 1996 issue of *Social Text* on "Transgressing the Boundaries" was a parody, the affair would probably have been relegated to cocktail-hour conversations at History of Science and American Physical Society meetings. But he did, and so the prank acquired both national prominence and a carnival-like quality when the *New York Times*, *Newsweek* and other publications made it a top story.

The affair took on a different character with Steve Weinberg's essay in the 8 August 1996 issue of the *New York Review of Books* and with his 3 October response to his critics. In his reply, he reiterated and made more explicit his commitment to an extreme nature/culture dichotomy. Weinberg believes that the fundamental laws of nature are immutable and eternal, whereas everything cultural is transitory, merely a metaphor with no real linkage or logical connection to the realm of natural law. Both Sokal and Weinberg consider this view to be a central issue in their confrontation with social constructivists and other relativists. Probably most high-energy physicists, and perhaps most physicists, accept this dualism. But this dualistic conviction is no longer shared by all scientists, or even all physicists. In a *PHYSICS TODAY* article in November 1993 (page 34), I suggested that this change of attitude—stemming from a profound reinterpretation of the mathematical formalism of quantum field theory—is indicative of an important cultural transformation.

The *Social Text* prank was initiated by a physicist, and physicists—high-energy physicists, in particular—have played a central role in its unfolding. Doubtless part of the reason for their participation lies in the post-cold-war marginalization of physicists both within the academy and in industry, as evidenced by the cancellation of the Superconducting Super Collider and the "downsizing" of physics depart-

ments and industrial laboratories. But I believe it is useful to delve somewhat more deeply into the matter.

Physicist as intellectual

Physicists emerged from World War II with a certain power that made their value to the state inestimable. Their status in the scientific community and in Washington was evidenced by their dominance within the President's Science Advisory Committee from its inception in the mid-1950s until its demise in the Nixon era. That part of their story is well known, as is their accommodation within the military-industrial complex.

But there is another aspect to the story. Physicists were also key players in the transformation of American universities after World War II. They were the ones who broke down the discriminatory hiring practices that had excluded Jews and other minorities from faculty positions at the elite American universities. They were the ones who opened the doors of their departments to legions of foreign graduate students—from Great Britain and the rest of Europe, from Japan, India and other developing countries. They were in the forefront in making the American research university the paradigm for creative teaching and research and the training ground for many of the world's most gifted scientists.

In the postwar era, physicists also became the model for a new type of intellectual. As Michel Foucault pointed out, traditionally the intellectual had been a humanist—usually a writer—who spoke to all of humanity and addressed problems of concern to the entire species. The development of nuclear weapons and the threat they posed to the entire planet brought forth a new kind of intellectual—J. Robert Oppenheimer, Hans Bethe, Eugene Rabinowitch, Andrei Sakharov, Joseph Rotblat, to name but a few—who by virtue of their technical competence helped frame the terms and the institutions for the public discussion of the problems associated with the arms race.

Both Weinberg and Sokal were molded by the culture created by these physicists. But they belong to different

generations. Weinberg got his PhD in 1959, at a time when physicists were considered essential components of our national security, and he has been one of the outstanding contributors to the formulation of the Standard Model. He has also been an outstanding contributor in trying to make the advances of science understandable to the public at large. As his *Dreams of a Final Theory* (Pantheon, 1992) attests, he believes in convergence toward Truth with a capital T. All of his popular writings convey his passionate commitment to rationality, his staunch belief that the world is understandable and his affirmation of the capability of the human mind. If there is a subtext to his views, it is, as he stated in a lecture at the American Academy of Arts and Sciences in February 1995, that

the product of our work [as scientists] is a worldview that has led to the end of burning witches and . . . to the fostering of liberal democracy—or at least to an understanding that we are not living in a world with a nymph in every brook and a dryad in every tree. I feel that this, above all, is the thing about which we scientists can be most proud.

This statement, of course, belies the extreme dichotomy that he expounded in his *New York Review of Books* essay.

Alan Sokal got his PhD in 1981, and though he too was molded by his training as a theoretical physicist, he is a member of the generation shaped by the Vietnam War. The post-Vietnam events, in particular the CIA's involvement in Chile, "radicalized" Sokal, he has said. The goal of his parody was more to defend the left against the post-modernists and social constructivists than to defend science from their attacks.

New institutions, new intellectuals

I believe that we are in the midst of a transformation as fundamental as that wrought by World War II. The social, political, economic and demographic changes that have taken place since the 1970s and since the end of the cold war are transforming the planet, including the American universities.

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A hundred years ago, new research-oriented, specialized universities—Cornell, Johns Hopkins, Chicago, Stanford—were built through the munificence of wealthy businessmen such as Ezra Cornell, John D. Rockefeller and Leland Stanford, men who added a new dimension to material success. In addition to their lavish support of the universities, these individuals gave scholarship their symbolic benediction. Perhaps only they, who had shown their acumen in the world of business and had “proved” themselves by their material success, could have legitimized research and scholarship in the American context. In turn, they were legitimized by using their business-derived wealth for such idealistic purposes. In this wedding of philanthropy and higher education, scientific research proved to be an insatiable drain upon the inexhaustible funds of these wealthy captains of industry.

Our present free-market economy has set a new scale for material success. But the new captains of industry do not seem to be as interested in legitimizing themselves through academic philanthropy, nor in legitimizing scholarship and research for their own sake. What then will be the future of the academy if it can no longer offer redemption from the pursuit of selfish interests?

The answer seems to be that universities are becoming commercial enterprises. The reduction in government support has strained their ability to support research, and applied, commercial interests now underwrite a major portion of these activities. Undergraduate tuition payments play a determining role in balancing budgets, and the marketing of the college and of the campus has altered the balance between research and teaching. Recent events at the University of Minnesota and elsewhere have indicated that faculty tenure may be curtailed or even eliminated, and the influence of boards of trustees in the running of the enterprise may again assume the dimension it had before World War II.

It is within this context that we ought to assess what is at stake. And it is against this background that I find my response to Sokal ambiguous. I too would insist that when discussing the meaning for human culture of quantum mechanics, of general relativity, of the uncertainty principle, of plate tectonics, of evolution, of the genome project or of Kurt Gödel’s incompleteness theorem, science studies papers exhibit a mastery of the technical component of the subject. But as members of a scientific society, we have a responsibility to make it possible for everyone to enter into constructive dia-

logues, and to make it clear that even if we disagree with the positions of others, we may still learn from them.

Universities are fragile institutions. Perhaps not Harvard, MIT, Princeton or Yale. But because I do not want to have the rich get richer and because I do want to make sure that institutions like my own, Brandeis, can continue in their traditional role, I worry when we turn against our colleagues in other disciplines and breach their trust. Surely, one of the lessons that the physics community learned from the cancellation of the SSC was that internal divisions must be resolved through dialogue rather than antagonism, because support for the activities of a house divided against itself will be difficult to obtain. Similarly, the current science wars and culture wars will make support for the humanities and the social sciences more difficult, and will result in giving ever greater control over academic matters to university administrators and boards of trustees.

We need new intellectuals and educators who, by virtue of their competence, moral conviction and passion, can help frame the terms and the institutions for the public discussion of the new problems facing our species and who can assess in a constructive and hopeful manner the forces shaping our future, such as biotechnology and computers. At stake is how we shall educate our students and how we shall educate the public at large. At stake is thus the future of the university as a unique agency of culture, where serious intellectuals who are open to new viewpoints can meet and argue with one another using logic and evidence, never forcing others to adopt their position because they have social and economic power or because they willfully choose to ignore arguments brought against them. At stake is the kind of academy we wish to secure for the future. Will that be one in which we respect other’s views and in which passionate yet reasoned arguments are the mode of communi-

cation? Or one in which no debates and no intellectual exchanges take place across ever widening and deepening professional and political divides?

The American university that emerged in the aftermath of World War II is a remarkable institution: committed to civility, order and rationality, yet flexible enough to allow great complexity to evolve. But somewhere along the way, it has gone astray. Perhaps one of the consequences of the Sokal affair will be a renewed effort by scientists, artists, writers, historians and social scientists to learn from one another what scientific knowledge is, what culture is and how one goes about trying to understand these matters. It is promising to see the dialogue taking place in *PHYSICS TODAY* and other publications between physicists Kurt Gottfried and David Mermin and sociologists Trevor Pinch and Harry Collins, along with the forthright attempts by Weinberg and others to understand what science studies is about and to engage in open exchanges. The aim is to learn how to act responsibly given one’s understanding, and in the process to help reconstitute the ideal of the post-World War II American university.

I have benefited from reading an unpublished manuscript by Lee Smolin, from insightful criticisms by Paul Forman and from helpful comments by Roberta Brawer.

