



Fresco of a German university classroom dated 14th century.

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Medieval doctors gather round a patient's sickbed, circa 1400.

Photo by Hulton Archive/Getty Images

Parallel Universes

Will higher education follow medicine?

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Two of the great civilizing gifts bequeathed by the Middle Ages, medicine and the university, no longer reflect their original ideals. Much time and change have gone by; civilizations adopt and adapt. The monumental effects of the Industrial Revolution now are far surpassed by the development of digital computing, its myriad applications, and the Information Revolution.

The advances in technology, and the ease and rapidity of information transfer have brought sweeping changes in our society. Modernization and advancement are possible without losing sight of the history and ideals of an institution, but it is not easy. The institutions of medicine and the university are caught up in change. The first of these, unfortunately, failed in the transition, and the second is in danger of following the same course.

Medicine, originally the application of art and science

for the benefit of the patient, and a visible manifestation of the beginnings of a social conscience, now measures throughput of patients per unit of time. The physician, as we have known that person through history, no longer exists. Technological change and business models govern medical care.

Now, patients are much better served because of the technological revolution, and will be far better served in the future. Medical information is available immediately, permitting standardization and improvement of care. Diagnostics are rapidly becoming portable, cheaper, faster, and personal. It soon will not be necessary for a physician to interpret data; electrocardiograph machines have been doing that for more than 40 years. Better diagnostic medicine is now available to a larger audience.¹

The result is the devolution of medicine into an efficient service industry that provides health care at an acceptable level for everyone, and includes a larger potential patient population than ever before. Most patients would agree that this is an improvement. However, the unanticipated result has been that the intensity of the physician-patient

interaction, one of the closest of human bonds, has largely disappeared.

Physicians who have watched the decline of the stature of a profession that aspired to high ideals would most likely agree with patients on the improvements, but with the reservation that the intangible cost was quite high.¹

The consequences of the application of technology to medicine have been beneficial, and will become more so. However, the consequences of the application of for-profit business models to health care have been disastrous in this country.

If the university, part of the bedrock of Western Civilization, does not benefit from the lessons made eminently clear by medicine, and follows the same path, it would be catastrophic.

The university

Historically, the university, like medicine, enabled an intellectual and social upper class, and laid the knowledge foundation for the advancement of society. Its faculties were granted social status, and the university was set apart from the town to recognize its importance and allow it to focus on the pursuit and promulgation of knowledge. It had a goal to understand the universe in theological and philosophical contexts, and, as the Middle Ages and the Enlightenment progressed, in the context of the natural sciences. The university never was a service provider in the sense that medicine was, but it now appears to be on its way.

Higher education is at risk of losing its historic aspirations and diminishing the value of an intellectual life. It appears to be confounding information transfer with education. Technology makes this easy, and provides appealing ways of presenting information, all of which are good. What could be lost is the contact with the scholar who provides context and perspective.

University years are a time when one learns to think and evaluate. It is an intangible—like the influence of the physician in medicine—but an even more important intangible since education is the milieu that teaches students how to remain intellectually aware for a lifetime. If the ideals of the university are lost, or significantly diminished, along with them will go concepts of abstract truth; ethics; norms of human behavior; the importance of history; the scientific method; and the teaching of things that address the mind and spirit.^{2,3,4}

There is evidence that this is occurring, yet there is little outcry within the academy except in those institutions that have taken formal stands against this decline—primarily private, smaller, liberal arts institutions. This may presage

a two-tiered system maintained by those who can afford it: higher education in the original sense of the term with prolonged faculty-student interaction versus information transfer without the perspective needed to truly assimilate it.

This is conceptually not dissimilar from concierge medicine with its close physician-patient interaction for those willing to pay for it versus corporate health care for the larger audience. Both make use of relevant technology but the former uses it as an adjunct to medicine while the latter simply uses it. In both instances a woman with hypertension would receive medication. But only in the physician-patient interaction would a careful inquiry discern that the real cause of her high blood pressure is her child who has a serious disease. The appropriate management of the mother's hypertension would be directed to managing her response to the child's illness. One method of treatment is qualitatively much better even though both receive the same medication, just as students receive the same degrees.

One of the conditions that helped to bring down the classical edifice of medicine was hubris within the medical profession.¹ As a group, little attention was paid to the effects of cost increases, and the fact that many people could not afford therapy was ignored. Physicians practiced their art with little attention to the gathering storm of public indignation.

A similar situation exists today in the indifference of university faculty to the cost of education; retreat into the tenure system when professors are called to account for their behavior; indifference to the poor results of their teaching; some class offerings that are trivial at best; the development of second careers as outside consultants while secure in salaried and tenured positions within the university; the curtailment of free inquiry and discussion by unruly student groups; and acquiescence by pliant administrators and pandering faculty.⁵

The appearance of for-profit universities; increasing use of community colleges; the equating of a college education to job training with cost/benefit comparisons; demands to eliminate tenure; an awareness that higher costs have not bought a better education; and the denigration of the teaching profession is the response by the community. Is this not a replay of the ruin of medicine?

The cost of a university education

As with medicine, the cost of a university education looms large in the public mind. The increase in tuition and fees over the past decades—at a time when the buying power of the middle and lower classes has been decreasing—has cast a serious pall over the value of higher



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education. It has caused former United States President Barack Obama to wonder aloud if it might not be better for people to get two-year degrees and then a job rather than pay the costs of a four-year college education. This equates education with jobs, and ignores the real value of higher education.

The burden of student loans plays a large role in generating this concern. The public now considers only the immediate cost, and has dismissed the intangible value of higher education.

This is reminiscent of the 1980s and the alteration in health care payment schemes to make health care more affordable. The value of medicine—it could save your life—judged against its aggregate costs caused the public to ignore the potential short- and long-term value, and focus only on the immediate costs. This was for good reason; they were out of control. Families were bankrupted by health care costs, and that immediacy overshadowed potential benefits. The result was the takeover of health-care by corporate businesses to bring costs under control.¹

When considering the cost of higher education, the argument quickly comes down to tuition and fees, a portly administration, and tenure. It also includes the increasing amenities offered to entice students to a particular university.⁶⁻⁸ All of which are open-ended.

Government aid that once came as grants has transitioned to student loans. The government decided that providing grants for education was not good fiscal policy. According to Best Value Schools and Bloomberg Business, the cost of higher education has surged more than 538 percent since 1985. In comparison, medical costs have gone up 286 percent, and the consumer price index has increased 121 percent.^{6,7}

Higher education is about 4.5 times as expensive as it was 30 years ago. In current dollars, the average cost for all institutions in 1981–1982 was \$3,489; in 2011–2012 it was \$19,339. Four year institutions over the same time went from \$3,951 to \$23,066; two-year institutions increased from \$2,476 to \$9,308, and the yearly increases in college

tuition and fees often doubled, tripled, or quadrupled the price increases for other goods.

These cost increases will, over time, exacerbate income inequality by depriving those of lesser means of the education they need. An undereducated population is a dangerous and unpredictable thing.

Universities often respond to questions about disproportionate cost increases by pointing out that few people pay the full amount of tuition and fees because they receive financial aid. This argument is disingenuous. Someone pays the full amount of tuition and fees: it may be the student; alumni donations; government grants to the institution; or some other combination of sources. Financial aid actually is cost shifting, not cost reduction. There appears to be no association between aid packaging (federal and state grants and loans) and changes in tuition in either public or private not-for-profit sectors.

If a service or product is subsidized, people or programs within those organizations will siphon off some of the subsidies. Examples include the military-industrial complex where much of the Pentagon's increased budget goes to contractors. In medicine, health care provider organizations designed to capture Medicare and Medicaid funds have persuaded the federal government to eliminate negotiations over prices for Medicare Part D medications.

Universities are high fixed cost businesses with a lower marginal cost, much like the airlines and the hospitality industries. The fixed costs are the buildings, faculty, administration, overhead, and ever-improving facilities for students. The marginal cost to add students over and above those needed to validate the existence of the school is relatively small. Since the marginal cost of full tuition for extra students is low, and outside sources of funding exist for students, there is little incentive to contain tuition and fees.

The demand for higher education is sustained by both its perceived and real values. This is a situation guaranteed to drive increases in tuition and fees, expand middle management, and cause private business (for-profit universities) to enter, and capture their own piece of a subsidized industry.



Depiction of modern day medical center.

A surprising, and pertinent, manifestation of this is the appearance of for-profit medical education. As reviewed by Adashi, et al.,⁹ these are not pre-Flexnerian private ventures, but tuition-dependent business models. The admission requirements are strict, and the curricula similar to those of university-affiliated medical schools. With lower cost structures, they may be able to decrease student loan debt, and perhaps adapt more quickly to the changing health care system. They also may ameliorate the projected physician shortage.

A continuing reaccrediting process will be needed to maintain public confidence and guard against loss of quality in the face of demands for more tuition-paying students to sustain profits. There will be a maturation process, but these institutions will probably have an increasing presence in medical education.

As the realization spreads that many jobs of the future will not require a college education but rather training, and the costs continue to rise, the edifice could fail for lack of students. Higher education must cut costs to survive. Consider medicine: nurse practitioners and physician assistants are replacing physicians, and in Colorado there recently was a legislative initiative to allow pharmacists to prescribe for “simple” diseases. This is not necessarily bad medicine; it can be a more efficient use of facilities, but it requires good supervision.

Tuition and fee increases within university systems must return to inflation-driven increases if a university education is not priced out of reach of much of the population. The risk is a two-tiered educational system, and a resultant two-tiered intellectual population.

Tenure in the university system

Tenure was designed to protect academicians from arbitrary dismissal. It had its inception in the tradition of free intellectual exploration in Plato’s Academy, and



Depiction of modern day university campus.

then in Cicero’s Academy in Rome. This tradition was adopted in the Middle Ages in Oxford, Cambridge, Paris, and Bologna with the recognition that free thinking and expression, save in theology and philosophy, was important in maintaining a comprehensive intellectual life. This, in the age of absolute monarchs and rigid social castes, was a powerful message.

Tenure became formalized in the late 19th century and early 20th century in the U.S., largely due to pressure from the American Association of University Professors. It is considered to be a powerful enticement to retain faculty. Historically, it has worked relatively well, but now its potential benefits are being overshadowed by too many reports of faculty who lose the motivation to remain current after receiving tenure; remain in their positions for many years after obtaining tenure; and the lack of a mandatory retirement age. The result is the loss of younger, ambitious faculty, and the need to hire non-tenured, adjunct faculty.

A university faculty composed of short-term contract workers, and tenured faculty who occupy secure positions, demands change. The public perception of tenure has become one of outrageous job security that no one else in the world enjoys.^{10,11}

The entry of outside forces to correct this disparity was inevitable. The tenure system is now in question for both public and private institutions. Lawmakers in Missouri, North Dakota, and Iowa have introduced legislation to eliminate, curtail, or periodically reassess tenure. This is effectively a conversion to a long-term contract model. In 2015, the Wisconsin legislature voted to weaken a state tenure law, and the University of Wisconsin instituted five-year reviews of tenured faculty. Faculty hired at the State College of Florida after July 2016 no longer qualify for tenure.¹²

The business of education

In medicine, technology and the requirement to treat sick people regardless of ability to pay, drove the cost of

medical care to a point where experts were brought in to contain costs. Corporate business failed abjectly at this, but did put together business models that rewarded those who own and manage the business.

Two professions that never were designed to be businesses now either are (medicine), or will be (education).

Social unrest and protest, coupled with attempts to go outside the system to reform or circumvent it, are early warning signs. When universities undercut themselves by pandering to critics, and attempt to deflect criticism by using the jargon of business, it will be the end of the game.

Students are now spoken of as customers; business language is used to describe the mission of the university; business people are brought in to streamline operations (perfectly appropriate as long as they confine themselves to operations and not academics); coursework is made relevant by slowly eliminating liberal arts from the curriculum; science becomes the purview of fewer people; and societal ignorance of the scientific method and critical thinking diminishes to the point where anything promulgated by the media is accepted as true.^{12,13}

A Draconian picture was presented by David Gelernter who described the slow loss of the intangible values of higher education, exposure to the humanities, and the consequent loss of perspective and judgment that otherwise would have been communicated to students.¹⁴ He believes that 90 percent of U.S. colleges will be gone within the next generation. Teaching, especially in technical and scientific subjects increasingly will be done online. Other ways of demonstrating certification in subjects will appear, and will be the modern equivalents of the apprentice system. In essence, education will decline as information transfer ascends.

Avoiding Gelernter's prognostication requires two things: recognition that a terrible change is in progress; and a willingness to take serious action to reverse it. Generally, vested interests insulate and delude themselves about reality, and in so doing make it impossible to undertake the actions necessary to correct the situation. Successful reversal of this process must come from within. Change imposed from outside is often disruptive and creates more problems. Medicine is a relevant example.

Whether education will maintain its historical intellectual milieu that encouraged exchange and debate of ideas, and welcomed the exploration of novel or even unpopular concepts, is open to question. In medicine, changes largely affected physicians, and medical care continues to be provided. Corresponding changes in higher education will bring about a loss of intellectual role models; the

abnegation of free inquiry; the development of a culture that does not know how to think; and the conversion of education into a business. Society and subsequent generations will be much the worse for it.

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