Miscast Canons?
Universities and the Liberal Tradition
in an Era of Flexible Specialization

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0. An Overview in One College Context

To understand the condition of universities and the liberal tradition of education in era of flexible specialization, we must consider how this new constellation of productive forces affects the creation, circulation, and consumption of knowledge. The dislocations and conflicts spreading across economies and societies off-campus, coming in the wake of Fordist social contracts between big business, big government, and big labor collapsing under the neo-liberal reforms by administrations from Carter to Clinton, are affecting higher education materially in negative terms: funding reductions, confusion over curricula, redefinitions of relevance, pushing and pulling about practicality. And, if we aspire to be populist philosophers who address our localities and regions, we should frame our observations in terms of our university, city, and region.¹

I work at a major state-supported university, Virginia Polytechnic Institute and State University, which is the land-grant institution for the Commonwealth of Virginia with 25,000 students enrolled in the courses taught by 1,800 faculty. In "America's #1 Selling College Guide," or the nearly definitive middle-class university guide book from U.S. New's & World Report, America's Best Colleges, VPI&SU scores in the "second tier" of its "exclusive rankings," putting it in the top 51-115 of 229 national universities.² The most popular majors are engineering (21 percent), business (15 percent), and psychology (6 percent); and, according to U.S. News, it ranks along with places like Penn State, Michigan State, Ohio State, Iowa State, Florida State, NC State, or SUNY-Albany, Colorado, Kansas, Florida, Maryland, Texas.³ From this vantage point, I see the effects of many current crises in university education influencing this institution, more and more, with each passing year. It is difficult to talk about "the university" as an abstraction, so I will use developments at VPI&SU (which is very typical of "Big State U" in the United States), as specific examples to illustrate larger trends happening, more or less in the same ways, everywhere. Because it is a state-supported, land-grant school in its educational missions, and has not been particularly high-profile in terms of its academic reputation as a "public ivy" or "top twenty-five" institution, VPI&SU arguably provides a much more sensitive register of the shifting fortunes of many public universities, as well as the liberal tradition of education that has been associated with the core curricula of such schools for so long, in this time of flexible specialization.

Before we get too far into "the liberal tradition" of university education, which we probably hope to see defended, expanded, or tested more thoroughly in our everyday academic work as teachers and researchers, I want to express real doubts about
what "the culture wars" of the past fifteen years have had to say about the fate of "the Western canon" or "The Great Books" in this liberal tradition.\(^4\) We must not labor under the misimpression that the Western canon always has been at the heart of what American universities have taught.\(^5\) Many American universities began as religious institutions, so students would read Greek, Hebrew, and Latin texts as part of their studies in logic, natural philosophy, mathematics, and moral philosophy. Yet, the entire curriculum of Yale in 1829-1830 took up only one page in the college catalogue.\(^6\) Little modern knowledge was taught at colleges and universities until the Gilded Age; a fact that led Ralph Waldo Emerson to call for "American scholars" to shake off the dead hand of their European past in the 1837. Yet, this scholarly stasis, which Emerson decried, actually pleased Professor Charles Hoge of Princeton Theological Seminary, who in 1872 after fifty years of loyal service on the faculty boasted that "a new idea never originated at this seminary"—a record that upheld a promise made by John Maclean, Princeton's president in 1854, who pledged on his inauguration that "We [Princeton and its faculty] shall not aim at innovations."\(^7\)

Allan Bloom's celebration of "the great tradition" behind the Western canon is mostly delusion when one comes to actual practices. To stand for something first against the Huns, and then later the Nazis, Bolsheviks, or Fascists, "the Great Books" curriculum for Western Civilization emerged only around the time of World War I, and it went into steep decline during the post-Sputnik "let's get scientific" frenzies of the 1950s.\(^8\) Just as Western Civ courses from 1914 to 1945 were aimed either at psychoanalyzing Germans or Russians for their totalitarian psychoses or justifying why America was part of a "European civilization" that needed the New World's capital, technology and soldiers, so too did multicultural area studies in the 1960s give foundation to Washington's need to understand the putative sociopathologies of poverty/criminality/underdevelopness/other-Westernness or legitimize CIA/USAID/DOD/NATO/OECD/UN intervention in the lives of East Europeans, Arabs, Africans, Asians or Latin Americans. Clearly, a "Great Books" curriculum has been up and running in places since 1945, but its origins, purposes, and operations always have been contested. To allege that everyone once was bathed in the lucent truths of the ancients, and then it went bad when multiculti/pomo/neo-Marxist SDS longmarchers took over everywhere misrepresents what has been happening on many university campuses.

Furthermore, much of the Western canon is "Eurocentric," because most of it is rooted in European languages, literatures, and cultures. One need not be a Europhile in practicing Eurocentrism, like Judge Robert H. Bork who argues in his recent book, *Slouching Towards Gomorrah: Modern Liberalism and American Decline* that all attacks upon Eurocentrism are "ignorant and
perverse" or that because economic opportunities are more numerous in Europe or North America "European-American culture is the best the world has to offer." Yet, we also need not become Europhobes, because as Bork rightly continues "American culture is Eurocentric" and it probably "must remain so" or it might collapse into some state of "meaninglessness." Even so, our Eurocentrism can be one of resistance, openness, or contestation, much like many Europeans whose thought and practice created this syncretic global creole of ideas, values and traditions from insights taken from all over the world, even though right-wingers usually exalt it as a precious essentialist gift to humanity and multiculturalists often reduce it to a quasi-Aryan androcentric mythology. Neither stance is very convincing, and arguments over Eurocentrism on this level typically generate far more heat than light.

In some sense, "the canon" always has been miscast on campus, and conflicts over its ideological aims, political capabilities, and moral calibers as the heavy firepower for "the liberal tradition" have been constant since its inception. Beyond "the culture wars" over Eurocentricity, multiculturalism or ideologies left-and-right, we need to figure out something more important, namely, how this canon of thought runs out on the thoroughfares of global fast capitalism. How does its uses, or misuse, promote or retard a liberal education in the 1990s inasmuch as we can still find education serving what Aristotle, Erasmus, or Mill would have recognized as "liberal," or nonservile, anti-mechanical, humanizing, and liberatory, purposes.

At my university, like so many others, there has been a deep deployment of what many call "the Western canon" of master narratives/great books/key thinkers/major works, mostly at key strategic junctures of the traditional liberal arts curriculum. At VPI&SU, this intellectual firepower is positioned in the University Core Curriculum, since many on and off campus authorities in the commonwealth have argued, and still do believe, it is "central" or "core" to what all the university's students learn. In fact, these canonical batteries for knowing constitute the point positions in five of the core's seven major divisions: Area 1: Writing and Discourse; Area 2: Ideas, Cultural Traditions, and Values; Area 3: Society and Human Behavior; Area 6: Creativity and Aesthetic Experience; and Area 7: Critical Issues in a Global Context. Only in Area 4: Scientific Reasoning and Discovery; and Area 5: Quantitative and Symbolic Reasoning, does one find other canonical systems, equally Western and mostly by now traditional, at play; but, these more formalized canonical truths rarely are disputed today either by right-wing or multiculturalist critiques for ethnocentrism, irrelevance, or excessive politicization. For these critics, who either favor or oppose this state of
curricular affairs, it is this historic privileging of particular "ideas, cultural traditions and values," as we say in Area 2, that is in dispute, because they underpin the university's "secularized cultural mission" or "liberal tradition" by targeting how the Western canon fires at all of the other areas in the university's intellectual battle plans by acting as the big guns for a daily classroom bombardment of undergraduates.

Here, to ground my thoughts in local conditions, two provisos must be invoked. First, the Western canon at VPI&SU actually is a very ecumenical one. "Western Civ" has never been one exclusively of dead white European males; in fact, many dead, nonwhite, non-European males (Hammurabi, the Hebrew prophets, Kung Fu Tze, Lao Tzu, Sun Tzu, Saint Augustine, Mohammed, Kautilya, Frederick Douglass, Frantz Fanon, Amilcar Cabral, Mao Tse-Tung, etc.) and at least some dead white females (Mary Wollstonecraft Shelley, Harriet Beecher Stowe, Simon deBeauvoir, Rachel Carson) have been found amidst the canon's intellectual batteries for years. The ranting of multiculturalists and right-wing conservatives over a recently lost Eurocentricity in the canon have been quite mistaken, at least at my institution, from the get-go. Second, much of canon's apparent ineffectuality is not due so much to being ignored or suppressed as much as it is to being too much skimmed or forgotten. Too little really sticks for long in the minds of many twenty-year olds with their baseball caps on backwards dreaming of funtime activities at the post-adolescent Club Med: Club State U. Hours of seat time in Western Civ, World Humanities, or Intro to Philosophy are logged by undergrads, but I routinely must explain to seniors in history what the Protestant Reformation was, juniors in philosophy the implications of Plato's "allegory of the cave," or sophomores in English literature the significance of Thomas More. The canons are firing, but there apparently are far too many duds in the shell pattern.

Because of this canonical concentration of privileged ideas, cultural traditions, and social values, some multiculturalists or the right-wingers complain that any student's education and America either will gain or lose. Mostly we believe they gain, but it is a dubious proposition. After enduring 120 hours of this scholastic shelling over four years, a student gets his B.A. or her B.S. degrees. In turn, the Old Dominion, the United States of America, or any one of nearly fifty foreign countries get yet another state university graduate, as the Undergraduate Course Catalog affirms, "well-equipped to compete in today's global market" and "serve all humankind" with a degree-certified canonical "foundation of knowledge, expertise, and leadership to improve the quality of life."12

Clearly, "the culture wars" of past decade turn on this kind of claim. Yet, at the same time as we worry about the outcome of
the culture wars, how these canons have been cast and deployed up until now may have become so disconnected from the material workings of knowledge in our increasingly globalized informational economy that we need to rethink entirely what we mean by canonical traditions of Western learning. Such teachings undoubtedly will have a place in the future, but in new spheres of activity and at untested levels of articulation quite different than those where they have operated up to this moment. Most importantly, we need to reconsider the changing conditions of economic production and cultural reproduction in this time of flexible specialization, because we will observe new kinds of knowledge-generation networks that (con)fuse intellectual forms of production/reproduction as part of their informationalized growth all around the world. Only then can the implications of flexible specialization and its knowledge-systems be played against the workings of the liberal tradition in the practices of contemporary American universities.

1. Culture Wars and Fiscal Crises

The culture wars, and their attendant attacks on what happens in the nation's schools, colleges and universities, cannot be dismissed as insignificant rhetorical exercises. On one level, the publics served by educational institutions, rightly or wrongly, now question higher education's accountability and responsiveness to their needs. Smelling a "profscam" fermenting in almost every academic discipline, critics transform high profile cases of clear fraud, seeming abuse or dubious utility into proof-positive that colleges and universities must reconceptualize their basic understanding of teaching, research and service. Real intellectual excellence, however, is rarely the target to which reforms must be redirected; instead, operating efficiency, conceptualized typically as industrial input-output measures, becomes the new gold standard of educational performance as the financial resources devoted to tertiary education continue to dry up. For public institutions, there are many competitors seeking state funds, the taxpayers resist new rate increases, parents buck new tuition hikes, federal research monies are drying up, private R&D funds increasingly go abroad or to nonacademic labs, and philanthropic sources are tapped out. Private institutions face similar constraints plus growing consumer pressure to lower tuition costs or fund new borrowing sources to cover student bills.

The canonical teachings of classic liberal arts education, then, are perhaps sorely miscast in a world of flexible specialization. Now kanban ("just in time") management or kaizen ("continuous improvement") engineering direct individuals away from the classic Aristotelian ideals of training every citizen for lives of ethics and politics through leisurely learning in order
to hone their skills of subjection to the clock or to devote their talents to a quest for essentially mechanical training. The wisdom of UPS, or learning how "to move at the speed of business," and the teachings of Lexus, or accepting "the relentless pursuit of perfection," displace Plato or Aristotle as the privileged codes used for imaging and fulfilling social individuality. The vast bureaucratic hierarchies of the corporate world, where one might have once usefully deployed insights from Socrates, Aquinas, and Kant or Sophocles, Chaucer or Lessing in contemplation of that organization's collective welfare, are eroding away in the global flows of post-Fordist exchange. For many, Aristotle's plea to impart the wisdom of statesmen at praxis to citizens of any polis falls on very deaf ears as job markets, parents, and taxpayers demand more and more of the techne needed by servile mechanics in subjection to the globalized marketplace.

Moreover, the many shortcomings of K-12 education cannot be ignored by universities, because failings there cause real problems for university training. On the one hand, K-12 education in far too many venues has become an inadequate surrogate for primary socialization (personal morality, individual hygiene, group skills) once acquired from the nuclear family, residential neighborhood or traditional church-going. And, on the other hand, teachers and parents tend to expect too little from students, believing that youngsters need time to watch TV, participate on athletic teams, and pursue leisure activities on weekends, while teenagers need time to work after school, date in high school, and acquire various high-status consumer goods (clothes, shoes, cars, beepers, etc.). Because so many high school graduates attend college, some K-12 education experts leave to universities the job of remedial make-up work on substantive knowledge or catch-up drills in vital skills.

As a result, many K-12 schools are failing to impart the basic intellectual education that their parents, grandparents or great-grandparents gained by the fifth grade, eighth grade or twelfth grade. Students that do get to attend universities may get it there, but the cafeteria-style curricula of most colleges does not guarantee results even on this front. In turn, the majority of students that never go into post-secondary schools are left undereducated in school settings which are increasingly carceral institutions complete with armed security details, metal detectors at the doors, fenced/walled school grounds, and gang warfare in the halls. Universities today often cannot teach the Western canon, because they are doing more and more clean-up behind the failures of K-12 teaching. Yet, once new teachers hit the ranks of K-12 institutions, they too are now unequipped to bring that canonical tradition's secular/emancipatory benefits to schools that are becoming "kiddie koncentration kamps" in far too many places.
At the university level, students are also caught betwixt-and-between one dying policy regime and another new maturing one as neo-liberalism has redefined post-secondary education to be a private, not a public, good. College costs rose by 5 percent in 1996-1997, once again outpacing the inflation rate of 3 percent. Average tuition and fees tally up to $2,996 for in-state and $4,738 for out-of-state students at public schools, while private universities average $12,823 during the current academic year. Donald Stewart, head of the College Board, argues that public concern over rising costs are misplaced, because only 9 percent of students attend schools where tuition exceeds $16,000 and over 40 percent attend institutions where tuition is in the $2,000 to $4,000 neighborhood. Moreover, "for most Americans," Stewart asserts, "the fact remains that college is still accessible, especially in light of financial aid currently available."

A silver lining of easy credit on the clouds of high college costs is little precious comfort to many, even after the first slight uptick in average household incomes since 1990 during 1995. After being adjusted for inflation, average household income was $34,076, and the poverty level for a family of four was $15,569 in 1995. For those most in need of higher education's potential for upward economic mobility, it would take one-eighth to one-quarter of their annual poverty level income to pay tuition and fees at institutions where the other 40 percent of Americans attend comparatively low-cost colleges. Meanwhile, average households would see basically a tenth of their annual income go for in-state tuition and fees, nearly a seventh for out-of-state schools, and over a third for a private university. Lodging, food, transportation, books and other essentials are not even in the cost equation. And, these outlays for even more daunting for average Hispanic and black households. Their 1995 average household incomes only were respectively $22,860 and $22,393; and, in turn, 30.3 percent of all Hispanic, 29.3 percent of all black, and 11.2 percent of all non-Hispanic whites were working at the poverty level.

Given these divergent family income and college costs trends, it is not surprising that student financial aid pools have filled to the $50 billion level for the first time in history. Most of these funds, in turn, are packaged as long-term debt; nearly $29 billion in student loans also represents a record level of indebtedness. Many colleges and universities are nominally state-funded operations, but the traditional commitment to higher education as a vital public good deserving state monies has been lost amidst an emergent policy consensus that reimagines such cultural capital essentially as a private good. Rising tuition and fees, declining public funding, and increasing market awareness all are concrete proof, as James Appleberry, the president of the American Association of State
Colleges and Universities, "of a policy shift that reflects a sentiment that higher education is solely at individual benefit and need not be funded to further the country's best interests." The emergent regime of flexible specialization, as Reich observes, actually renders all of these rational calculations quite problematic as fast capitalist operations hollow out national economies, pull individuals from one country into another to be trained in another to work in yet another, and reduce the rational timelines for any serious investment decision from decades to days.

2. Flexible Specialization Goes to College

The era of flexible specialization dawns with the emergence of "a new social system beyond classic capitalism," rising out of the digitalization of production, the globalization of exchange, and the deconcentration of organization by global business. From the ruins of Fordist regimes of industrial production and state administration, a loosely coupled constellation of transnational alliances of local markets, regional governments, global capital, and sophisticated technologies is testing its rules of flexible accumulation. New agencies from below and above the traditional power centers of national states and big business are collapsing most existing spatial barriers, time zones, and work rules.

As Harvey observes, the accumulation/production/regulation regime of flexible specialization "typically exploits a wide range of seemingly contingent geographical circumstances and reconstitutes them as structured internal elements of its own encompassing logic....the result has been the production of fragmentation, insecurity and ephemeral uneven development within a highly unified global space economy of capital flows." In turn, the teachings of the liberal tradition have little room for growth under the high-tech horizon of rationalizing performativity norms embedded at the core of this regime of flexible accumulation. When seeking the norms for this regulatory regimen as Lyotard asserts, "the State and/or company must abandon the idealist and humanist narratives of legitimation in order to justify the new goals: in the discourse of today's financial backers of research, the only credible goal is power. Scientists, technicians, and instruments are purchased not to find truth, but to augment power."

The creation, circulation, and consumption of knowledge, then, as it has evolved during the Second Industrial Revolution, the rise of Fordist economies, or the growth of national welfare/warfare states since the 1880s, also is changing rapidly now. These changes, in part, are partial adaptations to knowledge needs in the welfare/warfare state, incomplete mobilizations of technique in the Second Industrial Revolution,
or semi-effective efforts to provide surveillance/intelligence/maintenance for Fordist-era social contracts. But, to a large degree, flexible specialization is a celebration of speed, variety, and diversity on a postnational scale, whose informationalized productive forces require increasingly sophisticated inputs of data/information/knowledge from everywhere all of the time in order to function efficiently.\textsuperscript{25} At this conjuncture, a new performativity ethic for schooling now displaces the norms of Bildungsphilosophie once ensnired in pre-informational modes of education.\textsuperscript{26} This split, which is still neither total nor complete, needs to be examined more thoroughly.

A. Modes of Knowledge Production/Reproduction

While some pressures to reform the academy can be tied back to the culture wars, a greater source of change can be attributed to a new postacademic network of scientific research and technological development sites emerging all around the world. It is not a neat set of distinctions, but the authorial collective of Gibbons et al. in The New Production of Knowledge makes this point by differentiating between two knowledge regimes: Mode 1, or what we could call "culturally concentrated knowledge," and Mode 2, or that which they label as "socially distributed knowledge."\textsuperscript{27} In an era of flexible specialization, the miscast qualities of traditional knowledge canons seem quite pronounced inasmuch as their concepts and categories frequently appear unable to hit or, even worse, to be aimed at profitable targets positioned in today's rapidly changing business environments.

Culturally concentrated knowledge, on the one hand, is a complex composite of those intellectual products once largely produced and consumed in traditional Cold War research universities, and the Progressive/New Deal/Great Society academic disciplines, which mostly have defined knowledge production. Developing alongside of national welfare states and vast bureaucratic corporations, culturally concentrated knowledge was produced on campus by academic researchers to be transmitted, first, to students in accredited degree programs or, second, to clients in government, industry or nonprofit organizations through sponsored research contracts. Knowledge in its classical, Renaissance, or Enlightenment forms, as natural and moral philosophies, was recarved after the 1880s into the professional-technical disciplines of natural, social, mathematical, and engineering science only to be reassembled in various associated institutions of parallel teaching and research missions, like colleges of liberal arts and humanities or physical and mathematical sciences, on any university's campus. Consequently, such knowledge most often has taken shape in abstract, but quite homogenous, pre/non/extra/non/pragmatic forms
that are typically regarded as scholastic, theoretical or academic.

Because culturally concentrated knowledge serves the interests of its on-campus disciplinary communities of concentration, the markets for it also tend, first, to be embedded in mostly hierarchical symbolic exchange (careerist honors, departmental rankings, journal status, university prestige, etc.) and, only then, to be mapped into practical exchange (patents awarded, royalties paid, grants obtained, profits realized, etc.). Awareness of these products mainly is gained from institutionalized academic channels (prestige journals, major conferences, top publishers, faculty networks), so where such findings are published is a key mark of its alleged importance. Quality control allegedly is exercised through peer review, social accountability is not accorded a high priority, and professional reflexivity is invoked only intermittently in the process of various researchers forming or unraveling networks of research. The time-honored purpose of culturally concentrating knowledge in this fashion is data/information/knowledge accumulation. Each university community and scholarly discipline, then, represents an ark of authority and legitimacy, which mostly has survived as a repository of diachronically accumulated truths to be reworked in a disciplined fashion under the auspices of each new academic enlisted on to the ark's permanent crew.

This mode of knowledge on campus has been the register of embodied projects of nationalistic homogenization and enlightened vanguardism by the professional-technical classes off campus. Culturally concentrated knowledge creates national mythologies, technological hegemonies, and privileged class-consciousnesses which modern nation-states need to operate. Eurocentrism often nests in the liberal tradition, as it has been represented by such Mode 1 knowledge systems; and, in turn, these alleged Eurocentric formations of privilege and power in various disciplines and discourses are what multiculturalists and right-wingers attack in the university.

Socially distributed knowledge, on the other hand, is an emergent amalgam of intellectual products now mostly produced and consumed outside of traditional university settings, and quite often in the material context of very short-run corporate outsourceings, task-specific government contracts, or entrepreneurial venture capital start-ups. Such Mode 2 knowledge, ironically, still depends upon Mode 1 knowledge centers for many of its constituent elements—trained personnel, physical facilities, research programs, professional networks, or organizing paradigms. Nonetheless, more and more of these resources can be found off-campus or outside of academe. It is applied, heterogenous, nonhierarchical, transient, commodifiable,
and specific knowledge, which may not be widely disseminated or openly published. Mode 2 knowledge embodies a new means of combining these elements to attain very different concrete goals, namely, those of consulting groups, think tanks, government bureaux, industrial labs, pressure groups, research centers, or advocacy coalitions. Because these producers do not need to be concentrated on campuses to train students, their sites of operation can be linked informally by fax, express mail, phone, or the Internet in highly virtualized, ad hoc work teams. Rather than sustaining disciplinary traditions, socially distributed knowledge is far more flexible, time-urgent, multimodal in its shape and substance. Its practitioners often need to be aware of scholastic, theoretical or academic discourses, but most of their activity is very concrete and applied.

Given that socially distributed knowledge is produced and consumed in applied settings, it needs to be transdisciplinary, empirically anchored, heterogeneously sourced, and organizationally mixed. Specific problems of environmental protection, crime prevention, infrastructure reengineering, or health monitoring, for example, require such transdisciplinary teams with various heterogenous methods all addressing a shared problem together until it is mitigated or contained. The next problem will be different, so it will require that entirely new teams to be assembled as part of its resolution. Particular clients demand substantive products to meet pressing needs, which create a more effective market demand and supply for such knowledge producers. Awareness of its outcomes is derived through the problem's resolution or in-house memos, mass media programming, corporate sales, research reports, and on-line postings that summarize how the once pressing problem tying together this or that network was addressed. Quality control is exerted through marketing success or failure, technical effectiveness or ineffectiveness, policy satisfaction or dissatisfaction, whose real constraints serve as the markers of social accountability and professional reflexivity built into the process of socially distributing knowledge. Indeed, the demand for it becomes an integral part of defining problems, organizing problem solutions, and evaluating problem mitigation performances in financial, political or technical terms. Even though particular constellations of socially distributed knowledge production are transitory, the general tendencies that these arrangements represent are fairly fixed in the everyday workings of post-Fordist flexible specialization. The contemporary relevance of socially distributing knowledge along these lines, in turn, appears to be data/information/knowledge acceleration. To be seen as a responsive educational center, most universities now need to serve as repackaging/relaunching/redeveloping ramp for synchronically accelerated truths to be releveraged in applied contexts with hopes of extracting new practical valorization of its theories and practices by those
transdisciplinary teams that can truck, barter, exchange or trade from its multiform utilities.

This mode of knowledge is the source of interdisciplinary collaborations and multidisciplinary ferment, whether it is found in political projects of "relevance" or applied pay-offs in "problem-solving," "practical knowledge," or "real work tips." Such knowledge formations represent the efforts of insurgent restructuring campaigns on campus from "below" or "within" to reshape ossified disciplinary divisions and dissatisfied consumers off-campus working from "above" or "without" to get universities to address serious economic and social problems by accelerating the use of knowledge in many transdisciplinary applications. Even so, the long-term implications of Mode 2 knowledge are being faced only now by many colleges and universities, whose key traditional source of legitimation--their effectiveness at culturally concentrating homogenous academic knowledge in hierarchical disciplinary canons at fixed intermural sites to teach the next generation its most valued wisdom from past generations filtered through the insights of the present generation--is being rapidly eroded by the apparent utility and flexibility of socially distributed knowledge. High tech jobs are the epicenter of these changes. Somewhat surprisingly, for example, the number of graduates at American universities in computer and information science over the past ten years has declined rather than risen despite the vast explosion of work in this field. 41,889 students graduated in computer science in 1986, while only 24,000 took such degrees in 1994--mostly due to the fact that "students interested in computer work are increasingly opting for on-the-job training" (out in Mode 2 knowledge application settings) instead of being a college "major in the field" (at Mode 1 knowledge accumulation centers) on university campuses. This is the "Bill Gates" effect, reflecting many students' sense that you can drop out of Harvard without a degree and be worth $18 billion before turning 40. Socially distributed knowledge, then, is pulling learners into applied knowledge centers to acquire skills, while enrollments among old wave culturally concentrated knowledge institutions go flat or decline. In response, universities must become, or pretend to be, as agile points of information creation. My own university's motto, for example, now is "Virginia Tech--Where Knowledge is Working."

Because knowledge is power, and it can be bought and sold, its performativity today in fast capitalist society is becoming essential. However, not much performative product can be bought off of the shelves at Mode 1 venues from universities; as a result, Mode 2 sites generate more and more performative power, capturing the commodifiable attributes of applied knowledge at the point of sale itself away from universities. And, each sale necessitates another "just-in-time" assemblage of continuously
improved product in order to stay competitive: practices that most tradition-bound, over-institutionalized, change-resistant universities will never fully adopt on campus. So philosophia or epistemologos, which putatively anchor Mode 1 knowledge centers, are being eclipsed rapidly by the kanban and kaizen ethics of Mode 2 knowledge networks. Some colleges and universities, like those private institutions on the top twenty lists of government and industry funding or public institutions with federally-mandated land-grant obligations, are already partially reconfigured as Mode 2 knowledge producers. For the most part, however, the Mode 2 component is parked off campus at arm's length in corporate research parks or centered on campus in mysteriously organized government research centers, which allows the Mode 1 structures of the university to operate relatively undisturbed, albeit subsized by overhead dollars from these Mode 2 dealings. Yet, many other universities have no, or only a low, Mode 2 profile, and the performativity ethic of post-Fordism by default increasingly assumes that they are anachronistic places where knowledge is loafing or nobody will pay for their useless outputs.

The advent of the World Wide Web reflects how thorough-going this shift toward socially distributed knowledge has become. The strategic alliances and informal ties of Mode 2 research networks organized on-line now provide a real alternative for performing instruction and service as well as research to university planners. The virtualization of knowledge production in Mode 2, once again, invokes "the correspondence principle" between schooling and work, leading many to ask either if a "virtual school" is not the best place for students to learn their essential skills for virtual worklives or if virtual outreach should displace professional duties on the service side of any university faculty member's job plan? Culturally concentrated knowledge production known as "teaching" at "contact institutions" in real-time and face-to-face colocation might very well be implodeed by socially distributed knowledge networks--cyber-schools, info-institutes, virtual techs--as learners interact on-line screen-to-screen in asynchronous modes at dislocated nodes of the Internet. The costly overhead in bricks-and-mortar Mode 1 centers as well as the troublesome personnel frictions of any permanent large organization with people in continuous face-to-face contact all could be eliminated, or, at least, substantially reduced by migrating out into the World Wide Web as more high-tech/high-touch, informationalized points of pedagogical presence, just like Mode 2 research webs.

B. Getting Beyond the Profscams and Degreed Zeros

As absurd as it might sound, Mode 2 knowledge practices already are touted as models for all colleges and universities still stuck in the pre-performative practices of Mode 1 systems.
Playing off of the truism that not all education happens in the classroom, the promise of socially distributed knowledge is that new educational approaches in networks will emphasize the development of "the whole person." This gambit basically can become a pretext for reengineering universities, understood as Second Industrial Revolution factories, in the form of the "shell buildings" favored by flexible specialization. University reform, then, advances toward dismantling the material apparatus of culturally concentrated knowledge: instead of doing everything across a comprehensive curriculum at all campuses, many things will be trimmed to bolster "areas of excellence." Likewise, the model of mass production of standard product for fixed vast markets in Fordist "economies of scale" will be shifted toward post-Fordist "economies of scope," bringing specialized products to targeted small markets. Existing disciplinary divisions will be broken down or recombined into new interdisciplinary majors or transdisciplinary skills, which will, in turn, pivot upon co-curricular and extra-curricular activities in outside work settings or community outreach activities. Rather than paying lots of instructors and advisors to guide students, the student will be expected to assume much more responsibility for their own learning--all life long as a whole person.

In this way, initiatives for "educating the whole person" will pay off handsomely at the bottomline by enabling university administrators to turn accursed revenue shortfalls into pedagogical blessings. Reducing the mix of disciplines saves money. Cutting back on faculty, as peer learning or self-study serve as substitute instructional forms, saves money. Buying fewer serials and books for the library saves money. Building smaller, less numerous facilities by migrating out into virtualized infostructures to teach, advise or service students saves money. Replacing "on campus seat time" in lectures with transdisciplinary service learning or extracurricular credits for worktime saves money. Constructing digital libraries, and virtualized instructional spaces instead of physical libraries or material dormitories keeps students home and, most importantly, saves money.

Success, then, in socially distributed knowledge networks will suit the norms of post-Fordist flexible specialization instead of goals from Fordist era models of mass production. To achieve excellence, it will be necessary to do much less, not much more. Instead of expanding degree programs, hiring more faculty, enrolling additional students, buying more books, erecting new buildings, or elaborating disciplinary frameworks, the university of the 21st century often will be seen as effective only if it can discontinue degree programs, fire more faculty, enroll fewer students, buy fewer books, shutter existing facilities, and consolidate disciplines into more compact units.
Such moves, following those in pre-informationalized manufacturing and services, will attain success by the university outsourcing its services, downsizing its offerings, flattening its hierarchies, and trimming its personnel.

This trend toward restructuring can be observed in university administrative structures now. Often what were single large Colleges of Arts and Sciences in the 1950s, for example, are being broken down in the 1980s and 1990s into many much small colleges of humanities and letters, social sciences, languages and literature, on the one hand, and on the other hand, built up into colleges of mathematical and computational sciences, biological and environmental sciences, physical and applied sciences. These new divisions typically reflect the split among the have-nots and the haves, service departments and research units, low levels of soft money contracting and plenty of soft money sources. The disciplines in the second series of colleges want to stop subsidizing those in the first series with the once commonly shared overhead pool and budget lines of the old unified arts and sciences college. In turn, each new division head, deanlet or dean in these practical colleges with Mode 2 knowledge potential will keep whatever margins that their research entrepreneurialism nets for them in house, guaranteeing only that further gross inequalities with ensue.

Under this new political economy in the academy, one can visit almost any big state university and find real material inequalities developing. Colleges of biological, natural, physical or mathematical science, while still perhaps complaining about the budget squeeze, have top drawer office space, high salaries, plenty of staff, the latest computing equipment in complex networks, new faculty hiring, and lots of students. Colleges of social science often have second-rate office space, passable pay, staff shortfalls, some stand alone PCs with a little networking, occasional hires, and lesser student demand. Colleges of humanities or letters and languages, save perhaps for growth in the multiculturalism sectors, usually have third-rate office space, stagnant salaries, totally inadequate staff, few if any computers, rare hiring opportunities, and little student demand save perhaps for the junk major or undecided student markets.

Colleges of social sciences or humanities, of course, will play "the quality game" by culturally concentrated knowledge rules to get more goodies from legislatures or central administrators. A dean of social sciences might have three to four "top 10" departments and one, or maybe two disciplines in "hot" phases of predicted departmental growth curves, but without bringing some Mode 2 knowledge market share, this strategy will come to naught. The rankings game often is a transparent play of self-promotion by which publication rates in low circulation
official journals (that no one really reads or uses outside of an organizational membership) are tallied by professional disciplinary organizations or, at least, existing highly rated departments that have always pumped up a closed circulation of talent among the same top ten to twenty departments decade after decade. Millions may need to be spent moving laggard departments from number 35 to number 28 in such national rankings; but, if it brings in no more research money, no real movement from the "more of the same" normal science paradigms, no additional big names who are still truly productive, then these strategies of self-promotion by social science or humanities colleges go bust. Most departments stay in the top twenty, the next thirty, or the bottom fifty of any rating of "the 100 best" decade and decade. At the same time, parents will ask if high tuition is a function of such "leap to greatness" deans subsidizing their national rankings fetishism. Higher administrators will worry that high salaries for big names in the cash-poor social science and humanities disciplines is a serious inefficiency for the whole university. And, finally, the liberal ideas of cultural concentrated knowledge traditions get trampled in the careerist dirt of such academic talent bazaars.

Consequently, restructuring around Mode 2 knowledge games tends to build much higher walls on campus among colleges as it tears down barriers in all disciplines to outreach, service learning, and research contract commercialism off campus. Unless a university has always had top drawer humanities and social sciences departments, these disciplines will increasingly become service departments to general education needs for students in more marketable disciplines. Likewise, the promise of merchandisable science, research parks, or corporate contracts all provide ample rationale for making most new investments in colleges of business, engineering or applied science as "centers of excellence." In decoding between the liberal tradition of culturally concentrated knowledge with its grounding in Bildungsphilosophie or the modern economy of social distributed knowledge with its networks of performativity, economy continually trumps tradition.

Many say, "And, why not?" The canonical casting of the liberal tradition over the past century mostly has served the prejudices and practices of ruling elites in national state bureaucracies or national monopolistic banks and firms. Thucydides has been read as a shadow play of competing imperialist blocs, Plato gives a rationale for statist managerialism by rational elites, Aristotle's ethics underpin a (in)equity generating redistributive welfare state, Aquinas anchors a "natural law" bound society, Machiavelli justifies the Realpolitik of new organizational princes, Locke enrones a fixation on property rights, Mill guarantees a vague acceptance of marketized personal liberties, while Augustine, Hobbes,
Rousseau, Marx or Nietzsche are read to detect the possible codes of popular resistance to secular statism and industrial democracy, whether they arise from the City of God, a civil war, the general will, class conflict, or a superman delusion. Such authors, of course, can be read otherwise, but the forging of our literary/philosophical canons has provided large bore artillery for those elite collegians who have found employment with the managerial classes of big bureaucracies, big banks, big corporations for over a century.

Yet, now these social formations too are wracked by crises and conflicts in an era of flexible specialization. The imagined community of strongly centered nation-states, whose statist managers relied upon their liberal education's classical canon for their political realist codes and nationalistic civil religions, are fragmenting in the flows of fast capitalism and global communication. Likewise, big banks and corporations are breaking apart into more global, fluid, flat networks, destroying the national, fixed, pyramidal hierarchies where liberally educated managerialists once conducted their affairs. Parents and students now right ask "What good is it--this liberal education?" On one level, they are right. The jobs for which this liberal arts training once prepared students are disappearing in national government and corporate downsizings. Law school and graduate school products also have very difficult times ahead for them in the labor markets as the debureaucratization and deprofessionalization of society close off enhanced employment opportunities for them. And, on a second level, they articulate widely shared doubts about the resonance of such training intellectually for a world governed by economistic decision models, mass mediated sound bites, or corporate accounting codes. What Aristotle, Spinoza, Kant or Sartre have to say about the living lives of virtue or authenticity never appears on the radar in most government and business offices. Even more disturbing, very few intellectuals with much liberal training occupy many university departments today. Faculty lounge talk is like that in factory lunch rooms--retirement planning, football pools, planning golf games. Many academics could as well be selling refrigerators or pushing paper for the Social Security Administration; few ever wonder what Balzac, Montaigne or Boethius might say about their daily lives. So, everyone wonders, "Why bother?" A "liberal education" may simply be obsolete the world of flexible specialization.

Again, look at my own university for particular examples of these trends. At this large, comprehensive, land-grant university, there is precious little professional unity, because most departments and divisions already are isolated from each other by a Hobbesian war of all against all over resources. Strategic university planning since the collapse of state socialism in the USSR during 1989, which almost immediately
brought fewer federal grants to Blacksburg for research and development, has focused not upon what will grow, but upon what will instead be cut. In my College of Arts and Sciences, this process is known as the "the SAD process," or "Selective And Differential" cuts, by which any one department's gain is a direct function of some other departments' losses. Even though our college teaches most of the university's students, constitutes over half its majors, and provides the liberal arts core of the institution's curriculum, it is the engineering, business, and agriculture colleges along with the college of forestry and veterinary medicine that continually get the lion's share of all resources.

Proposals to enhance the College of Arts and Sciences have lives that are solitary, nasty, brutish and short, because most of its operations are tied to culturally concentrated knowledge. Virtually all of the other colleges are embedded deeply in socially distributed knowledge networks, and they already conduct their business on a different set of ledgers. Entry level assistant professors in business exceed the salaries of full professors in arts and sciences, new professors in engineering must book at least $1,000,000 annually in grants to keep their jobs, and graduate student stipends in vet medicine, business, forestry, or engineering typically approach what new instructors in arts and sciences earn. Big donors to the business school have their gifts memorialized in expensive cast brass plaques in the atrium of that college's main building; their individual cost alone exceeds what most arts and sciences professors get in research support every year.

Like the larger society, winner-take-all-markets are developing in which the already well-endowed departments and colleges with vocational ties to the real world economy not only get most of the private monies donated in capital campaigns, but they also are getting targeted state grants, as "leading edge" or "quality center" units, to become "steeples of excellence." In the future to avoid further state cutbacks, these units have proposed evading future across-the-board decreases in state funds from Richmond by quasi-privatizing their operations. They can solicit enough outside grant money to build their own new buildings, hire new faculty, and develop new programs. So too can they cut off their accounting ties with poor colleges, like arts and sciences, human resources, education, or architecture, and outsource their teaching inputs from them on a per capita basis. Plainly, the budget battles at my university are leading directly to many negative outcomes--organizational fragmentation, quasi-privatization, departmental inequalities, and divided missions--after which the traditional canon is seen as a dispensable luxury or an empty requirement, like high school art lessons or eighth grade civics.
3. **Virtual Academies as Flexible Specialization**

Up until now, the impact of flexible specialization on the university has been mostly felt in the form of reorganization campaigns guided from above. Such initiatives usually have been hatched first in colleges of business to guide the downsizing of real-world factories and firms. Whether they are labelled total quality management, continuous process improvement, management by objectives, or job enrichment, such rectification movements have tried to reengineer the workings of quasi-feudal university institutions to fit the seamless systems of kanban corporate outsourcing or the relentless regimes of kaizen technical development.

The results on campus, of course, range from the merely abortive to the truly disastrous, because universities still are "schools," or contexts of leisurely learning, rather than "laboratories," or settings of laborious travail. Trying to impose notions from the downsized, post-Fordist workplace only burdens already overtaxed faculty and administrators with more requirements to turn out new data, plans or reports on the daily affairs of their Dilbertized worksites. It is an egregious category mistake to cast universities as factories; unlike most manufacturing operations, colleges deal with specific qualities of people, not general properties of materiale, discontinuous processes of intellectual growth, not continuous runs of uniform output, subjective communal decisions, not objective technical-choices, or enriched free time avocations, not impoverished work time vocations. Flexible specialization of campus is typically a monstrous affair, culminating in mindless outcomes assessment of students as they were runs of widgets, absurd five year cycles of post tenure reviews in which one fifth of the faculty is surveyed every year by the other four-fifths to certify that they are still "productive stock" like peach trees or strawberry plants, or curriculum reengineering schemes whose product is more paperwork to certify the processing of students in key "core education" classes, which now usually constitute forty or fifty percent of all available classes.

Mode 2 knowledge systems, however, are now moving flexible specialization on college campuses from the realm of the farcical to the domain of the tragic. Beyond these Ptomekin programs of collegiate re-rationalization, new informational economies and technologies off-campus are rapidly advancing the agendas of flexible specialization into the workings of universities as Mode 1 knowledge formations. One widely feted model for university administrations and state bureaucrats charged with planning new initiatives for higher education in the 21st century, whether they are restructuring some existing university or designing an entirely new organization, is the University of Phoenix. Here, one sees a Mode 2 knowledge system for teaching. Launched in
1975 by John Sperling, a one-time professor of humanities at San Diego State University, his for-profit operations evolved out of a series of adult education courses for police and teachers that the federal government funded to launch an anti-juvenile delinquency campaign. Now it has 32,000 students at 45 sites in eleven states and Puerto Rico as well as on-line course sites accessible anywhere in the world that enrolls over 1,500 students. Responding to the life-long learning market of nontraditional students and aiming to control costs, the University of Phoenix forsaken all Mode 1 knowledge system obligations; it has a narrow practical curriculum, a nondisciplinary structure, no library resources, no research commitments, a flat, small central administration, and only part-time semi-professional faculty. Moreover, it runs on a for-profit basis; market performance, not peer review, valorizes its products.

The reserve armies of the down-sized, under-employed, and the non-degreed amongst the post-Fordist proletariat are the University of Phoenix's student body, while the overworked ranks of the still employed, but underpaid or unchallenged, salariat provide the institution's faculty. With graduate degrees in their areas of teaching, and with real-world jobs tied to these areas of academic expertise, the faculty are trained to teach from a standardized set of lesson plans out a proprietary software package owned by the university. Some call it "McEducation," but many others, including the AT&T School of Business that uses the accredited degree programs of the University of Phoenix to let any AT&T employee earn bachelor's and master's degrees in house, believe that this is what education should be. In fact, June Maul, the AT&T School of Business' development director, sums it up quite succinctly: "our students don't want to hear about hypothetical stuff out of a book. They want what's relevant to their real-world jobs." Consequently, it is no surprise that 80 percent of students enrolled with the University of Phoenix study business or management, and most of the remaining fifth are in nursing, education or counseling degree programs.

Such virtualization schemes for education services requires the "campus-ization" of the learners' and teachers' domestic spaces or workplaces. The University of Phoenix, for example, expects that its instructors and enrollees "be computer literate and have access to their own computer and modem equipment." Thus, instructional spaces that usually host teaching and learning inside of material buildings are dispensed with almost entirely as both students and teachers acquire, maintain and upgrade their own ports to the virtualized university's points of presence on the Internet. The university provides a shell for accessing students, training teachers, credentialling learners, and sharing knowledge through loosely coupled transitory networks.
online. Moreover, the University of Phoenix portrays this mediation as a virtue, not a vice. It "offers working adults the unparalleled convenience and flexibility of attending classes from your computer keyboard," because with the University of Phoenix's "easy to use software, you'll be able to join your classmates and faculty member 24 hours a day, seven days a week, from virtually anywhere you happen to be--hotel room, airport, office, or the comfort of your own home.\textsuperscript{38} With performative promises like these, the University of Phoenix has grown into a fully accredited university with the sixth largest student body of all private universities in the United States.

On a larger scale, a consortium of seventeen Western states under the auspices of the Western Governors Association (WGA) resolved in February 1996 to collaborate together in the creation of a "virtual university," for all intents and purposes, to leverage networks of socially distributed knowledge against culturally concentrated knowledge for the citizens of America's trans-Mississippian West.\textsuperscript{39} This new entity, or the Western Governors University (WGU), aims to push beyond the liberal education of traditional degree programs to "enhance the marketplace for demonstrated competence through certification that is widely accepted by employers and traditional institutions of higher learning" by prototyping "expected competencies" from any WGU course of study.\textsuperscript{40} Most importantly, the WGU will operate as a nexus for "multiple-source instructional inputs," whose acceptance will require "an explicit statement of the competencies that should be achieved upon completion, as well as an indication of the assessment methods that will be employed to certify these competencies."\textsuperscript{41} Because the WGU must function in "the telecommunications age," the WGA directs that "flexibility and adaptability" be regarded as survival skills. "This premise," the WGA believes, "is no less applicable to legal form, governance, organization and structure than it is to technology and content."\textsuperscript{42}

The WGU, then, will have no culturally concentrated traditional forms; its internal structure essentially is that of a functional shell as "a matter of operational convenience and efficiency" to implement its "degree-granting, licensed and accredited" missions without "the creation of a substantial overhead component."\textsuperscript{43} Therefore, by combining "technologically-delivered educational programming" with a certainty of "certification through competency assessment," the design criteria of the WGU are that the organizational manifestation of its socially distributed knowledge formations will be: market-oriented, independent, client-centered, degree-granting, accredited, competency-based, non-teaching, high-quality, cost-effective, quickly-initiated, and regional in form and substance.\textsuperscript{44} Rather than trying to do everything, like a comprehensive institution of a culturally concentrated type, the
WGU aims to be a flexible, reflexive, hollowed-out telematic junction for packaging/promoting/providing "outsourced content" in a regionalized network of knowledge networks already operating on the local, state, national, or international level. Thus, its greatest value-adding potential is to be centered on four discrete tasks in today's fast capitalist economy:

1. Creating broader markets for existing educational and assessment services rather than by creating an independent capacity to provide those services.

2. Fostering the development of new products and/or providers where unmet needs are identified and where sharing the costs of materials development and promotion is possible.

3. Utilizing incentive (market) rather than regulatory mechanisms to ensure the effective functioning of the WGU.

4. Working to remove barriers to interstate flows of educational activities and competency-based assessments.\textsuperscript{45}

The bottomline here is "the bottomline," or the faith that "the WGU can provide significant benefits to all of its constituent groups at lower cost than current approaches."\textsuperscript{46}

These operations are not abstract fabulations from school of education pie-in-the-sky theorizing. They exist already, and they are a growing threat to many, if not all, existing Mode 1 institutions whose reputed quality or marvelous scenery and weather might guarantee continued enrollment of real students in "contact institution." Mode 2 models of teaching are taking hold, even among solid, business-like institutions in the second or third-tier of the nation's major research universities. At VPI&SU, our university president, who is a former dean of the engineering school, recently updated the university's five year strategic plan. In the preface, he wrote implicitly about this cultural clash between Mode 1 and Mode 2 knowledge:

As we plan for the future, we must be mindful that the very structures of knowledge are changing; in areas such as materials, biotechnology, the environment, and information technologies, and across the humanities and social sciences, knowledge has broken boundaries that were once assumed fixed. We have learned that the problems of the real world do not often fall within disciplinary boundaries, nor are they always confined within a single department. We must be prepared to
collaborate, to explore, to create new partnerships, and to teach and learn in wholly new and uncharted ways if we are to prepare our students—graduate as well as undergraduate—for a world we and they can only imagine. Changes in knowledge also require changes in organization, and within both academics and administration we must be open to transformations in the ways we organize ourselves to make new work possible, productive, and efficient.\(^{47}\)

In other words, we all now face a Dilbertized world of permanent reorganization, transdisciplinary upheaval, and imposed partnerships to meet "the problems of the real world" in the 21st century. Little of this transformation is truly new or uncharted; it simply underscores an abrupt displacement of culturally concentrated learning as we realize how socially distributed networks for organizing ourselves will make this new work regimen possible, productive, and efficient. Being open to such transformations also increasingly means teaching students how to code HTML websites, sell their SAS skills to public opinion survey operations, or patent senior theses as biotechnology products. Like AT&T's business school development director, Mode 1 knowledge is seen as "hypothetical stuff out of a book," or nearly worthless disinformation. Beyond the broken boundaries of Mode 1 disciplines, it is quite obvious what lies ahead: what students, who already work or are preparing for specific jobs, see as "relevant" to their real-world jobs is the only worthwhile knowledge.

So like many other states, Virginia—mostly aided by VPI&SU's Center for Network Services—is building a state-wide, broad bandwidth ATM network which will enable any remote site--junior college, public library, private home--with the requisite cabling to pull down World Wide Web content at T1 speed. Once it is up and running on its first test legs during January 1997, this "NET.WORK.VIRGINIA" infostructure will permit any "content provider," whether it is a Mode 1 university or Mode 2 knowledge company, to service any "content consumer." To keep its students, VPI&SU must become, at least in part, like the University of Phoenix or the WGU simply to maintain market share as a "content" producer/packager/provider. As a result, our College of Arts and Sciences has its own CyberSchool with over 200 web-ready courses to post on the web.\(^{48}\)

Mode 2 knowledge systems are reshaping Mode 1 academic practices in response to flexible specialization in Virginia, and the liberal tradition is not in the vanguard here. Moreover, it is just not at the college-level. Franklin County, Virginia, which is renowned for its local moonshine industry and racing stock car shops, is merging Mode 2 knowledge networks with its K-12 education. Its Center for Applied Technology and Career
Exploration (CATCE) will bring broad bandwidth network connections to the class site. Not actually a classroom building, CATCE's class sites will be "simulated work stations" in virtual factories, virtual offices, and virtual service centers. Junior high school students actually will simulate "going to work" at these sites which are to "educate employees for the next millennium." The Mode 2 knowledge forms needed to engineer RAM chips for May 1997 PC assembly, respond to oil spills in the Chesapeake Bay, or data process patient records for hospitals in Chicago will all be at these virtual job sites where junior high kids can practice pulling down "net" work to their work stations in Franklin County, Virginia. So socially distributed work is bubbling up within a market once presumed to be the service area of Virginia's old-wave, Mode 1-style universities. The liberal tradition is not well-suited to reducing frictions in the machineries of performativity; nonetheless, this is precisely the reason why it is needed more than ever in an era of flexible specialization, if only to confront the emptiness and alienation that such schemes of virtualization for education promise to bring from global work to still quite local schools.

4. Populism, the Liberal Tradition, and Fast Capitalism

Because "the liberal tradition" does not enhance performativity, or maybe even becomes anti-performative in many settings, some students, their parents, and many prospective employers believe that it entirely should cut out of university curricula for the 21st century. Not wishing to be burdened with "a lot of hypothetical stuff from a book," they only want to pay for applied experiences that pay out fast and big in the work world. Acknowledging these developments sparks fear and loathing in most academics. On the one hand, the future is here, and it now has a very Mode 2 forms to it. This level of practical application for knowledge may be necessary to keep people employed or standards of living stable, even though it undercuts the traditional role and status of Mode 1 universities. On the other hand, what was positive in the liberal tradition might be lost, especially if the public consigns the liberal arts to a quasi-illegitimate limboland now populated by other educational centers with little widely perceived monetary worth: karate dojos, fly fishing classes, dance schools, auto mechanics academies, or elder hostels.

This outcome is not beyond the realm of possibility. State legislatures and university presidents already willingly defund, or even close, anthropology, music, linguistics, sociology, philosophy, geography, and humanities departments. Yet, ironically, an era of flexible specialization actually needs the widespread infusion of liberal education much more than Fordist
times witnessed inasmuch as almost everyone will now need a steady sense of ethics, a humanistic consciousness, or an informed political awareness to function in these fast capitalist times. Otherwise, downskilled labor working with smart machines in flexible specialization systems will be cast as having greater skills, more engagement, or smarter powers than they really do, in fact, acquire.

If the liberal potentialities of canonical Western teachings had truly liberating, or anti-mechanical and non-servile properties as knowledge systems, then it is at this juncture that they must be revitalized rather than mothballed. English should not become "technical writing," anthropology need not be reduced to "cultural studies," philosophy must not collapse into "business ethics," and humanities will not evolve into "communications," as Mode 2 knowledge applications so often demand. The critical reasoning, analytical insights, institutional sophistication, and ethical teachings of the liberal tradition as such are more valuable in a world of flexible specialization inasmuch as national hierarchies that once appropriated and monopolized these texts for their own elitist purposes are breaking down. A world-system in which the global and local become more central to everyday life than the nationalized/statalized structures of welfare/warfare states and monopolistic firms needs many more liberally educated individuals to govern localized region-states well as well as to resist transnationalized global firms effectively. Without the wisdom of this learning, many municipal or regional polities may be without useful models for their common governance. A populist commonwealth will need ideals other than kanban efficiency or kaizen performativity to judge what "the good life" is, and then to organize its constituents and their resources well enough to maintain it.

Likewise, the fast capitalist agendas of global exchange, which pit locality against locality, people against people, markets against market in search of maximum performativity, need to face the critique of power, work, and scale embedded in much of the liberal tradition's teachings. Therefore, a world whose economy and society is increasingly tied to Mode 2 forms of knowledge needs Mode 1 forms of learning far more than most university administrators acknowledge in their frenzy to find practical applications for their current output of graduates, grants, and grades. While he is himself a capable critic of education's propensities for frivolous pursuits, Adam Smith's warnings in Book V, Volume 2 of The Wealth of Nations cannot be ignored in an era of flexible specialization. As he argues, the perfection of new rational constellations within the division of labor leads simultaneously to enhanced efficiency in the workplace and increased levels of stupefication among the workers.
Those "whose whole life is spent in performing a few simple operations, of which the effects too are, perhaps, always the same, or very nearly the same, has no occasion to exert his understanding, or to exercise his invention in finding out expedients for removing difficulties which never occur....the torpor of his mind renders him, not only incapable of relishing or bearing a part in any rational conversation, but of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgment concerning many even ordinary duties of private life." An education rooted in the liberal tradition, it seems, must be counterpoised against this tendency lest, as Smith fears, the hidden hand of the marketplace leave "all the nobler parts of the human character...obliterated and extinguished in the great body of the people." For a populist community, this cultivation of liberal learning by whatever means available is essential, because no people will be able to attain the good life when it becomes caught in the torpor induced by the mass media, post-Fordist labor, or failed Mode 2 forms of schooling.

The deconcentration of corporations and rollback of governments means not only that responsibility for one's economic well-being returns to the locality but also that statesmanship, organizational acumen, and moral vision must be exercised more broadly by everyone. A populist commonwealth will need much more liberal education, not less. A localized state will require greater citizen awareness and participation, not less. A regional world-class economy will demand thorough cultural sophistication, not less. The monopolistic straitjacketing of liberal education for elites at the top of big bureaucratic hierarchies or the self-interested recoding of classical canons to serve New Class interests can be imploded, but only if the positive dimensions of culturally concentrated knowledge are freed to circulate among a far more diverse, multicultural and ideologically disparate range of institutions than those that now exist.

New colleges, faculties, institutes, and academies for culturally concentrated teachings should, and undoubtedly, will evolve to serve particular religious, racial, or regional understandings of what is true in (and outside of) the Western canon for those persons at this time. Maybe these knowledges will be attained from a Microsoft U or Walt Disney World College or harvested from the History Channel, Discovery Channel or Arts and Entertainment Channel. Whether those formations are complemented by Telos Institutes or, perhaps more likely, Academies for Afrocentric Studies, Regents Universities, Schools for Social Ecology, Faculties of Feminism, Brigham Young Universities, Institutes for Creationism Science, Loyola Universities, or New Colleges of New Age Studies, there will be a
diversification of what once were Mode 1 knowledge systems. Instead of solely satisfying the peer review pressures of national professional organizations or regional accrediting boards, these institutions will respond to a more broad spectrum of communal, religious, ideological, or regional expectations about whose knowledge merits cultural concentration.

And, this diversification should prove politically productive. All too often now, local communities guide their planning for the future with teachings drawn only from the disciplines of management, finance, or accounting. Instead of imagining how the good life might look, such New Century Councils, Commissions 2000, Vision 21st Century Committees, or Future Vision Groups confound it with "jobs" or "growth." So their discourse about ethics and politics is one-dimensional: talk about getting more jobs, building attractive infrastructure, reducing crime, or finding outside investment. A truly populist imagination of such municipal commonwealths will need an ethical edge or political wedge that only an astute liberal education mostly amid the Western canon can provide. Therefore, the hegemony of performative knowledge codes needs to be contested at every turn by liberally educated persons capable of recognizing, as the canon from Aristotle to Marx also suggests, that speaking too often of "useful things" is not worthy of free people who wish to define and then gain their own forms of happiness in their visions of the good life. Clearly, this is how, where, and why "a lot of hypothetical stuff from a book" fired out of multifarious, diverse batteries of Western canonical knowledge, can, and indeed must, be made useful to the real-world non-work life of people. It is not impossible, and the growing frictions of flexible specialization actually make it quite imperative.

The failure of statist national culture ties back to the inability or undesirability of formalizing all culture under the horizon of hard-edged, strongly-centered, or exclusively-framed nation-states in a time of rising global flows in the soft-sided, decentered, multiplex exchanges of flexible specialization. The liberal tradition of welfare/warfare states is dissolving into the pluralism of regional states and diversity of globalized creole; yet, from this mix, many visions for the liberal traditions of learning may well allow populist commonwealths to rethink what the good life is for them and then teach themselves and their children well within it. Perhaps this is where "Big State U" will end, and Telos Institutes could begin.
References


3. Ibid., p. 274 and pp. 60-61.


6. George P. Schmidt, The Liberal Arts College: A Chapter in American Cultural History (New Brunswick: Rutgers


9. Ibid., pp. 54-74.


12. Ibid., p. 7.

13. In the Commonwealth of Virginia, the federal government pays 6 percent of the costs of public education, Richmond and the state's various local and county governments almost exactly split the other 94 percent down the middle. Higher education costs come almost exclusively from tuitions and state subsidies, now often under 30 percent of annual budgets, to the universities, although federal research dollars, corporate contracts, and private giving are vital sources of funding. See The Roanoke Times (October 6, 1996), pp. A1, A5.


15. Ibid.


17. Ibid. Over 70 percent of all colleges and universities charge less than $6,000 a year in tuition, but even so this figure is still over 20 percent of the average family's yearly income or nearly 45 percent of the annual income of a poverty level family. See Gose, "Tuition Rises," p. A38.

19. Ibid.


25. Lyotard, Postmodern Condition, pp. 44-46.


29. Ibid.

30. For more discussion, see Rajiv Chandrasekaran, "Where the Jobs Are...," The Washington Post (October 11, 1996), A1, A20-21. And, for the university response, see Putting Knowledge to Work: Virginia Tech (Blacksburg, VA: VPI&SU, 1996) in which my university is cast not as an ossified leftover of culturally concentrated mystification but rather as one with "a focused, practical...pursuit of knowledge...producing ideas and innovations that are the raw material of today's product-driven economies," p. 1.


32. See Guy Webster, "Building an Education Empire: Adult School Made Modern by Phoenix U.," The Arizona Republic
33. See http://www.uophx.edu/index.html.


35. Webster, "Building an Education Empire," B4.


38. See http://www.uophx.edu/index.html.


48. For more discussion of VPI&SU's CyberSchool, see http://www.cyber.vt.edu/docs/papers.html.

49. The Roanoke Times (October 3, 1996), C1, C5.


51. Ibid., pp. 302-303.

52. Ibid., p. 303.