

The Evolution of Twenty-First Century Public Higher Education: The Urban University as Prototype

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Abstract

The current structure of public higher education in each state is a hierarchy dominated by land-grant and research universities. These universities have set the standards of performance and respect by which other, less well funded universities in the hierarchy are measured. In this essay, the author argues that the interests of the dominant public universities do not match up well with the educational and economic needs and challenges of the twenty-first century. Selective forces are operating to eliminate this hierarchy by evolving public universities toward a synergistic balance of excellence in teaching, research, and service, a model already embodied in today's urban universities.

In 1968, armed with a Ph.D. from a distinguished private research university, I began an academic faculty career in a “flagship” public research university. Two decades later, I became a dean at a large urban public university. Examining the differences between these institutions and others like them has convinced me that the current structure of our public higher education system is unsuited to meet the issues and challenges our society is facing in the twenty-first century. In this essay, I will explore the nature of the current structure and its origins, and explain why it will not serve us well in the rapidly changing world of the new century. Afterward, I will propose a different and more effective structure, based on the model of today's urban university.

The Current Structure of Public Higher Education

Public higher education in the U.S. is a highly differentiated and complex structure. It is a hierarchy dominated by the residential, Carnegie Doctoral/Research University-Extensive (CDRUE) model. These universities, many of which are land-grant institutions, define excellence in terms of quantity of resources, selectivity in admission, and snobbish trappings of pomp and power, all of which have become ends in themselves. They keep a jealous eye on one another and compete fiercely for status and rankings in athletics, numbers of Ph.D.s produced, and federal research dollars awarded. Such universities have little sense of community outside the one that exists within their walls. They have great political influence within their states, and they receive the highest levels of state funding.

By definition, other four-year institutions in the state hierarchy are regarded as inferior lights doing necessary, but lesser work. They are less visible, usually less selective in admissions, have more modest physical plants, are commuter campuses, and receive fewer resources from the state. Among these are the urban universities that, with minimum state investment, are supposed to educate large numbers of students with

diverse academic backgrounds. The faculty and students of urban public universities are often viewed with disdain by their colleagues in the residential state universities. Only the medical schools of the urban publics tend to earn respect, due in large part to the research money they generate. Urban universities governed by a parent institution or system endure financial and policy controls systematically designed to inhibit their development.

The euphemism for this caste system—and it is a caste system—is “mission differentiation,” the assignment of different academic “missions” to universities based on the presumed intellectual quality of their students and the apportioning of resources according to those missions. Mounting evidence, however, suggests that this caste structure is maladaptive in the context of the issues and challenges facing higher education and the nation as we enter the twenty-first century.

Origins of the Caste System of American Higher Education

The higher education system of today is the product of 1,200 years of evolution. The first European university was established in the ninth century in Salerno, Italy, followed in the twelfth century by Bologna in Italy, Paris in France, and Oxford and Cambridge in England. The earliest American universities (Harvard, William and Mary, Yale) were founded in the medieval tradition of Oxford and Cambridge. The curriculum consisted of the classical seven liberal arts of the Trivium (grammar, rhetoric, and logic) and the Quadrivium (music, arithmetic, geometry, and astronomy). The universities were controlled by the clergy, who viewed the purpose of education as the imparting of mental and moral discipline to students (mostly male) so they might become worthy servants of God (Smith 1990). A large number of denominational colleges patterned after these originals were founded throughout the eighteenth century and the first half of the nineteenth century. Many failed, but those that survived constitute a major portion of the nation’s private liberal arts colleges today.

Practical subjects like science and engineering were largely missing from the curricula of early American universities, and research efforts were minimal. Gradually, the domination of the clergy waned and more secular subjects were introduced into the curriculum as increasing numbers of students attended college. During the period from 1800 to the Civil War, the increasing representation of science and technology in the curriculum resulted in a corresponding increase in tension between the classical and the practical (Smith 1990). In an attempt to ease this tension, universities established curricula in which the classical and the practical were yoked in parallel. Thus were born colleges or schools of liberal arts and science.

According to Smith (1990), two powerful forces accelerated the trend toward secularism and practicality in the curriculum of the American university following the Civil War. The first was an economic struggle between poorly paid labor and industrial and financial barons, such as Andrew Carnegie, John D. Rockefeller, Cornelius and William Vanderbilt, and Jay Gould. The life of the working man on the railroads and in the mines, steel mills, and factories of the nation was hard, with little prospect for improvement. Many of the

laborers were recent immigrants who were subjected to ethnic and economic discrimination. Two depressions, in 1876 and 1893, made the lot of the working class even more marginal.

The second force was the belief, promulgated by the German research universities, that the acquisition of knowledge was the path by which progress and prosperity could be brought to the common man. Created in the early 1800s, the German research university emphasized individual scholarship and the acquisition of knowledge for its own sake, and promoted the idea that social reform and quality of life for all could be achieved through the use of knowledge obtained by scientific reasoning. German research universities became like Mecca for aspiring young nineteenth-century American scholars and idealists who wanted to change their own universities and their society.

The first American research universities were founded by the very industrialists who resisted social reform. Their motive was the prestige gained by stamping their name on a university. The first of these private universities was Johns Hopkins, followed by (Ezra) Cornell, (Leland) Stanford, and the University of Chicago (John D. Rockefeller). Their clientele was the wealthy elite, and their presidents were practical men of science, engineering, and business. Their purpose, in the words of William Rainey Harper, first President of the University of Chicago, was “to make the work of investigation primary, the work of giving instruction secondary.” The students in these universities were exclusively graduate students apprenticed to faculty mentors. Later, however, the desire to field football teams to compete with those of the private undergraduate universities required the introduction of undergraduate curricula (Smith 1990). Not to be outdone, private undergraduate universities, such as Harvard and Yale, added programs of research and graduate study. The recruitment of star faculty and star football players was a high priority, and competition for the best in the country was fierce.

Bringing progress and prosperity to the common man through the acquisition of knowledge, however, required a further step—a more revolutionary, uniquely American idea. This was the land-grant, public university, established by the Morrill Act of 1862. The land-grant universities were funded by the principal and income from federal lands set aside by the Morrill Act or donated by private citizens, and by direct appropriations from state legislatures. Their purpose was to educate the sons and daughters of the states’ working class citizens, and to produce research and technology of benefit to the industrial and agricultural needs of the states. This broad focus on research and educational, agricultural, and industrial needs defined the land-grant universities. Their low tuition, subsidized by the state, greatly increased access to higher education. There is no question that these universities have contributed greatly to the agricultural, scientific, technological, and civic and cultural strength of the nation, to the upward mobility of its citizens, and to the building of a more equitable and opportunity-filled society. The state universities, too, fielded football teams. Over time, they would prove their superiority to the teams of the private universities, which were eventually reduced to playing the game for fun.

Following the Second World War, the land-grant universities underwent massive changes. During World War II, professors in both private and public universities were instrumental in helping the war department develop weaponry and defense systems. The most notable of these efforts was the Manhattan Project, which produced the atomic bomb. Shortly after the end of the war, Vannevar Bush wrote a treatise titled

“Science, the Endless Frontier,” in which he promulgated a long-term vision of government/university/industrial partnerships to increase the economic strength, security, and international prestige of the nation. Driven by the Cold War with the Soviet Union, this vision transformed the structure and function of public higher education. State universities underwent a dramatic expansion in enrollment due to the influx of returning servicemen on the G.I. Bill. Weary of the experiences of war, this highly motivated generation of students was the epitome of what both private and public universities could do to promote success and prosperity. The “G.I. generation” wanted its children to be highly educated as well, and rapid expansion of enrollments continued into the 1970s. To meet student demand, state normal schools expanded their curricula until they became smaller versions of the land-grant universities. Graduate education became a top priority, partly to meet the labor demands of faculty research programs, partly to meet the rising demand for faculty to teach the swelling ranks of undergraduate and graduate students, and partly to fill the needs generated by corporate expansion. American graduate schools became the envy of the world—and still are. Large numbers of foreign graduate students have studied in them to become the academic, industrial, and government leaders of their own countries. Perhaps inevitably, however, the differential allocation of state and federal funds also led to the creation of an academic caste system for both professors and students.

Prior to World War II, professors taught most of the courses taken by undergraduates in state universities. Many did research in equal measure, but their teaching mission was viewed as coming first. To paraphrase Indiana University’s Tracy Sonneborn, one of the great American cell biologists, first he gave the 40 hours he owed to the University, then he gave his 40 hours to research. But with the expansion of national and international research roles in academia, the oldest and largest of the state universities were defined as “flagships,” entitled to more state dollars than other public universities, aspiring to the same academic prestige accorded to the elite private research universities. To build prestige, the focus shifted from hiring good teachers to competing for superstar research faculty.

Simultaneously, the student population in state universities became progressively more stratified. Until the 1960s, most land-grant state universities would accept anyone who graduated in the upper three-quarters of their high school class. Once accepted, the student generally stayed until graduation. But, as the number of college-going students soared and the economic need for broad access to education beyond high school increased, the research and teaching missions of the land-grants clashed. The way out of this dilemma was to become more selective in admissions. The brightest and best prepared students would not need as much attention from professors, who were then freed to spend their time on research. Furthermore, the research prestige of the university could be used to attract the best professors and students, and to thus build up the capacity to generate more federal research dollars. Lower-ranking students were steered away to the “lesser” institutions of the state, according to the principle of “mission differentiation.” With a mandate to focus on student access, the urban universities were chronically underfunded so as to prevent development of graduate programs or research capacity.

The state research universities now set the standards by which all public universities were measured. Publications and grant awards became the basis for professorial advancement and reward. The teaching of undergraduates was increasingly relegated to graduate teaching assistants or to professors who had gained tenure, but were consid-

ered to be research failures. The old joke that God would never get tenure at the state university because he had only one publication and it wasn't in a refereed journal is a fairly accurate parody of the scene. It is thus little wonder that many observers have noted the increasing isolation of professors from each other and their students in the state research universities, as well as their turning away from civic responsibility, concern for the common good, and institutional loyalty.

Changes in Public Expectations

The public research universities at the top of the hierarchy offer much, but only to a few people. The educational and economic needs and challenges of the twenty first century demand that every public university offer much to *most* people. Changing economic environments and student demographics have rendered the caste system of public higher education ineffective in meeting these needs and challenges. There has been a progressive loss of high-paying line manufacturing jobs as the world has transitioned to a knowledge-based economy that is much more dependent on critical thinking and problem-solving skills, and on technology. This means that to compete for most jobs, a university education is no longer an option—it is a necessity. Based on projections of high school graduates, university enrollments are expected to swell to record numbers by 2010. A large fraction of these students will be under-prepared to do college-level work and will need to correct deficiencies. This will be true regardless of what position in the hierarchy a public university occupies, because the As and Bs earned by public high school students are increasingly proving to be hollow. Another way of saying this is that the student populations at all levels of the institutional hierarchy are looking more and more alike.

The flagship research universities enroll only a small fraction of the total number of students in the U.S. and offer them every available learning resource. The majority of students, who will form the bulk of the work force of the future, are enrolled at other public universities operating on shoestring budgets. It makes little sense to say that this majority should not have, or does not need, an educational experience of the same quality as students in the state research universities, or that the faculties who teach these students should not aspire to excellence. However, that is the message of mission differentiation and the higher education hierarchy: these students do not deserve quality. The message also implies that faculty and students alike should be content with substandard facilities and infrastructure and, by definition, their institutions should receive less state funding for their operations. This view has particularly insidious consequences for students who, of necessity or choice, attend non-residential (usually urban) campuses. Mission differentiation assumes them to be a homogenous population of inferior quality. But, just as on the campuses of the state research universities, they are not homogeneous, and many are extraordinarily bright and motivated. No matter how accomplished, however, they may find themselves less competitive for jobs because of the public and corporate perception of the academic status of their university. Worse yet, this situation fosters a culture of low aspirations that negatively affects the participation of many first generation students and, thus, the economy of a state.

Recent attention to performance and assessment suggests that public research universities do not necessarily have better faculty or better curricula. They are simply larger and historically more privileged. Murray Sperber (2000) believes

that undergraduate education in the state research universities is mediocre because of their overemphasis on research and their substitution of athletic and social events for quality learning experiences. Sperber would raise admissions standards (only at leading public universities, however) and improve community colleges, downsize graduate programs and shift the funds into undergraduate programs, and emphasize rewards for good teaching.

Alexander Astin (1999) has observed that, contrary to working for the benefit of students, segregating them into institutions whose missions are differentiated on the basis of prescribed activities and resources actually sends the message that we do not value their education. It ensures that the differences between the “haves and have-nots” in our society will be perpetuated and exacerbated. In addition, fostering collaboration between institutions is made difficult and the state is thus rendered unable to maximize the use of available financial and human educational and research resources. Robert Reich (2000) also has observed that the trend toward increasing selectivity at elite institutions and continuing inequities in institutional resource allocations widens existing inequalities by suppressing the potential for certain populations to acquire the requisite skills for success in the workforce. I do not, however, agree with his solution to the problem, which is to expand scholarship resources for students to attend technical and community colleges—this answer makes sense to the existing institutional caste structure because it perpetuates the system as it is today.

A New Species of Public University

What kind of public higher education structure would work more effectively? In my opinion, no progress will be made until the caste system of public higher education is eliminated, or at least highly modified. I am convinced that society in the twenty first century will be better served with a system in which there is no mission differentiation. Ideally, I would replace the current system with one in which all state universities have equivalent missions and legislative financial appropriations. Each such university would have the same missions of teaching, research, and service. Each would be responsible for educating the full range of students and offer the full range of degrees, from the baccalaureate to the Ph.D. I would integrate the currently separate community colleges into the baccalaureate universities. Every state university would have a research function in order to maximize the number of new ideas that can be explored. The mix of research might vary from campus to campus, but its common element would be the provision of a more intellectually vibrant and diverse environment within which learning can take place. Each campus would also play a role in technology transfer to industry and business, and would be a driver of economic and cultural development. By leveling the playing field, this structure would ensure that each university gains its status and respect solely by virtue of how well it performs, not by differentially allocated resources. In essence, this is exactly the kind of environment in which private universities operate. Although they choose the parameters within which they wish to operate, their success is dictated only by how well they perform their functions, not by outside agents.

What would be some of the specific characteristics of this new species of twenty first century public university? Individual characteristics will fall under three broad areas of excellence: (1) effective student learning; (2) research, scholarship, and creative activity; and (3) strength through engagement with the broader society. I cannot over-emphasize the need for these functions to be balanced, synergistic, and rewarded equally if we are to maximize service to constituents throughout the current hierarchy of public education. A university that puts equal emphasis on the quality of research, teaching, and service, as well as the synergy between these three missions, gives the best value to its constituents.

Each of these activities should be characterized by collaboration within and across disciplines and with constituent communities, a commitment to ensuring diversity, and pursuit of best practices. There should be a commitment to change as an agent of creative growth; a commitment to ethics, integrity, character, and credibility; and a commitment to continual improvement.

1. Effective Student Learning

Administrators and faculty should be committed to first-rate instruction and the use of modern technological tools to full advantage. We need to provide academic and support systems that serve the needs of a wide array of beginning students and promote their ability to persist in achieving their goals. Students should be provided the proper advising and mechanisms of evaluation of learning. They should have a first-rate general education component that includes basic skills and integrates the arts and sciences. Flexible programs of study should be available, but they should not be so flexible that they become incoherent. Curricula should be evaluated periodically to ensure that they offer students the best learning opportunities relative to aspirations for advanced study, employment, and preparation to be productive citizens and leaders. We should strive to make a university education fit Samuel Johnson's timeless definition of the goal of education: "The supreme end of education is expert discernment in all things—the power to tell the good from the bad, the genuine from the counterfeit, and to prefer the good and the genuine to the bad and the counterfeit."

Students, too, must be held accountable for their learning. The university must make it clear that students need to put a priority on going to class, studying, doing homework, and doing the research for papers. Students who have family and work obligations should take fewer courses at a time in order to maintain that priority.

2. Research, Scholarship and Creative Activity

Faculty should conduct cutting-edge basic and applied research. Research activity is of value at the university, community, state, and national levels in several ways. Research activity ensures that faculty are current in their disciplines, which in turn provides for a more rigorous, higher quality academic curriculum and a more vital intellectual environment for undergraduates. This includes the opportunity for undergraduates to participate in faculty research programs, which has been shown to be a powerful learning and retention tool. Academic programs taught by a research-active faculty are recognized as superior in quality by potential employers, as well as by graduate and professional schools. Graduates of such programs, at all levels, are more competitive for employment.

Research activity is essential to supply the advanced graduate training sought by many employers, as well as by persons fresh out of undergraduate school. It is a powerful stimulus for local and state economic development. In fact, it is estimated that the federal research funding attracted by research-active faculty is leveraged 3:1 through a combination of creating new jobs, sales of goods and services, and increased tax revenues.

The presence of research in a university provides tremendous cultural enhancement for a region. Not only are a number of the university's scholarly activities direct cultural resources, but these activities also enrich other cultural institutions in the region: museums, historic sites, and the literary and artistic communities.

Finally, a hallmark of the new twenty first century university should be its ability to put together traditional disciplines, or evolve them to create new multidisciplinary initiatives that will address complex societal problems, forge research in new areas, and create new commercial opportunities.

3. Societal Engagement

Societal engagement may be defined as a collaborative activity that builds on the resources, skills, expertise, and knowledge of a university and other elements of society to improve the quality of life for that society as a whole. Education, technology transfer, health care, cultural events, and the bringing to bear of faculty expertise on societal problems such as alcohol and drug addiction, poverty, and racial discrimination are just a few examples of the topics that deserve the attention of academics, working not just with theory, but in hands-on, action-oriented collaboration with public and non-profit organizations in the community. In today's global economy and culture, societal engagement means that the university of the twenty first century should be connected not only to its local community and state, but also to the world at large. This is again one of the major problems of the current hierarchy. Mission differentiation denies national and global connections to all but research universities. Conversely, it de-emphasizes local community connections to research universities.

This new structure would have a number of benefits for public higher education. First, it would harness the full educational power and expertise of the state universities in training a multi-leveled work force to meet the state's economic needs. Second, it would send the message to all students—whether they are engaged in technical training or pursuing a course of doctoral study—that their education is seen as valuable by the state as a whole. Third, it would make course credit transfer between institutions easier, which in some states is a problem because the flagships resist accepting credits from “inferior” institutions, even ones within their own systems. Fourth, more expertise would be brought to bear on the problem of student retention and graduation rates, because this problem would now belong to everyone, and everyone would have a stake in it. It would eliminate the corrosive effects stemming from the abuse by higher education commissions, state legislatures, and university trustees of institutions lower in the caste order. Fifth, the full economic and cultural power of the deep pool of faculty research talent and expertise could be applied over a much broader area of the state. Furthermore, the diversity of research ideas generated by faculty would be increased, generating more technology transfer and providing a greater cultural resource. Sixth, with such a structure, states would have multiple connection points for national and world commerce, rather than one or two. Seventh, this structure would

make it much easier to join with the K-12 system in setting standards of student preparation for university work and teacher training, and in forming collaborations to address educational issues. Entering university students can only be as good as the K-12 system that produces them. In short, this structure would again do what the original land-grant universities were designed to do, but with a more global range of responsibilities. Greater collaboration between institutions would be possible for all academic and research endeavors, thus maximizing the investments made in the higher education system.

How realistic is this scenario? Not very, if one thinks of it in terms of sweeping away the current structure and replacing it with something new. The effort needed to overcome the inertia of the status quo in higher education would be tremendous. There would be fierce resistance from the faculty and administrators of research universities accustomed to relative privilege, from alumni and students whose identities are wrapped up in their school's rankings, and from the politicians who perpetuate the current system. Dramatic change becomes much more possible if thought of in evolutionary terms. We are at an evolutionary crossroads in higher education. The factors I have mentioned—changing demographics; a global information-based economy; the shift to technology-oriented manufacturing; the rising number of students and the need to provide all of them with the opportunity to have a high quality education; the need for cities as cultural centers and centers of economic development to have strong, multipurpose public universities; the tendency of state research universities to be wrapped up in themselves and disengaged from the real world—all are powerful selective forces converging to change our higher education system. Each institution, in order to survive, must serve the whole spectrum of constituencies well. To serve the needs of the nation in the twenty first century, I believe each type of university in the current hierarchy must evolve toward the kind of university I have described.

Lest there be some misunderstanding, I do not claim that what I am advocating will make every student equal in ability or achievement; but by providing academic programs, within the same institution, that benefit the whole range of student aspirations and abilities, each student will at least have the opportunity to pursue those aspirations to the fullest extent of their ability, within a context that does not devalue them.

The Urban University as Prototype

When can we expect this model of the twenty first century university to emerge? In fact, the prototype already exists, though it has gone largely unrecognized. It is today's urban university, which Donald Langenberg, Chancellor of the University of Maryland, has called "the next great invention in higher education." This may come as a surprise, since most urban universities are under-funded, many do not have football teams, and their function is viewed as one of rendering only local service to working students who cannot go anywhere else and who need little intellectual stimulation. Nevertheless, it is they who best fit the balance of activities that best address the needs and challenges society will face in the twenty first century. Urban universities engage in the same national and global activities as a land-grant research university, but several features distinguish them from the land-grant research university. First, their student populations represent a true cross section of society, and they are deeply committed to learning in the context of this diversity. Second, they do basic and applied research equally well. Third, this research is often of more direct and immediate relevance to broad societal issues such as addiction, health care, and poverty. Fourth, urban universities have a

deep sense of both internal and external community. For these reasons, a number of urban universities across the country are emerging as leaders in integrating teaching, research, and service into a balanced whole that serves their local, state, and global constituents with the maximum impact.

I conclude by recalling a book called *An Education for our Time* (1998), by Josiah Bunting III, Superintendent of the Virginia Military Institute. Bunting, too, argues for the establishment of a new kind of university, one focused on the development of student character and morality rather than only vocational and technical skills. Students in Bunting's university would be isolated on the high plains of Wyoming in order to develop these attributes, in the absence of distractions. My belief is that we might better combine these features in the model represented by today's urban university where learning is shaped by the dynamic context of our urbanized and highly diverse world. This will be the evolutionary prototype by which higher education in the twenty first century will be transformed to truly provide the citizens of our nation with "an education for our time."

Suggested Readings

Astin A., "Rethinking Academic Excellence," *Liberal Education* (Spring 1999): 10-18.
Bunting, J., *An Education for Our Time* (Washington, D.C.: Regency Publishing, 1998).
Reich, R.B., "How Selective Colleges Heighten Inequality," *The Chronicle of Higher Education*, 15 (September 2000): B7-B10.
Smith, P., *Killing the Spirit* (New York: Penguin Books, 1999).
Sperber, M., *Beer and Circuses* (New York: Henry Holt and Company, 2000).
Sperber, M., "End the Mediocrity of Our Public Universities," *The Chronicle of Higher Education* (October 20, 2000): B24.

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