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THIS IS A BOOK ABOUT "higher" learning and its teaching in America. It is becoming harder to find a place where learning, as opposed to "education" and "training," is the main goal. Training prepares the student in knowledges that constitute an occupation or a particular set of skills. For the most part, graduate schools train students to enter a profession. Education prepares the student to take her place in society in a manner consistent with its values and beliefs. Whatever content the school delivers, the point is to help the student adapt to the prevailing order, not assimilate its values in terms of her own priorities and interests. Education is successful when the student identifies with social and cultural authorities.

The United States of America spends more on primary, secondary, and postsecondary schooling than any other nation in the world. Once limited, for most, to some ten years, formal schooling beyond high school is now the norm for a large percentage of American students. At the end of the twentieth century, about half of those who enter elementary school and more than three-fifths of those who complete high school attend
some postsecondary institution. In articles, classes, and public talks over the years, I have used the term "postsecondary" rather than "higher" to describe what U.S. colleges and universities do. The reason is that for as long as I have been teaching in these systems, I have observed only rare instances of "higher" learning, especially in the humanities and the social sciences. For the most part, undergraduate education in the United States may achieve what a decent secondary school was expected to deliver fifty years ago. In turn, with the exception of the thesis or dissertation stage in a candidate's schooling, graduate education aspires to no more than what used to distinguish a good undergraduate degree, and often falls short of the mark. Postsecondary education is rapidly becoming mandatory, if not in legal terms, in practically every other. If present trends persist—a question I intend to address in this book—most Americans will soon spend an average of eighteen to twenty years in school, which implies that a considerable number attend school for a lot longer.

On the eve of World War Two, some 1.5 million students attended postsecondary institutions. In 1941, at a time when the labor force was about 30 million, the proportion of the potential working population attending postsecondary schools was about 3 percent. From 1945 to 1965, college and university enrollments, consisting mostly of young adults of working age, grew by 300 percent while the economy advanced 200 percent. In the next thirty years, enrollments grew by two and a half times while the economy doubled; college attendance has maintained a steady advance in the half century since the war while the rate of economic growth slowed considerably after 1969. By 1971, 61 percent of high school graduates entered some kind of postsecondary school. In 1997, the proportion of college students to the adult population had risen to 13 percent, more than four times what it was in 1941. Of a labor force of some 144 million, more than 15 million people of working age were enrolled in an institution of "higher" learning. Of that 15 million, almost 10 million were full-time students. Since more than 80 percent of students entering high school now graduate, that means about half of America's eighteen-year-olds are enrolled in a college or university. Seventy percent of American students are enrolled in public schools, so funding the basic operations of postsecondary institutions constitutes a major government expenditure. Added to the billions spent on public

universities are the annual congressional appropriations for research—nonmilitary as well as military—to private and public research universities. It is thus no wonder that "higher" education has become a contentious item in federal and state budgets and the budgets of millions of Americans.

These are astounding statistics. It means that nearly 10 percent of the adult population under age sixty-five is enrolled in a vocational, technical, or liberal arts college and millions of others have already earned postsecondary credentials. Compare this enormous enrollment to virtually any other advanced industrial society. France, Germany, and Italy enroll less than 4 percent of the population in higher education, and enrollments in the United Kingdom are only slightly higher.

The questions leap out: Why in America do we place such a high value on college? Why is college rapidly becoming an imperative for most young people and for a substantial number of "mature" students—those entering at age thirty or older—as well? What are the implications for the growth of higher education for American politics and culture? What does "higher education" mean for its students and their families? Do burgeoning enrollments signify a more educated population? Or are they due to the fact that, more and more, even many elite schools offer vocational programs? If the latter, does this emphasis subvert the historic function of universities as the guardians, even the gatekeepers, of Western or national culture? Can universities maintain their role as political unifiers of an increasingly diverse population by providing the basic guidelines for what constitutes "citizenship" in the contemporary social world? Or, as some have claimed, is higher education for sale and destined to be reduced to a series of advanced and intermediate training schools?

Critics of American society and its culture have expended a great deal of print attacking schools. According to one of the most common critiques, many schools are not merely neutral institutions that transmit skills and intellectual knowledge; they are highly politicized. In David Nasaw's phrase, students are "schooled to order."* Schools rob students of their individuality and, instead, train kids to become cogs in the corporate capitalist machine. In elementary and secondary schools, the curriculum is oriented to patriotism, obedience, and above all, to the prevailing morality—the "work ethic," "family values," and citizenship
gime of knowledge—social, intellectual, or technical—is a ticket to jobs and goods. Thus even those who publicly scorn education as a form of capital accumulation are constrained to participate in reproducing prescribed knowledges at various levels of the educational hierarchy lest they, too, be forced into the job market on unfavorable terms. In the end, the practical relation between the labor market and schooling tends to temper and ultimately defeat the critics of schooling.

For better or for worse, the social world upon which most working-class kids once made their decision whether to buy in or not has all but disappeared in most advanced capitalist societies. In many heavily industrialized regions of the United States, Germany, Britain, and France, well-paid unionized factory jobs have disappeared more rapidly than did the agricultural work they replaced. Deindustrialized cities and towns that have escaped utter destitution have done so because they have transformed themselves into regional financial centers, tourist attractions, and (when they are near research universities) laboratories and small-scale production sites for computers and other high technology products. Absent these conversions, some U.S. urban areas have fallen into abject disrepair in ways that are unimaginable in Europe. Lacking jobs, they have lost population, and their shrinking tax base is unable to support vital services such as schools and recreation or infrastructure such as street, bridge, and road repair, clean water and clean air. In this environment, the best options for a high school graduate are, in descending order, jobs in the police and fire departments, post office worker, prison guard, the armed forces and clerical work, or low-level technical and administrative jobs in local government. Failing this, most young men, especially those who do not graduate or have general diplomas, are condemned to nonunion construction in the residential sector of the industry, where wages range from six to nine dollars an hour, or about a third to half of union scale. Even public sector roadwork often requires a high school diploma. Young women who have not completed high school have few choices other than to become retail clerks earning wages that hover around legal minimums. Many who choose to enter postsecondary educational institutions know that successful completion of their course of study qualifies them to leave town. They are products of one of the important functions of local colleges: export of credentialed workers.

Postsecondary education is no longer the exclusive province of privileged, bright middle-class students or the "deserving" poor. For a clear majority, entering college is as much an imperative as high school was after World War One, and this state of affairs is directly traceable to the absence of real economic alternatives. The narrowing of employment options is reflected by the fact that in the United States, where in 1997 more than 83 percent of those entering high school graduated, 62 percent of graduates go on to college, half of them in community colleges.

The reasons that college attendance has become virtually compulsory for most graduates reduce to two: First, many young adults are pushed into college by anxious parents with firsthand knowledge of the sea change that has afflicted the job market. They know that there are few good factory jobs and even fewer well-paying service jobs, and that most of the others offered to high school graduates are low paid and dead-end. Second, and most important, whatever the major and although it does not ensure a decent living, a college degree provides the minimum qualification to enter the market for a large variety of jobs, even if many are temporary and contingent.

Still, as I will later demonstrate, the rebellion against the curriculum has now shifted to higher education. Many students attend classes but do not accumulate significant quantities of cultural capital, in part because they recognize they are badly prepared and have no strategy for overcoming their perceived deficits. And since college-level preparatory programs designed to make them cultural-capital ready are disappearing, the main function of college attendance is to delay entrance into the uncertain job market.

Although a considerable minority still rebel against the curriculum, thereby selecting to remain on the lower rungs of the working class, it no longer follows that successful completion of the associate's or baccalaureate degree signifies entrance into the middle class. Most postsecondary graduates enter the labor market as knowledge and administrative workers. They become computer technicians, programmers, and repairpersons, subprofessionals in social work and nursing, elementary and secondary school teachers—"sub" because their jobs do not ordinarily entail genuine autonomy in the performance of their work even if they require a formal license. Or they become line administrators—a notch above word processors and other clerical workers—in government and nonprofit social service agencies. Business and accounting majors can, with a B.A., become managers or auditors for small firms. And a much larger group gets jobs as "management trainees" for large chains of
every description, especially in the retail food, department store, and
clothing industries. A small number, mainly from Ivy League and other
elite schools, enter publishing and other communications companies as
assistants, editors, and production designers, at starting salaries that are
substantially below those of teachers, whose own salaries have stagnated
in the last twenty years. Some of these professionals advance more or less
rapidly within communications and entertainment companies. Many of
those who don't make it decide to go to law school, join the computer-
programming trend, or try to make a living by freelancing.

With the exception of some specialties, primarily in the health and
the computer fields, for which scientific and technical knowledge re-
mains a prerequisite, a liberal arts, business, or administration degree
provides no special qualifications that relieve the employer of the obliga-
tion to train. Most employers say they want school-leavers to have a de-
gree, be able to read and write, follow oral and written instructions, and
be fairly articulate. From their perspective, the B.A. signifies that the can-
didate can tolerate boredom and knows how to follow rules, probably
the most important lesson in postsecondary education. Whether she has
picked up other pieces of substantive knowledge is a matter of complete
indifference, although in order to fulfill curriculum requirements the
student has to be able to make sense of a large number of texts, at least for
the period she is in class.

Judging by the small numbers who were in love with their subjects or
who were dedicated learners for reason of compulsion or ambition, I
used to think that most students had no idea why they were in college be-
ond the widely shared sense among several generations of young adults
that on the other side was the abyss. Now I am pretty sure most students
understand that to play the job game they need a degree, even if their ex-
pectations are often buffeted by the market's vicissitudes. From their
friends and parents, they know how little a terminal high school diploma
will buy. Yet they have little idea what they want to "study." In most cases,
their choices of major and minor fields are informed (no, dictated) by a
rudimentary understanding of the nature of the job market rather than
by intellectual curiosity, let alone intellectual passion.

The contemporary American mass higher education system is barely
sixty years old. Its resemblance to the earlier model, in which college was
mainly a finishing school for children of the upper middle class and of the
very rich or for training teachers and members of the clergy, is purely for-
mal. Although this function still describes a small minority, most colleges
and universities are part of an academic system in American society
whose success is measured by, among other criteria, how much it contri-
butes to the economy. Among the values that economists try to calculate
is the central contribution of postsecondary education to what one econ-
omist terms the production and distribution of "human capital." Another
no less influential perspective shows that universities are the main sites
of intellectual knowledge, much of which is embodied in the ma-
nachinery that enhances labor productivity in traditional industries. This
knowledge also leads to the invention of new products for the market-
place, is applied to military uses, and perhaps the most of all, generates
new domains of scientifically based human endeavor, some of which,
such as communications and information, have had enormous commer-
cial and cultural implications.

Far from the image of an ivory tower where, monk-like, scholars
ponder the stars and other distant things, the universities tend to mirror
the rest of society. Some have become big businesses, employing thou-
sands and collecting millions in tuition fees, receiving grants from gov-
ernment and private sources, and, for a select few, raising billions in huge
endowments. In some cities and towns, the resident private university or
college is the area's largest landlord, housing students and faculty and, in
some instances, collecting rents for ordinary or slum dwellings. With
these funds, the universities construct buildings, help pay their CEOs
 presidents) handsomely, and retain a small army of administrators and
fundraisers. Whereas smaller, less prestigious institutions often dedicate
limited recruitment dollars to athletics or use their resources to repair
buildings and grounds, in recent years larger universities have put their
money toward attracting academic superstars, for whom they pay two or
three times the salaries of ordinary professors.

A considerable number of towns and small cities are economically
dependent upon their local university or college. Unless the town is lucky
enough to have bagged a prison or state mental institution, the university
may be the largest employer for all occupational categories. Blue-collar
and clerical workers and professionals of all sorts earn their living there,
and while the pay is often below that offered by the private sector, gener-
ally the work is more steady. Most universities and colleges are legally
“nonprofit,” so they pay no direct taxes. On the contrary, the local political jurisdiction in fact subsidizes the college or university by maintaining streets around the campus, taking main responsibility for police and fire services (even when the campus has its own police), and providing other amenities.

The university is the only way some professors can pursue esoteric knowledge, that is, scholarship that has few or no practical uses. This is especially true for natural scientists and humanists whose focus is on theoretical or historical issues. Surely, except for those working in the applied fields of medical and business ethics, for example, philosophers cannot expect to make a living in the private sector. But for the preponderance of the professoriate, research and scholarship are no longer, as they once were, performed as a “vocation” in the religious sense. In keeping with the desacralization of their profession, academics call what they do a “job.” For the overwhelming majority, a postsecondary teaching job does not pay particularly well. In 1999, starting assistant professors averaged $34,000 a year, and full professors $68,000 a year, about the same salary as engineers and computer programmers. Although their salaries are comparable to associates in middle-sized and small law firms in cities outside the major metropolitan regions, full professors on the average earn far less than both starting attorneys in large corporate law firms and salaried physicians in group practices or hospitals.

After completing undergraduate schooling, the typical graduate student requires six to eight more years to complete his Ph.D. work, during the course of which he may accumulate as much as $150,000 in debt to cover tuition, the costs of acquiring knowledge such as books and computers, and living expenses. Leaving aside lost income during this period, faculty salaries are scandalously low, even for those teaching in professional schools, where salaries are considerably higher than those of the arts and sciences. Faced with budget cuts and declining research income, in recent years many postsecondary institutions have reduced the complement of full-time professors. In many instances, adjuncts teach as much as 40 percent of the courses. In community colleges and a substantial portion of private and public four-year colleges, the figure reaches as high as 60 percent, sometimes more.

Yet thousands of the best and brightest of America’s students scramble for the relatively few full-time jobs in their chosen discipline. In fields such as English, anthropology, history, linguistics, and physics, the job market in four-year colleges and research universities has shrunk to near vanishing point. As a consequence, thousands of qualified graduates accept adjunct positions where, in the main, they enjoy no job security, few or no benefits, and are not paid for holding office hours or attending meetings. Many qualified teachers with Ph.D.’s and graduate students who are close to completing their degrees, support themselves by teaching four to six courses a semester in two or more institutions. At $1,500 to $2,000 a course, if they teach summer school they may earn as much as a beginning assistant professor, but without the chance of tenure. Ironically, the more they teach, the less their chance of finishing their dissertations or, if successfully completed, of transforming a thesis into a book or series of articles—a prerequisite in some disciplines for one to be seriously considered for a full-time position.

Why do some choose academic professions rather than more remunerative occupations in business or in technosciences such as molecular biology or computer science, where there have been frequent shortages of qualified, credentialed people? The answers, in these times, are culturally startling: some people abhor corporate life and don’t care about making more money than they need to live in reasonable comfort, and they enjoy reading, writing, research and teaching. But contrary to the ceaseless harping of right-wing ideologues that the professoriate is engaged in practicing a scam at the public’s expense, academic life is not easy for the majority. Many academics don’t mind working hard—the typical teaching load in public and many private four-year institutions of postsecondary education is nine to fifteen hours a week in the classroom, each of which requires an equal amount of preparation to do a conscientious job. Language, math, and science teachers spend many evenings grading papers, and many colleges require frequent publications from social science and humanities faculty as well. Most faculty attend regular department meetings two or three days a month. Under these circumstances, faculty must literally steal time to perform research and writing. While critics on the right may be gleeful about this state of affairs because the scholarship opposes their philosophical and political perspectives, and while others have dismissed the life of the mind as wasteful of human resources that could be put to more practical uses, the heavy teaching loads in the current academic job market are inimical to the formation of critical intellectuals, let alone traditional scholars.

Except in a small number of disciplines, notably economics, account-
these institutions attests to one of the most important features of the labor market: it is in the employers’ interest to have an excess of qualified labor available, a fact not lost on the most practical of educational leaders. In contrast to the high wages offered skilled European mechanics in the nineteenth century, wages for intellectual labor of all sorts were relatively low in this period. Employers welcomed the plentiful supply of trained knowledge workers and were even willing to donate funds to the colleges and universities that trained them. Besides, those not inclined or good enough to perform well in science and math could become schoolteachers, low-level administrators, and social workers. In sum, the fact that City and other public colleges graduated some remarkable writers and thinkers is a product of their outreach to many who would otherwise have ended up driving taxis or pressing pants.

Nevertheless, there was never any question of making the city’s colleges “open admissions” schools. Access to state-run schools was, and remains, limited to the “deserving” poor. If anything, public schools had higher standards than most private colleges, which were tuition-driven and, for this reason, frequently made the textbook a leading prerequisite for admission. From the legislators’ perspective, public colleges were an investment in the economic well-being of their states and municipalities. Although there were some who shared the vision of liberal educators that higher education should enhance the national culture or serve the state’s broad social interests, technical and vocational training, not broad intellectual preparation, was the point of supporting public higher education. So there was no unambiguous democratic purpose in the maintenance of these institutions, especially in terms of any invocation to be “agents of social change.” Instead, publicly funded colleges were integral to the strategy of economic development. If the business of government is business, so should be the business of public higher education.

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As World War Two drew to a close, government policymakers became preoccupied with providing servicemen and -women the means to negotiate what was generally considered to be a period of difficult “readjustment” to civilian life. Economists wondered openly whether the economy would be ample enough to absorb the avalanche of returning veterans. With the end of the war, postsecondary institutions were called upon to participate in the massive government effort to find a way to ad

dress what most economists believed the almost inevitable postwar economic bust. With government subsidies to individuals and to institutions, higher education became a major solution for many who might have become unemployed due to their discharge from military service. Some spoke darkly of the resumption of the Depression, or at least of a severe recession during the transition from wartime to peacetime economy.

At the initiative of President Roosevelt, Congress enacted a series of veterans benefits, including low-interest housing loans and short-term income support. The Servicemen’s Readjustment Act (popularly known as the GI Bill of Rights) was perhaps the most enduring. Among its core provisions were job-placement and counseling services for World War Two veterans, as well as payments for tuition, books, and living expenses for up to four years of schooling. According to “Statutes at Large,” an official government publication, the purpose of the GI Bill “was not only to help individual servicemen to readjust to civilian life but also to prevent a huge glut of the labor market, as some 10 million or more persons were rapidly demobilized at the end of World War Two.” After the bill was signed by the president on June 22, 1944, Congress passed amendments increasing tuition payments beyond the original five hundred dollars a year and increased living expenses for up to sixty-five dollars a month for single veterans and up to ninety dollars for veterans with dependents. In addition, unemployed veterans were entitled to compensation of twenty dollars a week for fifty-two weeks. In the wake of the severe postwar housing shortage, in selected areas of the country the Veterans Administration built temporary housing for school-bound veterans and their families. Within a few years, two million veterans had returned to school, a million and half to colleges and universities.

Together with the National Defense Education Act passed by Congress in the wake of the successful Russian launching of Sputnik thirteen years later, the GI Bill of Rights was the boldest and most far-reaching social program of the postwar era. An example of the kind of social engineering that later became the target of conservative counterattack, these powerful interventions passed with overwhelming majorities on both sides of Congress. They jump-started the housing industry by making long-term loans available to returning veterans at low interest rates, doubled the number of students in American higher education, and within two decades spurred the doubling of the number of colleges and universi-
ties, an explosion that gave further impetus to the construction industry. These changes also made the professoriate a major profession, of comparable stature with medicine and law and with numbers that equaled and then exceeded the number of accountants.

The GI Bill permanently changed the nature and social makeup of higher education’s student body. Colleges and universities do not welcome all high school graduates and, since 1945, have never ceased their complaints about the appearance of students whose profile departs sharply from the traditional upper-middle-class clientele of private institutions. Despite these trepidations, however, Harvard, Yale, and Stanford have never turned down government money. Vast sums in the form of stipends, student loans, and outright grants have been made not only to financially needy students but also to those whose academic achievement merited income-blind scholarships, awarded, in the main, under the National Defense Education Act.

Perhaps equally important was the role that higher education now played in cushioning the effects of recessions, job-destroying technological change, and the frequent shifts in restructuring in the American economy. When, in the 1930s, Americans were asked to view with pride the discrepancy between this country’s 5 percent unemployment rate and the double digits that plagued western European economies, what the media, politicians, and self-satisfied economists forgot to mention is that in 1995 ten million Americans of working age were full-time students, about 9 percent of the nonagricultural workforce compared to 2-4 percent in most European societies. In addition, another five million working-age Americans are enrolled as part-time students. Since the United States Bureau of Labor Statistics counts part-time employees as if they were full-time, it is only proper to consider part-time students as if they were full-time. In any given semester, one of seven working Americans, or 13 percent of the workforce, attends some institution of higher education. Thanks, in part, to higher education, jobless statistics in America are consistently lower than any other major advanced industrial society except Japan.

Now, I am not claiming the only role of higher education is to defer the entrance of millions of younger Americans into a chronically glutted labor market. Nor do I see postsecondary institutions as mere aging vats, existing largely to impart flavor and mellowness to their product. Plainly, a considerable portion, if not remotely a majority, of students legiti-
college education is a necessity in the newly restructured job market. Many students enroll in postsecondary education because there is no better place to go if they are unwilling to accept near minimum-wage jobs, especially in food service. Even if the curriculum prepares students for no particular occupation, steady school attendance is a mark of a disciplined and reliable employee and may be the most important credential.

More than forty years ago, when the present higher education boom was in its energetic youth, the Carnegie Foundation and some top university administrators became concerned that the elite status of the “research” universities—the narrow layer of institutions that had been designated, or elevated themselves, to fulfill state and corporate requirements for knowledge production in order to fight World War Two and the Cold War—was threatened by the changing nature of higher education in American society. Some educators were alarmed by the consequences of the GI Bill. Even before the first baby boomers attained college age, postsecondary enrollments doubled in the decade ending in 1950 and, toward 1960, promised to double again, to six million students. Clark Kerr, an industrial relations specialist and president of the University of California at Berkeley, perhaps the country’s premier public research university, studied the problem with a view to preserving the integrity of the few, anointed top schools.

In his influential book The Uses of the University, first published in 1963, Kerr laid out the essential premises for contemporary university reform: “The basic reality, for the university, is the widespread recognition that new knowledge is the most important factor in economic and social growth. We are just now perceiving that the university’s invisible product, knowledge, may be the most powerful single element in our culture, affecting the rise and fall of professions and even of social classes, of regions and even of nations.”

By “university,” Kerr meant to include the approximately 125 research institutions in higher education. In his definition, if institutions calling themselves universities fail to produce socially and economically useful new knowledge, they are not true universities. Most transmit knowledge and produce knowledge that corresponds to the “ancient” disciplines of theology, medicine, law, and scholarship. But “new” knowledge is virtually identical to scientific research and development. Kerr was not opposed to teaching, the main transmission belt of knowledge to students and to the general population; nor was he disrespectful of ancient pursuits. But, while arguing for researchers to participate in all aspects of university life, including teaching, he emphasized the need to demarcate and privilege those who perform the most vital of these functions, knowledge production. Their course loads should be relatively light, and the “multiversity” should provide them with the resources necessary to their work.

Kerr recognized that the system of American postsecondary education had no choice but to expand to accommodate a host of postwar changes. A growing population of children needed more public school teachers and administrators; industry needed scientific and technical personnel; the military, which was never demobilized after the war, required people with the knowledge to develop, produce, and operate sophisticated weaponry; the country’s growing health industries demanded every kind of scientific and medical specialist; and the universities and colleges needed more professors and instructors to teach the hordes of new and from the prewar perspective, “unconventional” students (read working class). The solution he proposed aimed to prevent the watering down of the research institutions, for it was upon their shoulders, and only peripherally the others’, that America’s future rested.

Kerr argued that the academic system should be organized into two tiers. The top tier would be devoted to research, in which graduate study held pride of place and undergraduates would primarily be trained in scientific and highly advanced technical knowledge. In these schools, faculty would have smaller course loads but be expected to perform research, publish their results, and advise and employ graduate students. Standards for undergraduate admissions would take into account the mission of the university to produce knowledge and to educate knowledge producers. Like Harvard president James Bryant Conant, who made a crucial plea after the Soviet Sputnik flight in 1957, Kerr urged that these research universities place greater emphasis on science and mathematics. In this regime, the student was viewed as an apprentice researcher at both the undergraduate and graduate levels, at least for science and math majors.

The second tier was to be reserved for the training of technical personnel and for providing a general education for them. Teachers would not be expected to perform as much research (in the community col-
leges, none at all), but in consideration of their primary duties as knowledge transmitters rather than knowledge producers, they would have larger course loads. Admission standards would not be so stringent as to exclude reasonably competent students and thereby deprive industry and government of trained technical employees.

In proposing this fundamental codification and restructuring of the academic system, Kerr not only found the formula for protecting the first-tier research university, but reconceptualized its broad social function. Despite its already fixed character as a knowledge factory in practice (the called it the knowledge "industry"), few had articulated the transformation. Most educational theorists remained mired in the old debates about the "mission" of the university.

Stated briefly, Kant and his acolytes had delineated the issue most clearly. Far from conceiving German universities in the mythic strokes of a "community" of scholars, Fichte and Humboldt, the leading figures in the dialogue, suggested instead that it represented, respectively, the unity of the nation-state and the fountain of national culture. In the first formulation, the university has to train the political elite of society; in the second, its main function is to provide an intellectual elite, which, if one follows its Platonic origins, might amount to the same thing. The Prussian state bureaucracies of the nineteenth century were filled with historians, economists, and philosophers trained at leading universities. Ideally, some of those educated in the Great Tradition would become the leaders of a unified German nation, which, before Bismarck, remained a fervently held, but distant goal.

However, Kerr apparently laid this old conversation to rest. If the highest mission of universities is to serve society, what greater achievement than to provide the knowledge required to assure general prosperity by advancing the scientific and technological revolution and "freedom"—read America's world dominance—and the scientific and technical personnel required to produce it. In a backhanded gesture, Kerr allowed that researchers should have a general education; how else would they know the underlying values of the new technoscientific civilization they were destined to serve and even to lead? But for the Berkeley chancellor, there was no question that the humanities must recognize their secondary place in the new university order. They could uphold the values of Western civilization by teaching literature and history, but their role was clearly a subordinate one.

It is to Clark Kerr that we owe the greatest debt for advancing the cause of student power, which cut its teeth on university reform as much as civil rights, and remains one of the crucial and often ignored features of the cultural and political upheaval of the 1960s. For it was on his watch that, only a year after he enunciated the doctrine of the multiversity and of its key role as knowledge producer, the Free Speech movement at Berkeley was born. Kerr's line, repeated in books, reports, public speeches, and many other venues, was that the development of science and technology was in the universal interest. The university was a workshop of technical progress, and student politics had no place in it. As it turned out, Kerr's book was not only a powerful ideological statement; it was a prescription for an educational policy banning "outside" political groups on campus.

Responding to a sit-in at Berkeley's Sproul Hall on 30 September 1964 protesting this policy, the university administration suspended eight graduate students including the charismatic Mario Savio for "violating the University Policy on Use of Facilities." Immediately after the dean of the Graduate Division, Sanford Ellsberg, announced the suspensions, Savio spoke to a rally, connecting Ellsberg's statement to Kerr's "recent book on the multiversity":

President Kerr has referred to the University as a factory—a knowledge factory—that's his words—engaged in the knowledge industry. And, just like any factory, or in any industry—again his words—you have a certain product. The product is you. Well, not really you. And not really me. The products are those people who wouldn't join in our protest. They go on one side, as kind of rough-cut adolescents, and they come out the other side, pretty smooth. They are dependent upon the University. They're product. And they're prepared to leave the University to go out and become members of other organizations—various businesses, usually—which they are dependent upon in the same way. And, never at any time is provision made for their taking their places as free men!

Savio then went on to contrast the ideal that freedom means being able to express "your individuality" with the outcome of the multiversity:

You've got to be a part: part of a machine. Now, every now and then, the machine doesn't work. One of the parts breaks down. And in the case of a normal regular machine you throw that part out; throw it out and you re-
place it. Well, this machine, this factory here, this multiversity, its parts and human beings. And, sometimes when they go out of commission, they don't simply break down, but they really gum up the whole works!

Characteristically, Kerr saw no reason to revise his earlier judgment in the light of student protests. Indeed, in the second edition of his book, Kerr argues in the chapter "Reconsideration after the Revolt" that the trend toward the integration of the university and society is both irreversible and desirable. Since the days of the Free Speech movement and despite the activities of its successors all over the country and the world, students and other educational reformers have been unable to change what Kerr regards as a "conservative" institution. If anything, moving toward "Pandora's Box," he finds the university has grown ever closer to "city hall." Yet, he insists, while extending their role as professional servants to business and government power, universities can still remain critics of the "status quo" and enter into "productive conflict" with society. Kerr's optimism in this regard springs from his conviction that the multiversity guarantees "pluralist" higher education, in which diverse and even conflicting constituencies can live side by side.

What Kerr and many others mean by "pluralism," however, is not always clear. Of course, if the investigator wants to find difference, conflict, and diversity within universities and colleges, the evidence is ample enough to justify a conclusion similar to Kerr's, just as the interested observer can find dissent in the politi in the face of the growing convergence of political parties. But Kerr goes further than simply noting that, there are various constituencies whose interests sometimes rub against the grain of the academic mainstream. Having posited the production of useful knowledge as the core of the university's mission—where "useful" means that it makes a contribution to economic and social "growth"—there can be little doubt that he privileges the scientific and technical disciplines over the older tradition of scholarship. Thus, even if he is prepared to acknowledge the value of humanistic scholarship as what he would term an "ornament," he certainly does not see it as the meat and potatoes of the university. The ubiquitous Harold Bloom undoubtedly adds to the luster of Yale and NYU, and Columbia gains much needed legitimacy from Edward Said's role as a public intellectual. But if the university is chiefly a knowledge factory, the degree to which it benefits from the work of these literary stars may be measured against the institutional requirement to acquire the material capital that is the stuff of science and technology.

Savio's speech is a reminder that once a vibrant student movement challenged the university to provide the space for "expressive individuality." And some still persist in trying to produce space for difference, debate, and even dissent in universities. But the tendency to view the institution as a knowledge factory may have reached such proportions that, for many, there is little to be gained in trying to operate within its walls. Just as in the face of mechanization and standardized production methods, factory workers have had to take what they can and run, students, many staff, and most faculty have learned that the university is a production site in which criticism of the status quo narrows with each passing year.

The 1970s brought a profound change in America's economic and political environment and, by the latter half of the decade, in its social and cultural atmosphere as well. Signaled by the energy crisis and near run-away inflation generated by Richard Nixon's virtual abrogation of the Bretton Woods Agreement, the dollar began to float against other currencies. By the end of the 1970s, the long wave of America's postwar prosperity ended as Europe and Japan challenged U.S. economic dominance in world markets. Apart from the still considerable military budget, much of it financed by debt accumulation, global economic growth stagnated after 1975. Capital flight to lower-wage areas of the globe, mergers and acquisitions and the acceleration of technological innovation, led to permanent job losses in America's leading manufacturing industries. After 1980, the automobile industry, once a bellwether, had shed a third of its employees; steel jobs were cut by two-thirds; and the leading production industries, textiles and apparel, lost a million workers, or half their payrolls. In the 1980s and 1990s, mergers and acquisitions accelerated in nearly all major production sectors and in financial services. After the collapse of the Soviet Union and the effective end of the Cold War era, military buildup (although not the Cold War itself), military budgets contracted in relative but not absolute terms and with this decline, research funds to physics and chemistry suffered deep reductions.

Biology has done somewhat better in an era when health has become an obsession and the applications of molecular biology to medicine, agri-
nce, what are often called the “classics” remain so, not because they still sell, but because they still speak to our condition. If students are to become engaged in learning, their intellectual encounters must refer, in the first instance, to the formation of the self, which presupposes everything in the world. For we are our most interesting knowledge-objects, and it is on the basis of reflexive knowledge that we can reach out to the world in all of its richness and complexity.

CHAPTER 7

THE CORPORATE UNIVERSITY

1

AMERICA’S COLLEGES AND UNIVERSITIES have assumed the task of preparing a substantial fraction of the adult population for professional and technical careers, but this cannot be the engine that drives higher education. In the era of globalization and rapid technological change, the advanced economies are likely to produce fewer jobs at decent pay relative to the qualified labor force. In many parts of the world, even in advanced industrial societies, economic stagnation has framed restructuring, technological displacement of labor, and consequent mass unemployment and underemployment. As I have previously argued, if we live in a global economy, the advantages the United States has experienced in the last half of the 1990s must be viewed, at best, as temporary.

Unless new institutional arrangements are enacted, the jobless future is no mere metaphor; it is a high probability for society in the twenty-first century. In the next century, technological displacement will probably force many to work at paid labor for a shorter portion of their active lives, without disturbing overall productivity. Even against their own ideological objections, legislatures may be obliged to enact such
measures as guaranteed income—a major demand of most European labor movements—in order to stave off serious social upheaval resulting from inequities and unemployment. In response to these changes, the long-held, but suppressed, belief in lifelong education may return with a vengeance as workers with time to spare decide to return to school, whether for vocational or general education objectives.

As the number of secure, well-paid full-time jobs continues to shrink in relation to an expanding workforce and as many of those employed work fewer hours at full-time jobs, education as a form of life becomes a practical alternative. This situation suggests the need for noncredit programs for older adults. Courses for nontraditional students would employ both full- and part-time faculty and would be granted credit-bearing status if the candidate decided to pursue a degree. If universities are to be public spheres, they may become sites for a wide array of cultural activities: art, music, theater, and writing schools for citizens and professional students alike, concert series in jazz, popular, and “classical” music, as well as museums, current affairs programs, and other activities.

The current academic system has fudged the distinctions between training, education, and learning. Administrations of most colleges and universities have responded to the economic and cultural uncertainties provoked by budget constraints and a volatile job market by constructing their institutions on the model of the modern corporation. Consequently, many have thrust training to the fore and called it education. Lacking a unified national culture into which to socialize students and in any case lacking an educational philosophy capable of steering an independent course, the academic system as a whole is caught in a market logic that demands students be job-ready upon graduation. Under these imperatives colleges and universities are unable to implement an educational program that prepares students for a world of great complexity. Instead, academic leaders chant the mantra of “excellence,” the new horizon of university administration, as corporate slogans corresponding to bottom-line corporate practices drive higher education’s goals. Excellence means that all of the parts of the university “perform” and are judged according to how well they deliver knowledge and qualified labor to the corporate economy and how well the administration fulfills the recruitment and funding goals needed to maintain the institution.

Although thousands of full- and part-time faculty work, often under onerous conditions, to advance education and learning, America’s colleges and universities have, in the main, abandoned these missions as their defining goals. The university administration has devolved into the means by which the machine runs smoothly, which translates into fundraising and crisis management. The research faculty “produces” useful knowledge, which can be measured by the amount of grant money, commercial applications, or critical recognition they receive in appropriate circles and which may enhance the institution’s prestige. And the valued student is the one who earns good grades, which in many cases means only that she tests well and gets good job offers. The doctrine of excellence requires the student to perform according to rules over which she has no control and which prescribes thinking. For real thinking entails marching to your own drummer, ignoring rules the thinker regards as arbitrary. In the service of reflection, the thinker may even choose to be less “excellent.” Thinking means questioning the nature and the content of approved knowledge.

It may be that undermined by transnational movements of capital and labor, the nation-state no longer provides the basis for education-association. The current drift may result, in part, from economic globalization and from the profound changes taking place in the makeup of the population of the United States. In the past two decades, as many immigrants have crossed U.S. borders as entered between 1880 and 1920, the apex of the second great migration. But unlike earlier periods, schooling as a primary mechanism of assimilation is in serious disrepair. Skeptical of the image of America as a land of unlimited opportunity, many immigrants have arrived acutely aware of that have been pushed here by poverty, by diminished expectations, or by one of the innumerable little wars that dot the globe, rather than being pulled by glittering prospects. The melting pot is frozen; assimilation is at best partial and is often more successful at the economic than at the cultural level, since America seems to have unlimited room for low-wage and marginal entrepreneurial labor.

Next to severe budget cuts in public schools, the most important factor in the intellectual decline of higher education is the disappearance of opportunities to explore knowledge domains whose only attraction is that the student’s curiosity has been piqued, and of occasions for reflection on self and on society. In order to remain in school, even many who are coded as “full-time” students are obliged to obtain paid work, typi-
ally more than twenty hours a week. Under these circumstances, they simply don't have the time to consider learning as anything more than the rituals necessary for obtaining credentials. Whether or not they manage to learn a series of marketable skills, this has become the sufficient justification for spending years attending school.

As higher education gropes for a new mission and tries to come to terms with these conditions, most public universities and many private schools find themselves caught in a permanent fiscal crisis born of the disparity between burgeoning demand for postsecondary schooling and restricted resources. Even as some private universities receive large donations from grateful alums, in most smaller, non-elite private schools, donations barely keep up with rising costs and competition prevents them from closing budget gaps by raising tuition. Congress and many state legislatures have ruthlessly trimmed one of the great engines of the postwar expansion, student aid. To keep enrollments up, many administrations have been forced to transform their faculties into a casual labor force; to postpone needed maintenance and repairs indefinitely; and to cut back or eliminate "nonessential" academic programs such as languages, geography, and linguistics and, in some schools, to close nursing and other occupational programs.

Now more than ever, the imperatives of fundraising drive higher education. We have seen how officials scurry to forge alliances with large donors, offering to dedicate buildings and compromising chunks of the curriculum in return for financial support. Corporate sponsors and panic-stricken parents and students alike demand programs oriented to "job readiness." As a result, many schools have succumbed to pressure to spruce up their placement, or in contemporary parlance, "career" services, introducing vocational courses into the curriculum, and encouraging internships—often coded as "experiential" learning—aimed at inducing employers to hire their graduates.

This mad race toward occupational education, and to the intellectual bottom, comes at a time when good jobs are disappearing and competition is sharper than at any time since the Great Depression. For the truth is that, despite glowing reports of economic boom, there are fewer jobs, if by a "job" we designate work that provides health and pension benefits, offers long-term continuity with a single employer, and income commensurate with qualifications. Even many corporations in the most dynamic sectors of the economy—communications, entertainment, and information services—prefer to hire temporary and contingent labor and retain only a small corps of permanent employees at all levels of the occupational structure. In response colleges have, under the rubric of providing "skills" in "logic and rhetoric" (composition) and "computer literacy," added vocational and remedial elements to the core curriculum.

Despite apparent short-term gains for some universities and colleges, vocationalization is the wrong way to go. Notwithstanding their anxiety about the future, students are ill-served by educational regimes that tailor their learning to a rapidly changing workplace whose technological shifts belie the assumptions driving many specialist curricula. Ironically, the best preparation for the work of the future might be to cultivate knowledge of the broadest possible kind, to make learning a way of life that in the first place is pleasurable and then rigorously critical. For it is only when the learner loves literature, enjoys puzzling out the meaning of art works and those of philosophy, is intrigued by social and cultural theory, or becomes an indefatigable researcher that she acquires intellectual habits that are the precondition for further learning. The learner who really understands the economy knows how fragile is the concept of career.

But students cannot expect to get much help from economics departments. Economics today is taught either as a branch of mathematics or, at the introductory level, as a branch of social psychology. According to many textbooks, economics boils down to individual choice. The individual makes rational choices between competing products on the basis of her conception of (usually short-term) comparative advantages. In the long run, the buyer of an automobile, for example, might be better served by considering a durable, but more expensive brand. But this choice might require a steep down payment and higher monthly payments. So, the budget-conscious buyer often chooses the cheaper, more brittle model, which, over time may prove equally or even more expensive. Yet this decision is considered entirely rational, within the limits imposed by the buyer's income.

Given this orientation, it is no wonder that the typical student who takes an economics course leaves college with absolutely no idea of the dynamics of the labor market and its relation to broad economic arrangements. But most students do not take such courses. They are required only to fulfill a breadth requirement by selecting from a diverse
social science menu. Only by accident are they likely to learn about the impact of corporate decision making on work, or the role of technology in the labor process, the knowledge of which is crucial for their future. The tiny corps of economists who teach from a critical perspective are rarely to be found in the leading schools. Since the small blip of critical thinking in the 1960s and 1970s, economics education has reverted to cheerleading for capitalism, and many professors earn considerable sums moonlighting as consultants for large and medium-sized corporations.

Since I hold that the emergence of the new corporate university is in the interest of neither faculty nor students, nor, indeed, of our country, what follows is not consonant with most proposals for educational reform. I doubt that higher education institutions will adopt an alternative vision and program for those who wish to preserve or advance. John Dewey's celebrated but largely ignored concept of education for democracy and democracy in education. Democratic reform, let alone fundamental change, seems beyond possibility, at least for the time being. For reform to succeed in the current conservative cultural environment, its proponents must accept the underlying framework of current educational practice and the prevailing philosophy of governance. Otherwise, they are likely to be dismissed as cranks or "pie-in-the-sky utopians." The main line of the current reform program in higher education-appropriately referred to by some as "tinkering"—is to maintain its expansion of access of the last twenty-five years for those traditionally excluded, and to provide them with the means to fare better in the changing labor market.

The name of "relevance," many reformers accept the trend toward a more vocational curriculum. They argue that working-class students need credentials and some practical tools to enter the labor market on more favorable terms than would otherwise be available to them. Among their amendments to current practice are proposals to make the curriculum more responsive to racial minorities, to women, and to the handicapped. And instead of demanding a more rigorous core curriculum, significant currents of progressive opinion have excoriated the canon and its acolytes as "elitist." While some trumpet multiculturalism as the key to revitalization of a tired faculty and an outmoded curriculum, few multiculturalists challenge the main drift of higher education toward intellectual downsizing. After scarcely two decades of effort, many of these programs have been successfully integrated by the mainstream, but must have lost the critical edge that once gave them some purchase. They are content with providing an add-on to an essentially unchanged core and a series of discipline-based curricula directed toward training professionals.

Bluntly said, in the light of pervasive intellectual inertia we can expect further stratification of the American academic system. Some universities are accumulating huge endowments from wealthy alumni desperate for tax shelter, while those that are chiefly tuition driven are condemned to scrape along. And even when public universities hasten to privatize by selling research capability and some of the curriculum to corporations, seeking thereby to build their own endowments, many lack a pool of rich donors. So where are the incentives for learning? Certainly not in the top-tier universities, whose commitment to "research"—a "mission" acquired during World War Two—now seems set in stone. As for the public schools and private four-year colleges, unless prospects for income from reluctant legislators and smaller donors improve, at the peril of sinking further, they are likely to continue the trend to privatization.

Today, those who, in the name of the higher learning, seek to establish a community of critical scholars while extending learning opportunities to wider sections of the population are faced with the arduous task of producing their own space within and without the academic system. And it is almost inevitable that, for the foreseeable future, this space will be relatively small. Yet without efforts to produce new forms of governance and of learning, the drift toward the corporate university will turn into a tide. In several short years, battered graduate programs in the arts, humanities, and the sciences are likely to restrict admissions to those for whom fellowship money is available. In fact, many humanities programs have already imposed these restrictions in hopes of tightening the labor market for their graduates. Some less prestigious programs are bound to close. Once inspired to seek careers in college teaching and humanistc scholarship, but driven by the perception that jobs exist elsewhere, young people in greater numbers than ever will turn to business administration, law, and low- and middle-level technological applications. If the critical intellect is today on the defensive, without "pie-in-the-sky" thinking, tomorrow it will survive only underground.
On what basis should this effort proceed? To specify a "wish" list of curricular suggestions without addressing the burning issue of governance condemns any effort to mere abstraction. In the current academic system, the flight of many faculties from responsibility for curriculum, hiring and firing, and other issues has left the administration in control. Having themselves been transformed from a community of scholars to a collection of individual entrepreneurs in the research universities and to employees of a fairly enclosed bureaucracy in the others, the faculty has conceded much of its prerogatives to the permanent academic government.

The formation of a permanent administrative bureaucracy in education was the crucial internal precondition for the gulf that now separates faculty and students from educational leaders, leading to the development of the corporate university. The decline of academic life represents, in part, the degree to which the faculty has surrendered autonomy, that is, a governance and curriculum system that is largely self-generating and self-reproducing. Instead, as we have seen, the learning enterprise has become subject to the growing power of administration, which more and more responds not to faculty and students, except at the margins, but to political and corporate forces that claim sovereignty over higher education.

Over the past thirty years, administration has become a separate career in academic life. Although most deans, provosts, and presidents of academic institutions begin as scholars and teachers, for many the life of the mind offers paltry rewards in comparison to administration. Having been invited to become department chair, some are happy to seek higher office in the university. While there are still deans and even college presidents who, after serving in these posts, return to the classroom, to research, and to writing, many discover that the comparative advantages of administration are greater. For some administrators, the choice is dictated by the will to power or, what amounts to the same thing, the conviction that they can serve the institution better. For others, the move to administration is a tacit acknowledgment that they have exhausted their academic or intellectual contribution and that administration is a choice that saves them from plunging back into routines that no longer excite their passions. Still others are motivated by the large incomes they may earn in comparison to the relatively small recompense of ordinary professors.

What are the consequences of administration as a career? First and perhaps foremost, career administrators tend to lose touch with the educational enterprise. Their allegiances and self-conception become increasingly corporate as they gradually surrender any pretense of doing consistent writing and teaching. They take the standpoint of the institution against those who would resist the "necessary" and "rational" decisions that any administrator must make in the face of relative scarcity—a perspective emblematic of even the most profitable corporations. As the department chair rises to dean, instead of regarding administration as a temporary tour of duty and welcoming resumption of his academic work, he tends to look forward to the next niche in the administrative hierarchy, vice-president for academic affairs or provost. It doesn't take long before he views himself as a member of a separate social layer within the academic system and sees the faculty and students as adversaries or, at least, as a different stratum. Indeed, in recognition that administrators constitute a separate social layer, many institutions have different personnel and benefits policies for their official cadres than those offered to the professoriate and to the staff.

In the 1960s and 1970s, student protest led to a new, incipient partnership of students, faculty, and sometimes administrators in university governance. Since the late 1970s, student participation in the various committees of faculty and institutional decision making has become token at best. These relationships should be renewed; without a voice in the life of the university or the college, students become akin to alienated labor. This deprivation may account for the current conflict between graduate employees on the one side and faculty and administration on the other. For, with some exceptions, most boards of trustees and collegewide committees have no student representatives. While inclusion would not solve the problem of social and political distance between the constituents of universities, it might enhance dialogue and avoid some unnecessary misunderstandings.

The AAUP, America's pioneering faculty organization, has issued many statements calling for "shared governance," the term a tacit acknowledgment that the intrusion of administration into vital academic
nic, Carnegie Mellon, and Case Western Reserve Universities, permit students from the inception of their academic careers to fill their curriculum with technical and technoscientific subjects, relegating the arts, humanities, and social sciences to the periphery. The student arrives at the end of four years a techno-idiot. In the Greek meaning of the term, "idiot" signifies a person with only specialized knowledge, someone who, in all other respects, is ignorant. I suppose for those sufficiently talented in and entirely dedicated to their narrow interests this appears to be a reasonable option. The question is whether this kind of learning is consistent with the objective of providing a learning regime that prepares the student for life?

If learning as a form of life could be even partially severed from the credentialing system, the university would welcome the broad participation of working adults as much as it now does traditional full-time students, encouraging the formation of intellectuals as well as bestowing credentials. Even though higher education would still serve the practical needs of society, it would not define society primarily as "business." In short, the whole spirit and purpose of higher education would change, returning to the time when, at least rhetorically, universities and colleges saw themselves as sites of critical thinking. It might be possible to show that the virtual abandonment, by today's educational leaders, of the goal of providing for society a layer of critical intellectuals is a response to the upsurges of student activism in the 1960s. In this light, the turn toward vocationalization and toward a reduced conception of learning may be part of an effort, openly urged by many on the right, to make sure the 1960s never happen again.

The fundamental mission of higher education should be to play a leading role, perhaps the leading role, in the development of general culture. This mission falls on colleges and universities because, for historical reasons, they have been endowed with the intellectual and physical resources to occupy this space. To the academic system falls the task of providing access to a substantial portion of the population to the rich intellectual and cultural traditions that make up American society, of which the Western is, of course, the most important but not the only strain. As I have already suggested, this implies that colleges and universities must become public spheres, available to the larger community as well as to the community of scholars. They must be centers of learning, but also sites of discovery, not only in the natural sciences but also in the social sciences and the humanities. And universities, especially public institutions, should be places where debates on public issues occur, where public life, which has been eclipsed in all but the most local ways, can be restored.

Universities are still the centers of the development of most socially useful science and an increasing proportion of technoscience, that is, science oriented to practical ends. But government funds for all types of scientific research are shifting from military-related physics and chemistry to commercially oriented molecular biology applications, chiefly for agricultural and drug corporations. In many leading universities, a new pharmaceutical-corporate complex is slowly displacing the older military-industrial complex, which nevertheless retains considerable power over scientific work. And government funding, especially for pure science or basic research is, relatively speaking, declining, because these activities formerly had military cover. It seems that in the wake of post-Cold War science policy, the scientific enterprise must justify itself on commercial grounds until a new military danger appears.

Scientists themselves are seeking private corporate sector support for their work. In the bargain of receiving corporate funds, scientists have shifted their priorities to activities whose goal — direct as well as indirect — is to provide commercially useful knowledge, but the price of funding is to surrender intellectual property. For example, the corporations often own the patents for new life forms outright, or at least share the title with the scientist. In recent years, patent law has been interpreted by the Supreme Court to mean that corporations can own all of our collective genes; consequently, if anyone wishes to use her own genes for any purpose, she must obtain permission from the patent holder. As a result, where government has pulled back, philanthropy has been called upon to assume a larger responsibility for funding medical research, especially in areas such as cervical, ovarian, and breast cancer, where there is not yet a "magic bullet" cure. But areas such as ecological science, research on diseases that have a smaller base of public support, and knowledge that is in practical terms "useless" but in cultural terms significant are being shortchanged.

National science policy needs to recognize these problems; only new infusions of public funds can preserve entire areas of science, like cos-
Thomas Kuhn, David Noble, William Leach, and Stuart Ewen have subjected scientific and technological change to close scrutiny, as have literary historians and critics such as Leo Marx, Richard Debnam, and Cary Wolfe.

These are among the handful of intellectuals who have distinguished themselves precisely by their attempts to understand the meaning of science, technology, and the rise of information and mass communications as characteristic human activities. All of them have called attention to the profound alteration of what Heidegger has called the transformation of the “world picture” initiated by discoveries such as relativity, quantum mechanics and its indeterminacy principle, complexity and systems theory. Social investigation has shown that just as fundamental physical and biological relations are valid only within a specific frame of reference, scientific discoveries are not free of social and cultural embeddedness. On the contrary, their truths are historically situated and always linked to human purposes.

Scholars in all disciplines may readily acknowledge the world-transforming effects of the scientific revolutions of our own time, but they often resist the connection to social life. They prefer to erect a “Chinese Wall” around the achievements of science and technology, declaring their autonomy from culture and social relations. In many universities, a sometimes acrimonious debate rages around these conflictual claims. This is not the place to rehearse the issues separating the combatants, only to indicate that the terms of entry into the debate requires students to have some familiarity with the history, politics, and culture of science and technology above and beyond the algorithms of (past) scientific practices. I shall return to this and related questions of curriculum below.

The evolution of the curriculum in the last century has paralleled the growth of knowledge specializations, which in turn correspond to the emergence of scientific, technical, and organizational knowledge as key actors in the industrial and service workplaces. The narrowing of the definition of these knowledge domains has also been linked to the transformation of philosophy into science, the human sciences as well as the so-called natural sciences. Increasingly, the unity of the sciences is provided by method rather than by a substance they all share. But experimental and quantitative methods in fact constitute the substance of science; in social as well as natural sciences, to be is to be measured. Thus the humanities have been defined by their historical and interpretative approaches to knowledge and, consequently, relegated more and more to serving as ornaments in the academic system or, worse, to places where students obtain “skills.”

Since the disciplines have been constituted historically rather than being a force of nature, they can be changed. Ironically, the natural sciences have been most open to these reforms: biochemistry, molecular biology, biophysics, and several other hybrids resulted from the actual interdisciplinary practices of the sciences themselves. Many have discovered that the separation of physics, chemistry, and biology no longer addresses the knowledge-object, which, it turns out, can only be grasped adequately by combining and transfiguring the traditional disciplines. In contrast, facing fewer student enrollments and less money, the humanities and social science disciplines have zealously guarded their turf, except English and its step-sister, American studies, which have experienced something of a revival over the past decade as a result of their embrace of cultural studies. However, I do not wish to promote indiscriminate interdisciplinarity in undergraduate learning. I want to argue for an approach that concentrates on the study of four key knowledge domains, at least in the first two years: history, literature, science, and philosophy.

My fundamental strategy employs all of these domains to explore specific historical periods, with the goal of showing their interaction rather than a logical and traditional separation. Every domain within a specific place and period participates in, and is influenced by, the prevailing spirit of the time, but each has its own internal history as well. One need not adopt a particular theory of knowledge determination—by the economic infrastructure, by Power, taken here as a migrating Will, by Great Ideas, or any other category. In fact, issues of determination might be treated dialogically, that is, as a subject for discussion. The point of the core is to find articulations between economic, political, and social currents, social and cultural movements, and knowledge orientations and, perhaps, to discover unexpected relationships with other cultures and contexts.

There are two possible approaches to historical knowledge. First, one can study the forces and events that have shaped human societies
life in this century. The neoliberal Brazilian president Ferdinand Cardozo is a Marxist academic economist by training; the Chilean Nobel Prize–winning poet Pablo Neruda was his country’s ambassador to France and a leading member of the left unity administration of socialist Salvador Allende; and Mexican writers Octavio Paz and Carlos Fuentes played prominent roles in their country’s politics and culture for decades.

I want to offer an illustration of a transdisciplinary approach to the conflicts and confluences in North Africa. It may help clarify how one might address the need to place writers from different domains in juxtaposition. Frantz Fanon’s _Wretched of the Earth_ towers in the growing field of African/diasporic studies, together with Albert Memmi’s _The Colonizer and the Colonized_, the more contemporary essay by Gayatri Spivak, “Can the Subaltern Speak?”—one of the most anthologized in the postcolonial critical literature—and Edward Said’s _Orientalism_. These are arguably four “classic” works in the countercanon, but any core curriculum would be hard pressed to omit a serious examination of some of these texts. In contrast to the way these works have been opposed to the “Western” canon, my inclusion treats them as having been deeply influenced by aspects of the Western philosophical and social theoretical canon as well as constituting counterpoints to them. A unit on colonialism and postcolonial thought might, for example, focus on Fanon’s dialogue with psychoanalysis, phenomenology, and Marxism. It would obviously incorporate the fiction of the African independence movement, notably the work of Achebe, whose classic _Things Fall Apart_ is, in addition to being an affecting story, a crucial account of the emergence of modernity in black Africa. Other voices include Julius Nyerere and two novelists whose reflections on Africa are as significant as any history, Nadine Gordimer and Doris Lessing, and films such as _The Battle of Algiers_, a docudrama of the struggle for national independence in North Africa. In addition to selections from Fanon, Memmi, Spivak, and Said, the readings would include the works of those who have had the greatest influence on Fanon and Memmi—Freud, Sartre and Camus, and Marx—as well as accounts of the economic and political history of French colonialism. The study of colonialism might be capped by some discussion of the influence of contemporary philosophers, such as Jacques Derrida and other intellectuals of the colonized era, on critics such as Said and Spivak.

In the best pedagogical scenario for this curriculum, the students would take no other courses in the first two years. Indeed, the “course” and “credit” model would be jettisoned, since it still participates in the rationalization of knowledge. Students and faculty would work together in one rolling seminar. The learning community would organize its time according to its own convenience rather than accommodating to university rules. My strategy for the core is to see science, philosophy, and literature within a historical framework. Those who object to this approach are invited to adopt their own framework. One might proceed from literature, science, or philosophy, subsuming history and the remaining domains. These decisions would be left entirely to the curriculum planners, as long as these domains are addressed conceptually and critically. For example, in previous chapters I have argued for a conceptual approach to the three-thousand-year history of science and technology; and I would not want to insist on a particular perspective, only that it not be either primarily procedural or reverential. After all, the point is to assist students to think again what is usually taken for granted.

What is objectionable, in my view, is the current practice of treating canonical texts as independent of their contexts, and the tendency to exclude economic, political, and social history. The canon is also meaningless without a critical understanding of science and technology, and a grasp of contemporary thought, especially the philosophy and literatures of the margin and their histories within many cores. Among other reasons, it is arguable, for example, that the Latin American boom and genres such as detective and science fiction are not only the popular reading of our time but among its best literature. And I insist on these specific domains because they embody the most salient areas of what is the Western intellectual tradition.

If the goal is to help students become autodidacts, education must emphasize pedagogy. This is the main innovation of my model, for pedagogy has largely been ignored by most academics. Of course, the real object is to help students acquire the habit of reflexivity, but this aim cannot be realized unless students are genuinely empowered in the learning process. This means that the object of the curriculum is to engender the critical self-learner. Drawing from literary studies, I advocate “close” reading in the classroom, so that everyone is on the same page and the authority of the teacher may be put into question by the ambiguity of
knowledge of the other was largely disdained by most faculty and students; after all, it was an appropriate attitude in the American Century. But it remains true that many schools required one or more courses in philosophy and literature. Some even required courses in Greek and Roman classics, and the typical graduate of a four-year program had a working knowledge of at least one other language besides English.

Most professors in the human and natural sciences would require considerable reeducation to be able to teach my model curriculum. For unlike other core programs, the trans- or cross-disciplinary approach to knowledge, situating it in a historical context, would not subdivide the subject matters into disciplinary units but would seek linkages among domains. It would probably work best if two or more instructors worked together with a large group and took responsibility for smaller study groups and tutorials or directed readings with individuals. And this curriculum would require holding faculty development institutes, which might focus on both the pedagogy and the knowledges. Surely the core I propose would be impractical without this preparation.

Can and will students embrace this rigorous program? I must confess that it will be an uphill battle. We know from the recent past that some societies have been able, in a relatively brief period, to achieve astounding literacy rates and to develop a considerable stratum of scientific and humanistic intellectuals, whereas only a small group of these people existed. One model is suggested by military necessity. During World War Two, the United States military educated and trained almost a million servicemen and women to read and write and operate complex technology, sending thousands on to colleges and universities for further education and training. Since the armed forces provided the time and money for this enterprise, and the alternatives were worse, enlisted men responded affirmatively.

The second model was born of ideological and political conviction as well as military need. The Soviet Union, China, Cuba, Israel, and revolutionary movements in central America and Africa made education a centerpiece of their revolutionary and national programs and succeeded in creating within decades a scientific, technical, and cultural class where, in most cases, it had not existed. In these cases, the state appealed to its citizens to defend the gains of the revolution and to benefit individually by acquiring knowledge. Mass education in revolutionary societies inspired education, and even some learning, for considerable periods.
Even when revolutionary fervor cooled, developing industrial countries were able to maintain a high level of enthusiasm for education because they were in the process of economic expansion. Industrialization extended to the countryside as well as cities and literally made trade and academic schools the major after-work activity for millions.

What will inspire skeptical, not to say cynical, students who, having been encouraged to turn away from knowledge for its own sake in favor of the most practical conception of the role of education, may believe that general education is “useless”? In elite institutions, it may be that students are sufficiently motivated by status and the promise of job success to undertake such a program, especially if it is mandatory—better to expend the value of critical thinking and the knowledge that can grease its wheels. The problem is most severe in third-tier schools, where neither status nor money drives the educational regime. In these schools, the faculty is likely to find it necessary to articulate motivating arguments. In my experience as a community college instructor in the 1970s in a predominantly white working-class community, and in the 1980s at a workers’ education center that awarded a baccalaureate to adult, mostly minority municipal employees working in low-level jobs, I found that students responded to two appeals. The first was to the idea that critical thinking and substantive knowledge of history and social theory, and not only in the procedural sense, might lead to group and self-advancement—a point made with considerable ideological content, with references to issues of class and labor politics, and to the largest interests of blacks and Latinos. The second could only be convincing in process: learning this stuff was intellectually challenging—and fun.

My students were often well prepared to read some of the canonical works I assigned, but not all of them. I found—and with my current graduate students, I still find—that reading the text paragraph by paragraph in class, stopping to answer questions of definition as well as interpretation, and meeting privately with those who have specific reading and writing difficulties are often effective in overcoming problems students encounter with unfamiliar material. Needless to say, I have had to adduce examples, illustrations, and demonstrations of many of the arguments and concepts. Having said this, I find that students are excited to be learning the real thing. But in order to pull it off, I have had to reinvent my own teaching style, think through the conceptual issues in situating knowledge in its own traditions, as well as in its social milieu. I have had

to relate the most difficult concepts to people’s concerns while not simplifying or distorting them, work very hard to learn things I once scorned or ignored, and to be open to new ideas without pandering to fashion.

Sometimes I fail to reach a group of students in a class, and it’s usually because I have been unable to find the match that might light a fire in their bellies. Mostly when I don’t make connections, it’s because I haven’t tried hard enough. Occasionally, the problem resides in students’ inability to focus because of personal problems such as work and family, which demoralizes them when it does not prompt them to drop out. But I have a lot of evidence from my own teaching, and from that of others, that most students at every level of the academic system will rise to the challenge to learn. But they will strive only if they are convinced the professor is there beside them and has equal dedication, something far more valuable than charisma.

Are there those who are prepared to undertake this improbable adventure? If I didn’t believe there were, I would not have written this book.