Critical Pedagogy and the Post-Cold War University

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Prepared for the 2nd International Critical Geography Conference
Taegu, Korea, August 2000

Introduction

Last Spring, while teaching at Penn State University, I could look out the window of my classroom to see an activist group camping out—for about three weeks in cold, wet weather—in front of the Old Main administration building to urge the University to join the Worker Rights Consortium, a new sweatshop monitoring organization that was a focal point for protests at a number of US university campuses during the past year.[1] If nothing else, the spectacle of the demonstration presented me with a convenient entry point for engaging my class in a discussion of globalization, activism, and the university; but then, more than anything, my students' reactions revealed for me some of the *contradictions* in the idea of the university as a public space, as a space for the production of knowledge, and as a space for the production of—in the words of the former Clinton Administration economic guru Robert Reich—"human capital," that is, the "problem-solving" scientific, technical, and managerial division of labor of the global economy. The university matches all of these categories, of course, but too rarely do we make connections among them.

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[1] The Worker Rights Consortium is organized around monitoring factories that produce apparel for colleges and universities. For more information, see the group's executive summary on the internet: http://www.nlcnet.org/elsalvador/wrcandes.html; on the related protest movement at universities, see: http://www.nlcnet.org/student/usas9899.html. On Penn State's STAR (Students for Accountability and Reform), see articles throughout April 2000 in the independent student newspaper: http://www.collegian.psu.edu/archive.

My introductory-level course in 'science, technology, and society,' I should point out, was composed in large part of science and especially engineering students looking to fulfill a 'general humanities' requirement; my *de facto* task, for the university, was thus to briefly 'humanize' the scientists and engineers—many of them seniors who had put off the requirement to their last year—before they went on to lucrative jobs engineering software or chemicals or environments. The reactions of my students to the protest ranged from bemusement to irritation, and for the more vocal students, there was either a resistance to acknowledging the links between the university and the global economy or, when obvious connections like the Athletic Program's undisclosed contract with Nike was brought up, a tendency to justify the benefits of corporate sponsorship in terms of presumed lower tuition fees and better computing facilities. Globalization, as they saw it, was chiefly a *benefactor*—at the university and for the foreseeable future—as they embarked upon joining the labor force.

Now, my point is not simply to chide these students not being like their activist colleagues on the lawn, or for viewing their education in instrumental terms, but rather to raise questions about the problems and opportunities of *teaching* in this context of the modern, increasingly corporate university—what I will call the *post-Cold War university*. By that I mean to *emphasize* (rather than diminish) the significance of the Cold War era to the development of universities as sites for productive research, education, and training, a process which was initiated during this period through state subsides and what we might *now* call "public-private partnerships" organized, in the first place, around the development of military knowledge and technology. (Unfortunately, I must limit my comments today chiefly to American research universities, but I expect that some

parallels can be drawn with other national contexts). I want to focus my discussion, then, on the university as a socially embedded site for the production of knowledge, *and* as a site for the "production" of skilled and knowledgeable people; with this dialectical or relational view of the university, I hope better situate the challenges that we face in teaching critical geography from *within* these institutional spaces.

My argument is fundamentally an optimistic one. For if we take seriously this broad political economic view of the university as a site for different kinds of production, while at the same time remaining a viable, albeit circumscribed, public space open to heterogeneous educational practices and critical perspectives—in the classroom as well as on the lawn—then the continuing development of a critical geographical pedagogy becomes all the more vital, so long as it not engaged in naively.

Noel Castree (1999:81) commented recently that current debates about activism and the academy have been "preoccupied with connecting 'out there' to 'real world' struggles beyond university precincts." Yet, he argues:

> as erstwhile critical geographers, we have largely failed to undertake *careful* analysis of our own situatedness within the one social site that is, professionally speaking, so close to us as to seem perhaps mundane and unworthy of close critical attention. Indeed, it may even be the case that the critical geographical preoccupation with connecting 'out there' has functioned as an alibi for not considering more closely the consequential specificities of what goes on 'in here'. (Castree 1999:82; *emphasis original*)

But this is beginning to change, as signaled by the recent special issue of the journal *Antipode* (Castree and Sparke 2000) on "Professional Geography and the Corporatization of the University" (see also D Mitchell 1998; K Mitchell 1999; Smith 1992). The goals for the People's Geography Project include the need to make the theoretical advances in radical and critical geography accessible beyond the academy. But I am especially

pleased to take part in this People's Geography session on the traditional academic sphere of *teaching* as a strategy of popularization and solidarity for precisely the point of Castree's harangue: any distinctions between the university and a more "real world" of the state, the military, or the corporations, all rest on socially constructed, highly porous, and ever shifting boundaries—and there is no reason for us to cede the crossing or policing of those borders to those with Nike apparel contracts, national security clearances, or those selling a UNEXT education (Saunders 2000).

I will return to this point later. For now though, I want to proceed by providing, first, an overview of corporate-state-university relations during the Cold War; and second, turning to a case study at the frontiers of contemporary capital and nature—the construction of the Cornell University Biotechnology Building—I will examine the shifting boundaries of public and private in the more entrepreneurial context of the *post*-Cold War university.

The Cold War University

While the historical development of American research universities dates back, following the German model, to the late nineteenth century (see Heyman 2000), as I have suggested, the massive infusion of federal funding during the Cold War, especially in the physical sciences, but also to a great extent in medicine, engineering, and in the biological, and social sciences as well, remade the American university and research complex in important ways (Chomsky *et al* 1997; Demeritt 2000; Forman 1987**;** Leslie 1993; Wang 1995), not the least of which is *scale*. The total budgets of American

colleges and universities increased by a staggering *twenty times* (in constant dollars) between 1946 and 1991 (Lewontin 1997). Not only were new physical and financial infrastructures created in response to the new influx of funds, new relationships were developed between industry and academic research and training which, though subsidized through the deep pockets of the state, stood to be enhanced when the bi-products of basic research in electronics, microchips, and microwaves moved from the often classified spaces carved out of the university to the "public space" of the market.

The *impetus* for this expansion, of course, was in Department of Defense dollars. To flesh this out somewhat:

- With the Korean War, American research and development dollars to universities quickly doubled to $1.3 billion annually, and by the end of the war, defense spending on R&D surpassed the World War II peak (which was already *fifty times*) pre-war levels. The total R&D budget (including university as well as industrial research) increased throughout the 1950s to $5.5 billion per year by 1960 (Leslie 1993).

- Now, a great deal of this research funding went directly to defense industry contractors like AT&T, General Dynamics, Lockheed, General Electric and Du Pont. The Department of Defense accounted for roughly one-third of all industrial R&D spending at the time, and for *fully three-quarters* of R&D in the electronics sector. And defense contractors employed (and for the most part continue to employ) about one quarter of US electrical engineers, for example, and about one-third of US. physicists and mathematicians (Leslie 1993).

The point being that, even as the majority of defense R&D spending went directly to industry, the entire military-industrial complex, and later electronics and other key

growth sectors, depended on *universities* for training the scientific and technical division of labor *as well* as for so-called basic research. As the historian Stuart Leslie puts it (1993: 2), "only the universities could both create and replicate knowledge, and in the process, train the next generation of scientists and engineers."

But while public money swamped the universities like never before, it would be a mistake to attribute all of this to the technological demands of the military state. The Department. of Defense averaged some 80% of federal R&D budget throughout the 1950s—these funds *increased* during the early 1960s, but began to decline in *percentage*, reflecting the growth of the National Science Foundation, National Institute of Health, and NASA (Leslie 1993). As seen in this graph of total federal R&D expenditures [**FIG 1a**], state support for R&D increased until 1964, from which point it has been maintained at high levels. During this period, total military expenditures (in terms of purchases of goods and services) have been reduced from 60% (early Cold War era) to under 30% by the late 1990s, yet—as we can see [**FIG 1a**]—not only has federal R&D funding been maintained, an increasing *percentage* has been directed to universities [**FIG 1b**] (Lewontin 1997).

What this suggests, according to the radical biologist Richard Lewontin, is that the Cold War provided the political justification for the state to become the major supporter of R&D, and the expansion of higher education and training more generally in the U.S.—this is what Lewontin (1997) calls the "socialization of intellectual production." In an economy increasingly organized around prohibitively expensive innovation, that is, only "war" could legitimate massive state intervention (*beyond* the

geopolitical exigencies of rivalry with the Soviet Union) to maintain industrial prosperity and to stave off economic crises in the post-WWII technological economy.

In the process, Lewontin argues, one important by-product of this socialization of intellectual production—and perhaps the most lasting effect of the Cold War on the academy—is the making of "entrepreneurial professors"; in other words, the ways that faculty have become "conduits through which extraordinary sums of public money have flowed into the university," (Lewontin 1997: 2). Now, before we rush to wholly condemn this creature—the entrepreneurial professor—it is important to recognize, as Lewontin insists, just what this development has meant for faculty across the board in the sciences, social sciences, and humanities: this new role engendered for faculty new power within their institutions and over the conditions of their work, including, for example, greater academic freedom and control over tenure systems, reduced teaching loads, faculty governance, and so forth. At the same time, however, what Lewontin neglects in his polemic is the extent to which this entrepreneurialism has set the stage for the subsequent corporatization of the university. For example, from 1980 to 1993, when the waning of the Cold War lead to a reduction of military expenditures, the academy turned to the corporations (and vice-versa) like never before; corporate investment in university research increased (in constant dollars) by 265% (Haraway 1997:91, cited in Demeritt 2000). It is hardly surprising, then, that the reduced role of federal state in university budgets—from a high of 26% during the early Cold War to roughly 15% today—is entirely relative, i.e., it is not reflected in shrinking university budgets but rather in the enhanced role of private capital in the university.

The fact that this gentle shift towards corporatization has been facilitated by the state—through, for example, public-private partnerships and tax incentives for investment, and changes in patent laws (Demeritt 2000)—underscores the significance the entrepreneurial academy at the center of state-corporate-university relations. And so we find another contradiction internalized at the site of the university: whatever academic freedoms came with this economy of intellectual production, the same historical processes have contributed towards new constraints in the form of highly circumscribed notions of "public accountability" in what David Demeritt has called the "new social contract for science" (Demeritt 2000). As Demeritt (2000: 313) puts it, "…the neo-liberal discourse of public accountability has sought to make accountability synonymous with cost-effectiveness, public needs with the demands of paying customers, and public relevance with wealth generation and the research needs of policy making."

So let me turn now to examine the making of the Cornell University Biotechnology Building, a case which suggests the malleability of the boundaries of 'in here' and 'out there', public and private, nature and capital, in the post-Cold War University.

Building for Biotech at Cornell

I borrow this case study from the sociologist of science Thomas Gieryn (1998), who examined the relations between scientists, architects, university politics, and outside funding agencies that went into the construction of this facility that was to house biotech and genetics research [**FIG 2**]. He was especially interested in how boundaries between

public and private were deployed and policed as the building itself was designed and constructed. Gieryn's method was quite simple: for 4,000 pages of planning documents on a computer database, he ran searches to locate just how and where the words *public* and *private* were put to use. What he found is quite telling: the "public" used in planning documents was at once the beneficiary of the building's existence *and* a risk or threat in need of containment or exclusion from the building. And he found that exactly who *constituted* the public changed at various times, for quite strategic reasons:

- "Public service," for example, was one of the principal justifications for the building. One critical mission of the Biotechnology program was to provide the opportunity for corporate scientists to be on campus and involved in university activities. Gieryn notes that, repeatedly, planning documents made an inversion of meaning so that the public refers to the *private sector*. Yet of course, "markets" have always been associated with "publicity" in a certain, highly restricted sense (as in the *initial public offerings* that may result from the partnerships developed in this building), but his larger point is well taken: "public service"—like war—provides the justification for corporations to become the recipients of public subsidies (see **FIG 2**).

- It is not until four months later, in other documents, that notion of public expands to include Cornell University students along with the corporations—but only to an extent. While graduates and undergraduates are said to be "demanding more exposure to this knowledge as part of their curriculum" (Gieryn 1998), teaching functions, and teaching laboratories, were not to be 'programmed into' the building.

- Another public to emerge was the State of New York, which has supported much of the Institute's $30 million budget. As then Governor Mario Cuomo put it at the groundbreaking (cited in Gieryn 1998):

> The Cornell University Biotechnology Institute will bring together—in one hundred thousand square feet of research space—scientists, farmers, and scholars, members of the business community, academicians and students—all working together to make the promise of biotechnology a reality for the economy of our state.

So here is the crux of it: a heterogeneous "public private partnership" built onto the Cold War university template, with each group hoping to achieve its own ends, and where research and training—or the creation, replication, and not least, patenting of new knowledge—are "socialized," but only as a "public" *investment* with benefits to accrue not to people, per se, but to the economy of the state (but note the downshift in political scale in making this public investment).

Questions in place of a conclusion

I want to step back now from the 1,000 square feet of research space to the perhaps more heterogeneous space of the classroom so that I can ask: what does it matter, for those of us interested in working towards a collaborative, politically engaged critical pedagogy in geography, that our classrooms share their institutional space—from the bricks and mortar to the electricity bills to the student body—with the research complex that I have been describing today?

What I've tried to offer is a socially grounded sense of this *location* by placing these important historical developments of the American research university in their political economic context. But as so much scholarship in critical geography has shown, the meanings of places and the ways that they are interpreted are always structured by relations of power, but still always contested. Certainly this is true for the classroom and

the university as well—reading student course evaluations has taught me this much. So if, as Lewontin (1997: 27) argues, the socialization of intellectual production since the Cold War has always been about, among other things, "the production of the large managerial and technical cadre without which a successful economy is not possible," then even so, the corporate ideologues still have a long way to go before they take over the space of the classroom, even when they come in the form of students grateful for a University's Nike shoe contract. I have taught at four universities—including the University of Oklahoma, where Amoco oil company logos emblazon the high tech media consoles in the lecture halls of the Geosciences Building—and I have *never* been told what I can or cannot say to my students. The responsibility is ours.

Perhaps there are even a few lessons to take from the making of the Cold War and post-Cold War universities. If the role of "entrepreneurial faculty" as conduits for bringing government and corporate money into the university has been so crucial to transforming our places of work, then what *other* connections can we facilitate between the classroom and the world outside it, and what are the best strategies for pursuing these connections? And if, as in the case of the Biotechnology Institute, the "public" that we serve is such a malleable thing, then maybe our task, in making the classroom part of the "People's Geography," is precisely to redefine who counts as the public.

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