

## Misplaced Pressure

### *Between Bondage and Rage at the University*

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In 1986, the Washington reporter of *Business Week* declared from the heart of the government's bureaucracy, Washington, that "as science and engineering professors retire in droves, a crisis brews." He estimated that by the early 1990s 25% of the faculty at Rensselaer Polytechnic Institute will leave, while as many as 52% of the faculty at New York's Polytechnic University would leave. He was describing an inevitable trend of the graying of the post-World War II minted faculty and their immanent retirement. Yet, in 1996, Louis Menand reported in the *New York Times Magazine* that "more than 14 percent of new mathematics Ph.D.'s are unemployed." How did a perceived shortage become a glut? How was it that an expected scarcity in the supply of faculty became an over-abundance?

Let's examine some old-fashioned assumptions according to which the university (or multiversity, as Clark Kerr named it in 1963) was set after the Second World War. To begin with, there was an ever-increasing demand for higher

education given the generous GI Bill that funded soldiers returning from the Great War. Second, it was assumed that the university system will increase in size to accommodate increased industrial-military needs and student demand. Third, it was assumed that increased student demand will be correlated with increased course offerings by faculty, and thereby increased demand for faculty. Fourth, it was assumed that when faculty resign or retire, they would be replaced by faculty, position for position. And finally, it was assumed that funding for university research would keep up with and propel the growth of higher education.

These assumptions translated into the following classical model: a progressive growth of the university; increase in the institutional size necessitates an increase in the size of its faculty. Under these circumstances, faculty retainment and recruitment is a funding priority. Labor expenses increase with a hidden assumption that budgets will increase

proportionally. This model worked well for a while, as budgets (tuition, government research subsidies, and contributions) continued to increase annually. When there was a limit to tuition increase, one could always count on the unsatiated government appetite for research, basic and applied, especially in the days of the Cold War and the Sputnik space race. What has changed?

Some assumption proved wishful thinking, while other unfortunate circumstances brought the growth of academic institutions to a stand-still. The worst culprits for American institutions of higher learning have been the demise of the Soviet Union (the source and target of the Cold War), the victory in the space race, and the industrial-military dominance of the USA. The warnings of the 1980s about the scarcity of faculty were as unfounded as Malthus' warnings about global starvation in the face of population growth some two centuries ago (1798/1970). Efficiency or productivity were overlooked by Malthus just as they were missed by observers of the academy who held onto the classical model of the university.

One may dispute what is meant by the classical model. Does it mean the ideals of the Enlightenment with a twentieth-century twist? Or, by contrast, does one mean the models proposed by Robert Paul Wolff in response to the campus upheavals of the 1960s in the United States? He suggested four basic issues or categories according to which higher education could be classified or modeled: sanctuary of scholarship, training camp for the professions, social service station, and an assembly line for Establishment men (Wolff 1969). All of these, as one can tell, under-represent the ma-

ajor influence on American universities post World War II, namely, the military-industrial complex. It is with this in mind that I wish to discuss the present conditions and future prospects of higher education in the United States.

Let me be clear about what may seem an ideal to some economic-driven visionaries of higher education. From recent development in the United States I venture to extrapolate that in their mind the new model of the university may look more like this: increase student demand is met by larger classrooms (a one-time capital expenditure) and not by offering a larger selection of courses (an ongoing labor expenditure). At the same time, faculty retirement is met with relief because no full-time replacement is sought; a new source of academic labor can be more rigorously exploited: part-time faculty and graduate students.

One can note these changes not only from professional records, but also from the popular print-media. A decade after the prediction of faculty scarcity found its way to public consciousness, an odd situation was reported: "U. of California Graduate Students Strike" is one headline, while another notes that "Minnesota's Proposed Tenure Changes Lead to Union Drive." Why are graduate students striking and faculty joining unions? To be efficient, that is, to spend less money for the same quantity of labor, university administrators turned away from traditional ways of organizing the delivery of higher education. Later I will outline the optimal financial conditions proposed for higher efficiency of the delivery of higher education. Is the new model indeed necessary? Will it streamline an institution that needs to be radically changed?

Before I suggest some answers to these questions, let me explain that my critical observations and suggestions I based on my experience with three major universities, one private (Boston University), and two public (University of Massachusetts in Boston and University of Colorado in Colorado Springs). To some extent they are representatives of the middle range of large universities whose funding and prestige rely on faculty sponsored and unsponsored research. In focusing on my experience as graduate student, part-time faculty, tenure-track faculty, and eventually a tenured full professor and chair of a department (who directed many programs outside the department and who was involved in campus-wide budget negotiations), I attempt to bring a personal self-reflexive dimension to the scant literature on this particular subject, namely, the gradual restructuring of higher education in the United States.

Ivy-league institutions, such as Harvard, on the one extreme of the academic spectrum, and community colleges on the other, may be less prone to feel these transformations since the former are so well endowed that they withstand whatever political and economic pressures from the outside, while the latter are so under-funded that making academic compromises is an inherent part of their daily operations. On some occasions the entire spectrum behaves similarly, as was the case with the shameful response to the political pressures of the McCarthy era in the 1950s (see the critical indictment by Schrecker 1986). But when it gets to dollars and cents, the rich remain richer and the poor become more exploitive. It is called economic reality.

## The Sounding of Alarm Bells

Any talk of change in the institutions of higher education may raise questions about the conditions that motivated or drove the university to change itself. Moreover, will an organizational change bring about a change in the content and credibility of higher learning? One may then ask: Is the university under siege? Is it in crisis? The answer to these questions depends on one's definitions and cultural predispositions. As far as John Searle is concerned,

the crisis rhetoric has a structural explanation: since we do not have a national consensus on what success in higher education would consist of, no matter what happens, some sizable part of the population is going to regard the situation as a disaster (Searle, 1990: 34).

The university is always and never in crisis because we lack a yardstick by which to measure its success and failure; the rhetoric, therefore, can be made to fit whatever alarm one wishes to sound for whatever ideological purpose.

As far as Gene Maeroff is concerned, the problem faced by faculty was brought about by their greed and laziness, their failure to meet responsibly their academic duties:

it may be appropriate to ask some of the full-timers to start behaving more like people with full-time jobs so that not as many part-timers are needed (Maeroff, 1993).

Between these two extreme views, one may find a more fruitful analysis of the transformation of the model of higher education from the nineteenth to the twentieth century. Higher education

shifted both symbolically and practically from an expression of class privilege and distinction to the production and consumption of expert technical knowledge for the sake of feeding an ever-growing military-industrial complex. What Thorstein Veblen observed around the turn of the century as the entrepreneurial nature of the "captains of erudition," that is, the university leadership (Veblen 1910) or what Alvin Gouldner observed as the rise of the "New Class" of intellectuals and professionals (1979), turned into a rigorous credential-driven process of professionalization choreographed by the "gatekeepers of the advanced technical-managerial society," as Michael Katz calls them (1987: 167).

Whether we follow Veblen or Katz, Kerr or Gouldner, we may still wonder in our post-industrial, post-Fordist, post-capitalist, and neo-postmodern culture what makes the academic setting different from other cultural settings? What is it that renders the university an institution different from all other social institutions? Is Robert Paul Wolff (1969) correct in labeling it a "community of learning," trying to retain a bit of Marxist idealism laced with utopian messianism? If we are indeed a community of learning, then as far as scientific research is concerned, we would value basic or applied research, and feel compelled to exercise our collective intellectual capital in the pursuit of the love of wisdom. While corporate America insists that pure or basic research ought to be done at the university (Uchitelle, 1996), it still accounts for less than 30% of the total Research and Development of western countries (Skoie, 1996: 66). But as the boundaries between basic/pure

and applied research has been blurred, what remains the distinct mission of the university? Is the rhetoric of crisis in fact justified if the crisis is not about the internal workings of the university but about the undermining of its social position and economic role?

Public conception of the university's mission determines its funding potential. What must the university and its leaders do in order to gain a favorable perception and reception by a confused (Searle) and skeptic (Maeroff) public? How can it avert the twentieth-century trend toward "anti-intellectualism," as Richard Hofstadter (1962) describes it? How can the captain of erudition who have become credential gatekeepers present the best image to government and independent funding agencies and retain (if not improve) their credibility in the face of material pressures and social discontent? One way to win the favor of consumption-hungry public is to present education as a commodity worthy of consumption, if not as a shrewd investment for the future. What professional schools (law and medicine) have done for centuries, and what technoscientists have promised since the Newtonian revolution, all universities must do in the late twentieth century, namely, promise that present expenditures promise wonderful returns. But can such promises be kept? Does every research lead to an innovation, and does every innovation lead only to positive implementation? Obviously not. And even if yes, at what price? And even when a price is determined and is found reasonable (for example, some form of pollution for mass transportation), who will ultimately pay that price?

## Content and Style

In recent years the university system has been asked to behave as if it were a corporation. No longer are we satisfied with broad characterizations of higher education in economic terms, such as those proposed by Fritz Machlup (1962), for example, in whose hands the quest for knowledge was translated into knowledge production and consumption or with Kerr's notion of the multiversity (more on this in Sassower, 1995: 133-140). In their stead, we are obsessed with the latest business-like vocabulary of corporate behavior and the management of (scarce) resources (may they be human or not). This rhetorical (if not always practical) shift in emphasis has meant for some the description of academic departments as cost centers and the demand for productivity reports, efficiency measures, and input-output analysis.

In the past decade, corporate America has been downsizing its work-force so as to increase profit margins. University administrators claim to follow the dictates of legislators and boards of trustees and are acting as if they were corporate engineers, downsizing and streamlining. In their zeal to appear cost-conscious and deliver academic degrees most efficiently, university administrators fail on two counts. First, they fail to be true to corporate ideals which would turn them into better academic administrators, and second, they fail to distinguish their institutions from corporate ones.

Assuming the corporate model, university administrators accept the corporate rhetoric and its rationale. As Brother Patrick Ellis, president of Catholic Uni-

versity, asked in 1993: "How Many programs can you close in the interest of efficiency without losing the character of the university?" (Jordan 1993) With this question he alludes to the commodity university administrators are marketing and how its quality control may increase visibility, prestige, and command better prices in their market niche. But is focusing on efficiency rather than quality control, presidents and chancellors alike may fail to fully appreciate and follow the rules of the corporate game which would have made them pay more attention to ideas and pedagogy, and invest more heavily on their faculty and libraries (as product development and quality control).

But even if university administrators were better corporate leaders, they would still fail to admit the most important distinguishing factors that set the academy apart from other institutions of contemporary culture, rather than concede to corporate pressures to train future laborers specific skills (see Aronowitz & Giroux, 1991: 89-90). Academic institutions are traditionally devoted to harboring intellectual rebels and fermenting dissent from the debilitating effects of power and authority, may it be the Church, state, or industry. As such, they should remain what they in fact are to some extent: *refugee camps for the privileged*. They are similar to refugee camps in the sense that they protect their inmates from external pressures. They are different from them in the sense that not all refugees are equal or receive equal treatment or resource allocation. (More on the loss of the traditional role of the university as a social institution for deviance and escape, see Sassower, 1994).

In the context of cost-cutting and efficiency, is it reasonable to argue that the waste experienced in the academy is unjustified in the midst of poverty and hunger? Some would claim that in the era of global concern for refugees of economic and political hardships there is no room to minister to the refugees of elite classes. Balanced in this fashion, the future for academic intellectuals looks bleak not so much because of their economic well-being, but rather because of their perceived role and utility in the face of economic conditions. Admittedly, this may be an unfortunate way of presenting alternatives and balancing accounts. Instead, we may conceive of academic institutions as necessary sites from which great ideas and practical solutions may emanate, as investment centers the return from which is measured every century and not every quarter (Kerr, 1995 and Bok, 1982).

### **The Corporate Model Applied to the Academy**

Profit maximization used to be the catch-all be-all rallying cry of corporate America at the beginning of this century. If that meant killing some land-owners who drilled for oil, as some are reputed to have done, so be it. Once fortunes are amassed, philanthropic foundations easily cleanse one's dirty hands and ensure eternal public recognition and gratitude. The greed associated with neo-classical models of economic activity, the corner-stone of many business programs around the globe, was curtailed at the beginning of the century only through union organizing and occasional legislation concerning child labor, work-place safety, and product li-

ability (see, for example, Heilbroner, 1970).

But that model is a bit old-fashioned by the end of this century, if not outmoded. Instead of profit-maximization we speak today of profit optimality and are as much concerned with corporate survival as with human resources. Profits will accompany research and development if we are willing to look at the long-run, we argue today, as opposed to worrying about every quarterly report. The likes of Microsoft have illustrated that wealth accompanies a changed corporate culture rather than the reverse. Even corporate giants like IBM recognize that to have a dedicated work-force they need to extend, as they recently did, health benefits to their employees' gay and lesbian partners so that the investment in human capital is deemed as important as technical expertise.

So, when academic administrators are pressured to behave like corporations, what does it really mean? Moreover, when administrators internalize the pressure of legislators and regents and dictate corporate-like behavior, what do they have in mind? Are they following Fritz Machlup and his views concerning the production and distribution of knowledge in the United States (1962), or are they following the general atmosphere of anti-intellectualism described by Richard Hofstadter (1962)? One may suggest that both pressure groups, the external and the internal, are confused about which economic model they would like to emulate. Since the academy is in general a non-profit organization, what would profit maximizing mean? Second, since there are different strategies associated with profit maximization and optimality, which set of strat-

egies do they endorse? Third, if the corporate rage of the late 1980s and early 1990s has been Total Quality Management, how has the pressure to become business-like been implemented in all the academic levels of operation? Do annual reports serve this purpose? Do committees accomplish this task?

I raise these questions so as to illustrate how confused university administrators (claiming to respond to public demands – from alumni to state representatives) tend to be when it comes to the acceptance of economic models and their eventual implementation. Saying that we should be watchful of our expenditures or be accountable to those who foot the bills is one thing, but cutting budgets across the board without thorough calculations of their effects is quite another. Let me provide an example. In many universities, such as my own, budgetary needs have outpaced tuition increases so that cost cutting has been mandatory. More than 75% of the campus budget of about \$30 millions is for instruction; in the College of Letters, Arts, and Science instruction costs account for 87%. The only feasible cost-cutting measure must be in the area of instruction.

Obviously one does not hire full-time tenure-track faculty members, but instead hires part-time instructors who get paid piece-mill. The University of Phoenix, one of a handful of for-profit academic institutions in the United States, is spread across the United States in rented office spaces with over 40,000 adult students seeking professional degrees. It boasts of having few full-time faculty positions, and a growing number of students. The ideal this university exemplifies is having one full-time tenure-

track head of a department with all the rest of the faculty of that department being part-time instructors. One may hire a prominent scholar as a figure-head, perhaps shared with other institutions so as to ensure some level of credibility and prestige and divide the costs associated with such an appointment. Given the specific pay scale at my university, if one were to replace full-time positions with part-time ones, one could double productivity with the same budget, or cut the budget by half and maintain the same number of faculty with the same teaching loads.

In addition, one could increase the teaching load, that is, either more courses per instructor or more students per course or both. This may require larger classrooms, but the expenditure for rooms, laboratories, and buildings comes out of a different budget, and that budget (as mentioned above) is a one-time, long-term investment. In short, our universities could have a perfectly structured departmental hierarchy with one faculty administrator at the top, and many semi-employed, underpaid, and exploited instructors, all of whom are hired and get paid by the course, without any benefits or job security, at the bottom. To some extent this model is becoming operational in many state universities and community colleges already now, as Aronowitz and DiFaizo (1995) have argued. Technoscientific proliferation and growth has changed the character and need for labor in general, and that trend has not spared academic institutions in particular. The nightmare of yesteryears has been dreadfully realized everywhere.

So as not to present this model as if it were suitable and operational only in the

so-called lower spectrum of universities and colleges, let us note that many medical schools are already part of this model. For example, in the early 1980s (and I assume this is still true today), the medical school at Boston University had very few full-time paid physicians on the faculty whose entire salary came from the medical school. The rest of the teaching faculty were either researchers on grants or clinicians paid by Boston City Hospital (the teaching hospital of the medical school) or by other private or state clinics. These physicians, then, were in fact sub-contractors, but in a manner different from other academics. While most academics find it difficult to find employment outside the university setting (some find jobs at think tanks or as part-time consultants), physicians can always earn more money in private practice by spending less time on campus, and therefore whatever fees are paid by teaching hospitals are considered tokens of appreciation, valued for the symbolic power of association with credible clinical settings rather than for their monetary value.

Back to the organizational chart of the academic model envisioned here. Add to the departmental hierarchy the efficiency that can be achieved based on the contemporary zeal for inter-, counter-, and cross-disciplinary approaches to areas of study (proposals that unwittingly enhance academic downsizing and faculty unemployment), and one can limit the number of departments in the classical college of liberal arts to three departments, natural sciences, social sciences, and the humanities. Some other professional programs or colleges can be collapsed as well, so that one would streamline and simplify the ar-

chaic university structure. Five to ten departments or programs would be run by five to ten administrators, all of whom report to one chancellor or president and that is all. No need for committees, because there are no academic questions to be debated, either on the governance side or the curriculum. There is no one to govern, if all instructors have no status in the university and are basically sub-contractors who are contracted piece-mill; curriculum decisions are made by the head of the department or program, or dictated by a national organization. In both cases, managerial authority is exclusively placed in the hands of the one and only full-time (with benefits) certified faculty, an alleged philosopher-king in Plato's autocratic sense.

### **What About the Students?**

To be sure, something of this sort has already taken place on most campuses, with the appearance of the professional intellectual workers and the administrative class, composed of faculty members who have either been plucked from their academic positions early in their careers or chose themselves to leave the classroom, laboratory, or library (Aronowitz & DiFaizo, 1995). They hardly published or taught, so sensitivity to the needs of researchers or students is at best feigned or simply absent. The rift between the two classes, one with a managerial posture and the other with proletariat-like demeanor foregrounds faculty and student frustration and alienation. It is still puzzling what a small percentage of American faculty belong to unions. Perhaps it is the myth of collegiality and the community of scholars (or learning, in Wolff's sense) that keeps them from be-

lieving that their colleagues are turning into heartless managers whose concerns have shifted from quality education and research to input-output analysis and quantifiable results.

As for the rest of the student support system, most of it can be easily eliminated and substituted with computer-assisted programs, from course registration to advising, from financial aid to writing labs. If there are any staff positions that need to be filled on campus, they can be filled by work-study students whose pay is subsidized, in the USA, by the Federal government. In short, full-time faculty members and staff will be reduced to a minimum that can save millions of dollars. As for other academic needs, such as a library, they can be reduced to some terminals hooked to the internet, and served by a couple of work-study students to process interlibrary loans from the great libraries in America, such as Harvard's. What else does one need? Cafeteria, book-store, and varsity sports can all be sub-contracted to independent vendors, so that the university's financial exposure is minimal.

Despite the appearance of efficiency, I would contend that business leaders would not endorse this model, and here is why. However capitalist-minded these individuals may be, they do understand one fundamental principle that turned their corporations into successful multinationals: do not compromise on your product, do not short-change the focus and quality of your commodity (note Veblen's critique of the leisure class in relation to higher education 1912, Ch. 14). Now, what is the academic commodity? What do we sell in universities? As noted earlier, we do not sell degrees, though they are handed over to students

at the end of their studies, nor do we only sell basic skills that can be acquired through how-to manuals at any bookstore. What we sell, day in and day out, is higher education: intellectual curiosity and critical thinking skills across a variety of disciplinary boundaries (e.g., Wolff, 1969).

Assume, for a moment, that indeed we do sell an attitude toward the life of the mind and appeal to people's intellectual aspiration. Assume, as well, that what we sell is worthwhile because it prepares people to become better citizens and more creative members of a community, whether they choose to be business-people, artists, or manufacturers. If what we sell is the love of higher learning, then let that be the focus of the university, and let its salespeople and spokespeople deal directly with this "commodity." Let them know what we sell, as opposed to wait to hear from others what it is that we ought to sell. Let them be, like all others who sell their wares, acquainted with their products, the different disciplines and their methodologies, and the quality of these products; in short, let them appreciate higher education.

When a micro-brewery sells its beers, it makes claims about the ingredients and the process of brewing, it appeals to people's tastes and imagination, and it tries to sell its brews on the basis of quality. Have you ever heard your chancellor or president passionately discuss the quality of the curriculum in your department? Do our administrators even know what we teach or what STS stands for? Most commonly, the answers are negative. Instead, they come to us and tell us how we should package ourselves to be more appealing to the needs of govern-

ment agencies and industry. Is this what Bell Laboratories have done over the years? No. They funded basic research and developed numerous products they believed in, and then proved how important and useful these ideas, products, and processes are to the public.

Marx taught us about the fetishism of commodity production, distribution, and consumption, alerting us that more often supply creates its own demand, rather than the classical (and neo-classical) economic notion that supply comes at the heels of demand to satisfy needy and eager customers. Do we need twelve kinds of soaps and thousand kinds of perfumes? Do we need several brands of clothing? Do we, as individuals and as a culture, need education? Do we need higher education? If we fail to convince the anti-intellectual culture in which we live that more rather than less education is crucial for the survival of the species and for the enrichment of the soul, we are doomed to end up competing for scarce resources as bestially as we possibly can, competing with car salespeople and fast-food chains. Against them we have little chance to survive. The belly comes before the soul, as Marx knew from studying Smith and Ricardo.

### **The Importance of Waste**

At this juncture I'd like to introduce a counter-intuitive concept into the language of economic thinking, as it applies to the university. Just as university administrators have to become passionate spokespeople for the love of wisdom, the quest for inspiration, and the life of the mind, they have to become advocates of pockets of waste so as to ensure the progress of civilization. Waste is detested

by economists and business-people as a plague one must avoid and extricate from one's midst. But there are different kinds of waste that should be delineated. On the one hand, there is silly waste, the kind that produces nothing but aggravation to all involved, the kind that gets in your way and makes everyone look bad, the kind that is best avoidable and dispensable.

On the other hand, there is useful waste, that is, waste that is defined as such only in a narrow-minded short-term perspective, but which turns out to be useful in the long-run. For example, it may seem wasteful to have two groups of researchers follow the same protocol simultaneously. Yet, as any laboratory researcher knows, what we sometimes call control groups, or what others call independent verification, is crucial in order to ascertain the efficacy of certain experiments. Do we call this waste?

Businesses in software, information, and communication technologies do not believe it is wasteful to have a group of well-paid researchers hang out and come up with bizarre ideas that may never see the light of day or the production line. They understand that if only one in a hundred of these ideas turns out to be revolutionary, it may change the way we think and operate, it may bring about a Kuhnian paradigm shift (with tremendous profits in the long-run). Some ideas lay dormant for years, some find immediate buyers in the marketplace of ideas. If we narrowed the marketplace only to ideas whose selling power is prefigured, we would never come up with new ones. If we limited our imagination to what is already traded in the marketplace, we would repeat ourselves and never venture to change the

entire marketplace.

So, my advocacy for intellectual, artistic, and academic waste is a plea for the present and the future, based on what we have seen in the past. How sad it would be if the only refuge sites were limited to monasteries, insane asylums, and defense contractors. Why not include the universities in this range of refugee camps for the privileged few? Why not support academics? They are, after all, self-motivated and quite cheap. Remember, unlike the military-industrial complex, the university has an army of exploitable intellectuals in progress called graduate assistants and post-doctorate fellows who are all too happy to sell their labor power for small wages and pieces of paper we call diplomas.

My advocacy for spending money on the university system should make sense to both government agencies and industry because of the collegial environment enjoyed at the university. The target age-group is such that family planning and retirement packages are not on its members' minds (because they are still too young to worry about them). They are more motivated and open-minded compared to their more established and older counterparts because the latter group is already established and is much better paid. As such, the pressures of industry are offset by leisure time that is relatively lavish by comparison to your average graduate student. However competitive academic life is, it is relatively friendly and collaborative compared to the corporate world, where climbing the corporate ladder is more often than not a nasty undertaking.

Buying books that are stored on expensive, temperature-controlled library shelves is an investment that makes little

sense in the traditional economic model. But if these books and articles, artifacts and laboratory equipment, turn out to illustrate all the dead-ends and the uncharted territories of the mind, what cheaper investment for the inspiration and production of different and new ideas? My parting comment, then, is that university administrators misplace their pressure on faculty and students. They may wish to pressure us all to think critically and creatively, come up with alternatives and improvements, instead of pressuring us to save money. Small scale seminars are not wasteful but useful; large lecture halls are wasteful because they tend to produce blank stares as if the experience were an alienated, one-sided television exchange. Fruitful instruction, the personal interaction of a team of scholars and researchers, cannot be duplicated on the internet, and that is why even Microsoft's researchers work in a university-like setting in Redmont, Washington, and not in their respective homes, connected via modems. Technoscientific innovations may induce short-sighted captains of credentialed professionalism to replace the quest for knowledge with its production, distribution, and consumption. But human curiosity and creativity cannot be mechanized and licensed; they must remain mysterious processes that require preservation and nurturing at a price every culture should be honored to pay.

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