SUZANNE GUERLAC

Humanities 2.0: E-Learning in the Digital World

E-Learning and the Public University: Access and Affordability 2.0

New technologies, emerging at breakneck speed, have been fueling "the most fertile new market for investors in many years," the global business of e-learning.[1] The overheated worldwide market for e-learning meets the corporate demand for more "knowledge" in the service of more innovation, which is itself in the service of higher profits. The global economy is changing at an increasingly dizzy pace, largely because of the accelerating speed of technological innovation. Under these conditions, as analysts such as John Seely Brown maintain, competition becomes more and more fierce and the future presents itself as less and less predictable.[2] Planning has become impossible in the ever-changing, fierce global marketplace that has become our world, one in which the past appears to be of little service in understanding the present and even less in guiding the future.[3]

Knowledge, in this context, is redefined. It no longer refers us to the task of solving the mysteries of the physical world, of constructing an orderly sense of the past, or of shaping a shared cultural heritage. It is now placed in the service of, and often identified with, innovation. Knowledge implies the effective management of information and the conversion of it into capital.[4] Learning is redefined in accordance with software platforms that link corporate training for employees and the delivery of "content" (a legal term for intellectual property). E-learning gathers both together in a new business of education that is now tracked by financial specialists as a new profit sector.

E-learning is itself a recent marketable innovation enabled by the rapid development of a whole range of technological innovations, vaguely identified as "web2"; these include social networking, multimedia, visualization, and sharing capabilities and, more recently, the promise of "the cloud."[5]

ABSTRACT This essay analyzes the social and economic forces behind the push for online education (especially in public universities), the discourses that support it, and the sometimes surprising discursive alliances that form among critics of the university. It also considers the opportunities as well as the risks of digital humanities and calls for increasing digital literacy on the part of humanists. Representations 116. Fall 2011 ISSN 0734–6018, electronic ISSN 1533–855X, pages 102–27. DOI:10.1525/rep.2011.116.1.102.

The commerce of e-learning has been characterized as one of "insatiable demand" on a global scale, especially in areas of particularly precious knowledge (judged in relation to the value of innovation) such as statistics, corporate training, engineering, business, and computer science.[6] E-learning is global. A company called Laureate Education, for example, currently "offers undergraduate and graduate degree programs to more than 600,000 students around the world" through "an international, academic community that spans 28 countries throughout North America, Latin America, Europe, and Asia."[7] The global competition in e-learning generates new software capabilities, which in turn stimulate domestic demand for online alternatives to traditional education at all levels.

According to a recent Sloan Consortium report, online enrollments in the United States are growing 17 percent annually, as compared to an overall system enrollment increase of 1.2 percent.[8] Several American universities (among them Purdue) have set specific targets for achieving 10 percent of student undergraduate credit hours online in the near future.[9] Elementary and high school students are fast becoming distance learners. The state of Florida sponsors virtual K–12 public schools, in which learning is conducted exclusively online. More than one million public school students are enrolled in online classes, some remedial and some for Advanced Placement credit. A company called K[12] International Academy, which advertises a "global community of connected learners," provides materials and support for a complete education online; it provides materials for programs from early childhood to the graduate level.[10] Knowledge Universe, a "global educational organization" dedicated to "transforming the work of education," works through 3,700 locations, with 40,000 "educational professionals" and provides online international schools, colleges, and school management systems, as well as educational software.[11] Clayton Christensen, the author of *Disrupting Class* (2008), predicts that by 2020 "half of all K–12 teaching will be computer based."[12] Largely because of defunding and the concomitant reduction of faculty, community colleges increasingly guide their students to for-profit companies that provide online courses. If there is a "new breed" of student today, it is not only because these students have grown up with web2 capabilities or because they are adepts of mobile electronic devices, which have become increasingly essential parts of themselves, but also because many of them have already received a significant part of their education online.[13] Distance learning is a driving force in the ongoing restructuring of the university mission and institutional shape, one that takes for-profit online learning institutions as models of efficiency because their per-student costs are low. Digital technology is not only changing education into a business; it is changing the way we do everything, including business.[14]

The pressures on American public universities are visible, specific, and open to general policy discussion by a range of government and business interests. It is not surprising that public institutions of higher education "were the first to enter the market" for online learning and are "the most likely to view online as critical to their long-term strategy."[15] In one voice, as it were, they have anointed distance learning, proclaiming it to be as good—or even better—than what the traditional classroom offers.[16]

If public universities are turning to e-learning en masse, it is because online instruction appears to provide a simple and ideologically flexible solution to the internal contradiction that haunts public education today—the requirement to do more with less. We are told that access to higher education means access to the American Dream. A postsecondary degree is believed to translate into quantifiable material advantage: the promise of increased earning power for the prospective student and of an eventual increase in both tax revenue and competitive advantage for the state. On this basis public institutions justify their very existence by producing as many degrees as possible. At the same time policymakers and politicians pressure these institutions to accomplish this at the lowest possible cost. Efficiency is closely monitored. The vice chancellor of Texas A&M University has devised a metric of faculty productivity that reveals gaps between the costs of faculty salaries and the income each faculty member brings into the university, income calculated on the basis of enrollments (or course credits toward degree).[17] The metric ignores both research and what is anachronistically called "service" (which Randy Martin in his essay in this volume correctly calls "free work"), which together comprises two-thirds of the faculty member's job description.

E-learning is the apparent remedy to the problem of raising attainment rates (or the number of degrees produced) without an increase in resources.[18] If the faculty productivity metric exposes inefficiencies, "course redesign" offers a solution, namely, the reconfiguration of existing courses for online consumption. The governor of Missouri, for example, has committed to a major course redesign initiative for all public four-year institutions in his state. The University of Maryland is expanding its course redesign program to the statewide level, undertaking to "redesign [teaching] infrastructure" over three years. California State University, Chico, has joined the Redesign Alliance.[19] The National Center for Academic Transformation sponsors and supports these efforts to transmute teaching from a labor-intensive service—professors are expensive—to a profitable capital investment, reducing instructional costs through a shift to iterable digital delivery of course materials that become the intellectual property of the university.[20]

At the University of California (UC), where I teach, for example, enrollment pressures have been intense. Faced with a dramatic reduction in state funding over many years, UC has nevertheless committed itself to ever-larger

enrollments (it does so in the name of the California Master Plan for Higher Education, while at the same time appearing to ignore the real promise of public education as mandated by the plan: tuition-free education for all residents of California.)[21] Why? Because enrollments mean income. Now that tuition has been raised significantly and now that these tuition funds have been decoupled from instructional budgets and can be used freely, enrollments have become a significant source of revenue.[22] Ever-increasing enrollments become the "engine for growth" of the university enterprise, on the corporate model. The online education program extends this logic; it would open "access" out globally. What does it mean to democratize education globally? It means to sell education, through e-learning, to insatiable global markets. The possibility for growth appears unlimited.[23]

Various interests converge here to find their advantage in the language of the public education mission: access and affordability. But affordability has switched sides; it now benefits the producer through lowered costs, and access now means market demand. Innumerable companies, consortia, and nonprofits carry the torch of reform, by which they mean the transformation of overpriced education into a profitable business through the business of e-learning. No more "hedonistic warehouses," as one reformer put it, speaking of university education.[24] You learn what you want, when and where you want, according to your own "learning style." E-learning will become more and more customized, in accordance with the emerging practices of what is now known as web3.[25] A lot of money stands to be made in the capital investment this implies: the costs and infrastructures of course redesign and the platforms of its practice. As a kind of bonus, an annoying class of authoritative outsiders to the commercial world—university intellectuals—is seriously weakened, even silenced. They are finally caught, like everybody else, in the net of fierce global competition.

This is not someone else's problem. Although community colleges and corporate training were the first to embrace online learning, its logic—the commercialization of higher education teaching—has seeped into the research university context. According to the *Chronicle of Higher Education*, at a recent meeting of the Association of Governing Boards of Universities and Colleges, Mark Yudof, president of the University of California, suggested that to rescue UC, "colleges will need to aggressively alter the way they deliver courses, relying more heavily on online instruction."[26] There we finally have it: a frank statement of President Yudof's views on the subject of e-learning. One had to read energetically between the lines to discern this policy commitment in the recent report of the Commission on the Future of the University of California, released in October 2010.[27] Although the report itself called only for "timely exploration of online learning," almost all the commission recommendations prepare the way for the kind of administrative and infrastructural changes required to

engage fully with online learning, that is, for the kind of transformation of the institution supported by the National Center for Academic Transformation.[28]

The online initiative currently underway at UC seeks not merely cost savings in the instruction of UC students but also revenue from participation in global e-learning markets. It is justified in the name of "access" and undertaken in the hope of generating riches by selling course credits, and eventually degree credentials, to anyone interested in purchasing the UC brand.[29] Once the pilot study now underway demonstrates the excellence of online courses and puts to rest any hesitations concerning credit approval for them, the plan is to offer first an associate (AA) degree and, soon after, a full undergraduate degree that UC would provide entirely online.[30] This would have serious implications for the standardization of curriculum and teaching practices across the various campuses of UC. Indeed, in the name of access and affordability the goal is to make money the way for-profit institutions do, by selling for profit the brand of the most successful public university in the world.

With e-learning, then, the discourse of public education—access, affordability, and so on—flips over to become a discourse of revenue production and cost effectiveness in the business of education. The logic of scarcity—budget cuts, program cuts, and "shared sacrifice"—is suspended when new funds are needed to support the capital investment of this plan to make money.[31]

The commercialization of higher education through e-learning got underway in the mid-1990s.[32] It was unleashed on the one hand by web2 capabilities, which encouraged the production of specifically digital courseware, courses designed by teams of experts that included technologists and computer designers and took advantage of multimedia presentations, social interaction, and simulation modeling. On the other hand, the commercial opportunities of the e-learning business were boosted by the Digital Millennium Copyright Act of 1998, which protects content, rejecting the fair use provision that applied to print materials.[33] The decision has monumental consequences: it enabled the commoditization of digital "content," and with this the e-learning business was off and running. As David Noble has argued, this implies the commercialization not only of university research, something we have grown used to, but also of the "core instructional function."[34] The shift to new technological capabilities and forms (or new teaching infrastructures) has a direct impact both on instruction *per se* and on the institutional structure of the university. It is not merely a question of new modes of "delivery." Most often what went on in the traditional humanities classroom was not "content" at all (a term that designates intellectual capital and implies iterability), but dialogue that often took unexpected turns. And contrary to public belief, many faculty members in the humanities teach

new courses on a regular basis. Electronic courseware is "content" precisely because the copyright act of 1998 gives it that status, namely, the protected status of intellectual property that can be replicated and sold.

Digital courseware implies a new mode of production for teaching materials. The courseware is created by a team of specialists made up of instructional design professionals, technologists, editors, and artists who work with a professor designated as the "content expert" of the course. He or she functions more as a consultant to this team than as a teacher/scholar/researcher, and once the course is produced he or she becomes entirely dispensable. As Diane Harley points out, with digital courseware instruction shifts from being an operational expense, according to which faculty are paid for the time they devote to all aspects of teaching (enhanced by research) to being a capital expense, an investment in the production of courseware that become the intellectual property of the university.[35] This is the big shift we associate with e-learning, as distinct from simply the communications technology of webcasting or web pages associated with the early years of online learning and which characterize many, though not all, open courseware resources.[36]

The implications of e-learning for teaching faculty are enormous. First, faculty lose intellectual control over courses and curricula. Because the university makes the capital investment for courseware, it is usually the administration, not the faculty department, that selects courses for "redesign" or digital production. Teaching now consists of electronic content delivery and course management. The faculty "content expert" (or consultant) is not needed for either of these. Course management, which includes ongoing contact with students as well as evaluation of them, is now considered an administrative matter. "We need to create additional definitions for professionals working within higher education on the teaching/learning process" explained one enthusiast of online instruction who envisages a class of professionals that would fulfill the course management functions at about half the cost of the salary of the faculty "expert," and would do so, most probably, without employment security, health benefits, or pensions. E-learning implies a logic of outsourcing. Even these new professionals might soon find themselves displaced, however, as in more and more "right answer" fields such as statistics, artificial intelligence agents can now be used to "interact" with students online and evaluate their work.

The already fragile tenure system (currently less than 35 percent of postsecondary teachers nationwide hold tenure-track positions) will not likely survive this new commercial economy of teaching, and the new personnel system employs more and more "course administrators" for digital courseware, who would not be tenure track.[37] Teaching will be completely cut off from research. Fewer and fewer "content experts" would be needed, especially as courseware piles up, ready to be reused and remixed in the

spirit of web2 creativity. And of course open courseware, generously made available for free on the electronic commons, can be reused in commercial e-learning enterprises.

Blurring Boundaries

In 1994, the sociologist Martin Trow noted "the tendency of ICTs [information communication technologies] to blur and weaken institutional and intellectual boundaries of all kinds."[38] One of the most significant of those boundaries was the one between public and private. The combination of higher tuition, increased enrollments, and the e-learning solution brings the public university closer and closer to the business model of for-profit institutions of higher education, most of which depend exclusively on e-learning. For-profit institutions are increasingly held up to public universities as models of efficiency, since, without the overhead expenses of a physical campus and with minimal teaching costs, for-profits are able to cut per-student costs by an average of 39 percent and sometimes by as much as half.[39]

In the public university context, the production of e-courseware requires a collaboration between the public institution and private software, technology, and course-management companies.[40] The courseware modules, in other words, are themselves hybrid products that depend upon transactions across public and private institutions. At UC Berkeley (as at many other institutions) the extension and summer school divisions of the university, which for a long time operated mostly on the margins of the university as small profit-making endeavors, are now moving to the center of the institution. Summer Sessions at UC now boasts that 90 percent of its online courses receive UC credit. With authority to offer credentials, UC Extension offers a new business model for the university as a whole in relation to a new conception of the student as a lifelong learner, one who acquires vocational credentials as needed from multiple institutions and "learns" according to his or her own rhythm and desires. If public universities acquiesce to the pressure to model their programs and curricula more and more on the needs of employers in relation to market forces, an imperative recently reiterated at a national governors' meeting, then we might see the university teaching mission divide into two parts: public university programs for skills training in view of employment, on the one hand, and lifelong learners' consumption of for-profit humanities courses on the other.[41] Not only would this relegate the humanities to the realm of entertainment, or leisure activity, but there would remain no place within the credentialed learning environment of skills training for critical reflection or challenge to the market forces themselves.

Another striking example of the breakdown of the private/public opposition in the current e-learning environment can be found on the webpage of K[12], a company that provides materials for distance learning at the preuniversity level. The visitor to this page has the option of clicking "public" or "private" admissions. Since many states now subsidize virtual schools through tax dollars and outsource to companies like K[12], one can engage with the services of K[12] as a "public" institution, or one can click on the "private" link and sign up for an accredited degree program at the International Academy (familiarly referred to as the icademy) at a cost of approximately $6,000 per year. Public or private—it makes no difference here; each becomes simply a modality of the for-profit enterprise.[42]

Finally, all of the Commission on the Future of UC recommendations that serve the goals of reduced time to degree and of enhancing the transfer path (another strategy to reduce time to degree, but one that bathes in the glow of "access") depend upon summer sessions and extension, both of which are already fully committed to distance learning as a for-profit undertaking.[43] As the report informs us, the number of students taking fully online courses through UC Extension is already twice the current size of one of the UC campuses (UC Merced). We could say, then, that we already have a kind of cybercampus at UC. The recommendations that concern facilitation of the transfer path also commit UC to e-learning. Extension could presumably sell courses for community college credits that would come back to us through the transfer path. Not only would we be giving a UC degree for an education of which we would provide only half (that is, the upper-division part), achieving significantly lower costs for these degrees, but students would also be paying us (through extension) for credits earned on the lower-division level. This would present a win-win situation to the increasingly for-profit public university.

Digital Enhancements, Digital Humanities

Private universities, in general, have a different relation to online learning than do public universities. After the failure of Columbia's Fathom project, very few private universities have been interested in launching for-profit ventures.[44] Private universities tend to support open resource platforms. The open courseware project at Massachusetts Institute of Technology (MIT), begun in 2001 (initially funded by the William and Flora Hewlett Foundation and the Andrew Mellon Fund, as well as MIT) is held up as a model today by the Gates Foundation.[45] If private universities invest in distance learning, it is usually intended for use by their own students. Furthermore, private universities tend to use digital technologies in a blended approach, as enhancements of what they feel they already do very well in

the classroom. This approach obviates the structural shifts in personnel that that I mentioned earlier as an effect of e-learning and takes full advantage of open resources.

Obviously, e-learning is best suited to "right answer" disciplines such as basic mathematics, foreign languages, business at the introductory level, engineering, and computer science, as well as skills training, which is being pressed upon public universities as a primary mission. Blended approaches, however, can incorporate experiments (usually privately funded) with the potential of digital media to enrich research and teaching in the humanities. Countering those who, Cassandra-like, announce the demise of the humanities (Stanley Fish being the most vocal), younger voices embrace digital tools they believe capable of regenerating the humanities, which they feel have been weakened by decades of conflict over issues relating to the canon, multiculturalism, interdisciplinarity, and a critique of humanism.[46]

In some cases technology has been used to enhance traditional teaching practices and share resources. With the help of the Mellon Foundation, for example, the Association of Colleges of the South formed Sunoikisis, a consortium of classics departments that organized interinstitutionally team-taught courses online that included face-to-face sessions for participants on each campus. In this case technology was used to provide safety in numbers from threats of cuts to small humanities departments. It became a form of institutional protection.

Private foundations and the National Endowment for the Humanities have funded major projects that either translate various kinds of archives from analog to digital formats or archive additional materials. Teachers can now show their students detailed images of medieval manuscripts, for example, previously accessible only to a small number of scholars. Consortia of humanities centers have participated in these efforts. Huge benefits have been obtained in fields such as art history (Google's Art Project has recently completed the digital recording of vast collections of modern art) and archeology, to name but two examples. In literary studies, genetic approaches were enhanced by projects that posted manuscripts and unpublished drafts of texts with word search capabilities and links across manuscripts. From the 1990s through 2004–5 (when funds began to dry up) significant investments were made in what was known as "humanities computing," which gathered and organized vast amounts of data pertinent to the humanities and to activities in various fields.[47]

In addition, projects have emerged that transform existing teaching and research, thanks to specifically digital capabilities. Emory University's "Samothrace: Framing the Mysteries in the Sanctuary of the Great Gods" is one example. It involves transdisciplinary collaborations between art historians

and archeologists on the one hand, and statisticians and computer scientists on the other, as well as geospatial references, to answer questions about architecture, landscape, and religious ritual in the ancient past. This project, which involved building a 3-D digitally reconstructed model of the sanctuary and visual tours of the site, produced knowledge of a kind not possible before the advent of digital technologies. This knowledge is now accessible to anyone on the web, extending the reach of the humanities to a broader public.[48]

Another example of what is now called "Humanities 2.0" (by analogy with, and thanks to the capabilities of, web2) is the HyperCities project, "a collaborative research and educational platform for traveling back in time to explore the historical layers of city spaces in an interactive, hypermedia environment," funded by the Mellon Foundation and directed by Todd Presner, chair of the Center for Humanities Computing at UC Los Angeles (UCLA).[49] Here, as in various projects that concern what is now called "virtual archeology," digital tools transform both the forms and the content of research, changing what it means to know, and so transforming teaching. With virtual archeology, data is no longer used to record facts; it becomes the material of imaginative simulations, which, based on existing data, construct visualizations in virtual spaces of what things might have been like in the ancient past. Here we pass from quantitative analysis as in the number-crunching of large data sets (Digital Humanities 1.0) to a kind of creative performance of new knowledge, a modeling of possibilities that offer unprecedented opportunities for teaching and research.

One final example of research transformed by new media is software studies—a new field that extends and transforms the study of forms and signification that has always been the special purview of the humanities. At UC San Diego (UCSD), for example, a new Software Studies Initiative was recently launched. It is directed by Lev Manovich, who also directs a project in cultural analytics. Cultural analytics involves interactive analyses and visualization of vast quantities of data concerning cultural preferences and activities on a global scale. It uses the newest data-mining software and transforms humanities research, not only because it directs its attention at the incoming present instead of the past, but also because it intervenes in real time in the cultural activity it studies. By virtue of sharing the data it collects and analyzes in real time, it intervenes in the field it analyzes, affecting the data whose patterns it traces and immediately communicates worldwide. This is an example of a traditional topic of the humanities—the study of culture—transposed by digital technology into a study of emergent culture that intervenes in reality as it unfolds.

These examples (and there are many, many more) reveal how digital tools can transform research in fascinating ways, creating kinds of knowledge

that were previously inconceivable, and then making them available for teaching in universities and to the general public online. They also reveal how quantitative manipulations can become qualitative changes when digital technology handles large data sets with the newest technologies of visualization. Technology slides from being a mere recording or communication device to become a medium that affects the message and the very performance of culture in real time. Manovich speaks in this context of the "big humanities," to indicate the transposition of scientific research paradigms—experiments that depend upon huge sets of data and require collaboration—to the humanities.[50]

Digital Humanities 2.0: Transforming the University, from "Education" to "Learning"

The authors of *The Future of Learning Institutions in a Digital Age*, a report on digital media and learning sponsored by the John D. and Catherine T. MacArthur Foundation, bring out nicely the contributions that digital technologies associated with web2 can make to research and teaching in the humanities. The authors Cathy Davidson and David Theo Goldberg also support digital experiences that social networking on the web enables—Facebook, YouTube, and Flickr for example—and champion web2-inspired pedagogical reforms such as peer-to-peer learning and collaboration (Wikipedia) as well as new modalities of collective writing, editing, and publication, made possible by platforms such Commentpress. They link both of these, however, to a critique of the institution of the university, which they portray as rigid, conservative, top-down, and exclusionary—in short, everything that web2 is not—and ask how the collaborative learning practices, interdisciplinarity, multi-institutional learning spaces, and so on associated with new and social media can "help transform traditional learning institutions and, specifically, universities."[51] This distrust of the university as a conservative institution parallels the corporate distrust of the university as elitist and inefficient. Avoiding the question of credentials for higher education altogether, they float the notion that internet sites such as Wikipedia might in themselves be considered "learning institutions," and, in so doing, they essentially sign on to the open education challenge to the university.[52] But their approval is not wholehearted, for they go on to acknowledge that, if degrees are to be produced, "the virtual must recognize the way it nests within traditional universities."[53] Moreover, the opportunities they evoke for the digital humanities all seem to require outside funding that depends upon academic institutional affiliation. Their own work, for example, and the Humanities, Arts, Science, and Technology Advanced Collaboratory (HASTAC), are funded

by private foundations and supported by the institutions at which Davidson and Goldberg teach (Duke University and UC Irvine, respectively). Moreover, the private funding they enjoy for the collaborative writing of these reports (from the MacArthur Foundation) as well as for HASTAC, would be inconceivable without these sturdy academic affiliations. Perhaps they take the institution of the university a bit for granted, when in fact it is becoming fragile under attack from several corners, not only from the corporate world but also from the digital humanities movement and the MacArthur Foundation, as well as from the open education movement.[54]

If the challenge to public universities comes primarily from the e-learning sector and its commercialization of teaching and credentialing, the challenge to private universities comes from the open education movement (sometimes, of course, the two perspectives overlap, as in the Center for Academic Transformation).[55] What the issues of access and affordability are for public institutions, the problems of student debt (which Bob Meister documents in his essay in this volume) and exclusivity are for private ones. Tuition and fees for higher education apparently rose more than 248 percent in real dollars between 1990 and 2008.[56] Student debt figures have risen to trillions of dollars. And not everyone continues to believe in the dream that higher education means increased income. Some point to statistics that suggest that there are now (already) more college graduates than jobs appropriate to their level of skills.[57]

Carol Twigg of the National Center for Academic Transformation estimates that three-quarters of the costs of colleges and universities are personnel costs.[58] What is the point of this expense, which gets passed along to students who incur massive debt, if most of what one learns, as John Seely Brown maintains, will become outdated within five years? What is the point, when web2 has taught us that the best way to learn is not from specialists or professionals but in peer-to-peer collaborations? The new model for learning is Wikipedia, where collaboration occurs on a massive scale, and knowledge, always subject to revision, is made universally available to be remixed or adapted as anyone sees fit. What is the point of paying tuition to a college or university, finally, if everything you might want to know is available for free on the web? Some critics demand that universities take advantage of free and open resources in order to cut costs. Others, however, believe that the existence of these resources on the web is in itself the answer to higher education. The new model is the Wikiversity.[59] As one blogger put it, "If universities can't find the will to innovate and adapt to changes in the world around them . . . universities will be irrelevant by 2020."[60]

It is in this context that advocates of e-learning (even in the for-profit mode) and of the digital humanities and open education come together to challenge the institution of the university. The situation creates strange

bedfellows; we hear the same web2 discourse from University of Phoenix, UC Berkeley Summer Sessions, humanities professors from elite institutions (the founders of HASTAC and the authors of the "Digital Humanities Manifesto") as well as the MacArthur Foundation. E-learning enthusiasts support vocational training and the credentials they sell, whereas the open resource loyalists simply feel that you can teach yourself anything you want to know on the web. One critic from the open education movement, Anya Kamanetz, does, to her credit, address the issue of the social value of credentials and recommends without hesitation for-profit online universities for skills training. Go ahead and get the credentials you need without going so deeply into debt, she seems to be saying, and as for learning and social networking, well, you do that on your own, through the web, on your own time. In short, those who would move e-learning from the margins to the center of the public university (in the case of UC, Christopher Edley, dean of the UC Berkeley Law School and special advisor to UC President Mark Yudof, and Yudof himself), and those who would reform the university from the perspective of digital media (or digital humanities), speak more or less the same language, even though the latter have not yet come to the defense of the former. Nor have they explicitly distanced themselves from the UC online initiative.

The first "Digital Humanities Manifesto" announced provocatively, in avant-garde cadence: "We reject the phrase ["digital humanities"] to whatever degree it implies a digital turn that might somehow leave the Humanities intact."[61] The project is to transform and regenerate the humanities through an engagement with digital media. The authors of the "Report on Digital Learning," Cathy Davidson and David Theo Goldberg (of HASTAC and associated with the MacArthur Foundation), share the broad contours of the digital humanities perspective with their emphasis on a shift from knowledge to learning.

In a subsequent analysis, the "Digital Humanities 2.0: A Report on Knowledge" (2010), Todd Presner explicitly addresses the implications of a shift from print culture to digital technologies and seems to recognize the precariousness of the institution of the university in this context. In this more sober reconsideration (he was one of the authors of the initial "Digital Humanities Manifesto"), he acknowledges, if only in passing, the need to distinguish digital humanities from the "corporate university" and what David Noble has called the "digital diploma mills." With these concerns in mind he emphasizes that "the humanities are more necessary and relevant today than perhaps at any other time in history" and explicitly points to a certain number of traditional humanities concerns, such as "creation, interpretation, critique, comparative analysis, historical and cultural contextualization" that he declares to be "absolutely essential as our cultural forms migrate to digital forms."[62] The tone here is more sober and the perspective

more critical. Presner seems to have awakened from the web2 dream and become more alert to possible complicities with the commercialization of teaching and learning. He clarifies that the "social" dimension of digital humanities is not the social network model of Facebook—which has been imported into the corporate world—but rather the kind of team approach across fields of specialization that are necessary to large-scale projects like Rome Reborn, a virtual visualization of ancient Rome based at the University of Virginia.[63] Instead of disavowing the university, he begins to elaborate the "nesting" idea invoked by Davidson and Goldberg in terms of "virtual departments." These might be considered versions of the virtual learning institutions evoked by Davidson and Goldberg, but their dependence on the institution of the university is clearly acknowledged and the tone of this report no longer appears to challenge the institution of the university. The "virtual department" suggests a way to introduce administrative flexibility in relation to large grant-funded projects that are collaborative, transdisciplinary and perhaps transinstitutional, and project based. Presner describes them as "overlays" onto conventional departments and institutions that would enable cross-institutional collaborations such as the Rome Reborn project.

At the end of his thoughtful analysis of the humanities in the digital world, however, Presner cannot resist one more gesture of provocation and of solidarity with the open education movement. "Let me end by throwing down the gauntlet," he writes, "and arguing that Wikipedia is not only a model for the humanities but also for the university today. . . . Wikipedia," he adds, "is probably the most pervasive, non-corporate, digital technology platform for knowledge generation" that exists today.[64] The task of the humanities becomes one of creating and critically examining new modes of knowledge production; we must ask "not only . . . *how* knowledge gets created, we also have to rethink *what* knowledge looks (or sounds, feels, or tastes) like, *who* gets to create knowledge, *when* it is 'done' or transformed, *how* it gets legitimated and authorized, and *how* it is made accessible to a significantly broader (and potentially global) audience."[65] There is a glaring imbalance here between the weight and urgency of the problems that confront us—some of which are enumerated in the passage just cited, while others include global warming, the increasing commoditization of water, widening economic inequality associated with the information economy, as well as loss of privacy in the internet age, to name just a few—and the Wikipedia solution.

The open education movement might be considered the web2, anti-institutional version of that earlier commitment to the "open"—one that also depended on distance learning—the Open University (OU). It might help us appreciate the limitations of the open education movement to look more closely at what the "open" of the Open University has become;

at the very least it might serve as a cautionary tale concerning the notion of the "open" in our age when the "modern" world is being undone, or radically altered, through a blurring of boundaries, most notably those between the public and the private, but perhaps also between the open and the closed.

The Open University in the United Kingdom was for many years "the international gold standard in distance learning."[66] The humanities were well represented in its offerings and intellectual standards were high. A course called "Understanding Social Change," for example, had 13,000 students in its first year.[67] Known to some as the "proletarian university," it was launched in the late sixties by the Labour government. Its mission was to provide education to those excluded from institutions of higher learning. It was able to recruit extraordinary faculty talent partly because people believed in its mission and partly because they had confidence that high intellectual standards would be maintained. With a relatively simple technological apparatus—mostly web recording and websites—it was an astounding success. It served the humanities well for decades.

But things have changed. Today the vice chancellor of the Open University is Martin Bead, who, before taking this position, made his career working for Microsoft in product development and marketing and for other learning management companies. The OU now functions as a global enterprise and enters into partnerships with private companies as well as universities around the world. It also works hand in glove with the Joint Information System Committee (JISC), an advisory committee to the Higher Education Funding Council for England (HEFCE), made up of business and policy interests concerned to advance the cause of technological innovation within the educational system of Britain in order to better position Britain with respect to global competition.[68] Martin Bead was the keynote speaker at the JISC Conference in 2010 on the theme of technology. The OU is involved in numerous JISC research and development projects. It appears that the social mission of the OU has been swallowed up by the global market for e-learning and by ongoing attempts to standardize its platforms and e-infrastructure. The fact that the JISC can align itself with the open resources movement even as it defines knowledge in terms of global capital, and represents the interests of software producers among others, is another sign of the blurring of boundaries in the digital age. Software companies of course do not need to sell courseware in order to make money if they can sell the e-infrastructure that enables the extension of e-learning throughout the globe.

If the Open University can no longer serve as a model for an alternative culture of the open, to the extent that it has become embedded in the dynamics of the global e-learning market, the new alternative space—indeed

the new public space of the twenty-first century—is that of open education, which is to say the space of the web itself.

Today the alternative discourse of the open—or of democratization—converges with a discourse of the "free." The challenge to the university is made in the name of open education, which is considered such on the basis of resources one can obtain online for free as a digital learner/editor/contributor in a peer-to-peer relation to other learners. The Wikiversity, an offshoot of Wikipedia, now presents itself as an alternative to the traditional institution of the university. This challenge is made in the name of "wikinomics," as if "free" meant the absence of commercialization.

In the digital age of dematerialization, commerce does not always follow the old form of commoditization. Wikinomics—or "freeconomics"—is the business model of the digital age. "The digital economy," write the authors of "Best Practices for Optimizing Web Advertising Effectiveness," "is . . . run on a river of copies. Unlike the mass-produced reproductions of the machine age, these copies are not just cheap, they are free." And they add: "This superdistribution system has become the foundation of our economy and wealth. . . . Our wealth sits on a very large device that copies promiscuously and constantly."[69] Market versus free is the final boundary to be blurred by ICTs. "Once a marketing gimmick, free has emerged as a full-fledged economy" writes Chris Anderson of *Wired* magazine, who explains that "the rise of 'freeconomics' is being driven by the underlying technologies that power the Web. . . . The Web is all about scale, finding ways to attract the most users for centralized resources, spreading those costs over larger and larger audiences as the technology gets more and more capable." In short: "The Web has become the land of the free," but this mode of free is not so simple and is certainly not independent of commercial forces: "Just because products are free doesn't mean that someone, somewhere, isn't making huge gobs of money."[70] Google, held up as the model of the open learning institution by the digital humanities community, makes its money through advertising.[71] A typical online site, Anderson explains, follows the 1 percent rule: the 1 percent that purchases an upgraded version of a product or service supports all the rest who obtain the free version.[72] Social networks like Facebook build audiences with distinct interests that advertisers pay good money to target. "What's free," he concludes, is "any product that entices you to buy something else." The dematerialized economy, he explains, is an "attention economy": "Think of all the ways that an audience that is paying attention to your service can be paid for by companies and people who want some of that attention."[73] What is commercialized today is attention. Listen to the head of marketing for Microsoft on YouTube speaking about "new surfaces of experience" that marketing can now penetrate in order to provide "new experiences" to the consumer.[74] This is marketing in the twenty-first century. It

will only become more subtle as web3 capabilities become more widespread, that is, as intelligent searches are accessed on increasingly customized mobile devices. The digital corporate elite—what Laurence Lessig calls "the invisible hand of cyberspace"—succeeds in delegitimizing any consensus of dissent or resistance in the name of creativity, remixing, and reusing.[75] It recuperates the discourse of dissent faster than you can edit a wiki. By scattering our attention and appropriating our information it gains more and more control. By encouraging us to socialize through Facebook, it garners capital from what we give away free. Because we can use the services of Google for free we exempt it from the corporate stigma that was attached to the great industrial robber barons. However, as Tim Wu points out, information technologies also "give rise to industries and industries to empires."[76] But free is now part of the game. The university, with all its imperfections, enabled some degree of shelter from the market. No more.

As Jaron Lanier, a pioneer in the creation of the web, remarks, enthusiasts of web 2.0 (which includes both the e-learning sector and the open education movement) embrace thoroughly decontextualized knowledge—"Wikipedia" he writes, "seeks to erase point of view entirely," even as advertising (and advertising alone) is becoming increasingly contextualized, that is to say, customized and targeted.[77] The personalized web—my friends, my preferences, and so on—constructs me as a social identity even as it sells "me" to marketers who will target me with the very soft touch of a friend. Meanwhile, even as the world customizes itself for me, I will have no critical leg to stand on as knowledge will be established on the shifting sand of preferences in a world of digital content. "Information," Lanier writes, "is alienated experience."[78]

The romance with web 2.0, which neutralizes traditional notions of education in the name of digital learning, has uncritically adopted the ideology and rhetoric of a web horizon that no longer exists. In his book *Code Version 2.0* Lawrence Lessig tells the story of the "change from a cyberspace of anarchy" when the web was first developed "to a cyberspace of control."[79] Another early enthusiast of the web from within the business community now agrees that "the paradise of shared knowledge and a more egalitarian working environment just isn't happening."[80]

In short, the open web is a thing of the past. According to Lessig, "The invisible hand of cyberspace is building an architecture that is quite the opposite of its architecture at its birth." What concerns Lessig is less that cyberspace is becoming a "shopping mall and a porn shop," in the words of David Kirp, but that there is increasingly interested control over the writing of code that invisibly embeds both values and behaviors.[81] "Architecture is a kind of law," he writes, "it determines what people can and cannot do. When commercial interests determine the architecture, they create a kind of privatized law."[82] Lanier feels that "the internet has gone sour."[83] He writes: "It is

impossible to work with information technology without engaging in social engineering."[84] And so when we read that JISC in Britain supports the ideology of the open, we must remember that it is also engaged in standardizing platforms and securing access management and identity management—the very tools of control that concern Lessig. Indeed, JISC, which prides itself on the centralized control over e-learning technological innovation in England, represents just the kind of alliance between government and commerce that Lessig points to when he writes that "left to itself . . . cyberspace will become a perfect tool of control."[85] We recognize the shadow of what Simon Head has called "the ruthless economy."[86] As the public is pressured to abandon institutions (like the university) that offered some degree of shelter from market forces, it becomes caught in the gears of those mechanisms of increased control that underpin the surface effects of open resources, community and sociability, the epiphenomena of web 2.0.

In "Better than Free" Kevin Kelly, of *Wired* magazine, calls attention to a small number of "uncopyable" or "generative values," values that are only gaining in worth precisely because, in a world of promiscuous copies, they cannot be copied.[87] We recognize in the list he gives—which includes trust, immediacy, interpretation, authenticity, and embodiment—precisely the values that distinguish face-to-face teaching in the classroom from online learning. It is the much-maligned professor who is responsible for keeping these values alive in his or her classroom where the students also generate them. Trust is what happens between people in an embodied experience of the classroom, where teaching and learning can be effectively enhanced by digital resources that are free online. Online learning can be of immense benefit to people who live in isolated communities or who, for whatever reasons, cannot participate in the life of the classroom. It is just that—it should be free—not part of a for-profit scheme undertaken in the name of false values, copied from the discourse of public education, and remixed into a commercial venture.

It is not a question of taking a position for or against technology *per se*. We live in a world where, as the philosopher of information Luciano Floridi writes, "in the very near future, the very distinction between online and offline will disappear. . . . The infosphere is progressively absorbing any other space."[88] But this does not mean that we cannot think critically about how best to take advantage of the opportunities it presents and resist various ideological forces that attach to it or risks that it entails. How are we going to live it? How is it going to format our behaviors? What kinds of new forms of resistance might it afford or require? How can one visually model temporality or data inflected with affect? Humanities scholars such as Johanna Drucker are working on these questions, both theoretically and technically.[89] This is, to my mind, hugely important research. It is not a matter, as Drucker reminds us, of accepting or rejecting

digital tools.[90] It is a question of participating, as humanists, in the design and analysis of these tools. Fields such as platform analysis and software analysis are also essential if we are to grasp the ways in which ideologies of knowledge are at work in the digital world. As Bernard Stiegler suggests, technology is a kind of *pharmakon*, by which he means (via Plato and Derrida) that it is both a remedy and a poison.[91] To know the difference, however, it is essential that we become computer literate and that universities support what Drucker calls "humanistic approaches" to manipulations of information, its visualization and its modeling. Some version of the institutional structure of what has been the university needs to be invented that can operate successfully in today's global economy and that will support programs (as MIT and UCLA, among other universities, already do) concerned with both the transformation of the humanities through digital tools and the transformation of digital tools from the perspective of the humanities. It will be important not only to put courseware online as open courseware but also to put critical discussion of digital tools into the (smart) classroom.

Notes

I would like to thank Colleen Lye, James Vernon, and James Meyer for helpful comments on drafts of this essay and Diane Harley for generously sharing information with me.

1. Andy Dipaolo, "Online Education: The Rise of a New Educational Industry," in *University Teaching as E-business? Research and Policy Agendas*, Selected Conference Proceedings, *UC Berkeley, Oct. 26–27, 2001*, ed. Diane Harley et al. (Berkeley, 2002); Diane Harley and Shannon Lawrence, "The Regulation of E-Learning: New National and International Policy Perspectives: A Report," September 2006, ERIC: Education Resources Information Center, http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=ED502876&ERICExtSearch_SearchType_0=no&accno=ED502876. See also Ben Wildavsky, *The Great Brain Race: How Global Universities Are Reshaping Our World* (Princeton, 2010).
2. John Seely Brown, "JSB at Stanford: 'Collaborative Innovation and a Pull Economy,'" (video), *Edge Updates*, http://edgeperspectives.com/blog/2010/04/jsb-at-stanford-collaborative-innovation-and-a-pull-economy.html. See also Douglas Thomas and John Seely Brown, *A New Culture of Learning: Cultivating the Imagination for a World of Constant Change* (Lexington, KY, 2011).
3. Brown, "Collaborative Innovation." See also Simon Head, *The New Ruthless Economy: Work and Power in the Digital Age* (Oxford, 2003).
4. In its glossary to "JISC Strategy 2010–2012," 38, JISC implicitly defines knowledge in these terms when it defines the "Knowledge Economy" as "an economy where information and knowledge are the primary wealth-creating assets, and

technology and knowledge are the key factors of production," available online at JISC, http://www.jisc.ac.uk/aboutus/strategy/strategy1012.aspx.

5. JISC defines cloud computing as "the provision of dynamically scalable and often virtualised resources (e.g., networks, servers, storage, applications, and services) as a service over the internet. Cloud computing services often provide common business applications online that are accessed from a web browser, while the software and data are stored on the servers," ibid., 36.
6. Harley and Lawrence cite Bruce Chaloux in their "Regulation of E-Learning," 15. They add: "One concern is that demand is so strong that e-learning programs are being rapidly developed to such a degree that there is little time or ability to regulate them," 17.
7. Laureate Education Inc. (previously Sylvan Learning Systems) is a for-profit educational services company that operates Laureate International Universities. In early 2011 their website listed twenty countries served. By late spring 2011 it listed twenty-eight, http://www.laureate.net.
8. Cited in the Provostial White Paper "E-Learning: Executive Summary" of York University, http://vpacademic.yorku.ca/whitepaper/ES-elearning.php; see also the Sloan Foundation Report by I. Elaine Allen and Jeff Seaman, "Online Nation: Five Years of Growth in Online Learning," sloanconsortium.org/publications/survey/pdf/online_nation.pdf.
9. Provostial White Paper: "E-Learning: Executive Summary."
10. K^{12} International Academy, http://www.k12.com/int.
11. Knowledge Universe, http://www.kueducation.com/.
12. Bradley Shoebottom, "CCK08: Book Review of 'Disrupting Class' by Clayton Christensen," *Bradley Shoebottom's Weblog*, http://bradleyshoebottom.wordpress.com/2008/11/11/cck08-book-review-of-disrupting-class-by-clayton-chritensen/. The book in question is *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns* by Clayton Christensen, Curtis W. Johnson, and Michael B. Horn (New York, 2008). The book was named "Best Human-Capital Book of 2008" by *Strategy + Business* magazine.
13. Carole A. Barone, "Technology and the Changing Teaching and Learning Landscape: Meeting the Needs of Today's Internet-Defined Students," from AAHEBulletin.com, May 2003, American Association for Higher Education and Accreditation, http://www.aahea.org/bulletins/articles/educause.htm.
14. Brown, "Collaborative Innovation."
15. Allen and Seaman, "Online Nation."
16. Ibid. Studies that claim superior results for online students have been called into question. The UC Berkeley Extension website used to carry the claim that "online courses do produce equivalent learning outcomes" to those achieved in "on-ground courses," in "Online Learning at UC Berkeley Extension—Audio Script," posted June 2010; this post has been removed from the web, perhaps because the online learning pilot study, now being launched by (UC Berkeley Law School Dean and Special Advisor to the UC President) Christopher Edley, undertakes to examine precisely this question.
17. See Stephanie Simon and Stephanie Banchero, "Putting a Price on Professors: A Battle in Texas over Whether Academic Value Can Be Measured in Dollars and Cents," *UNC Faculty Assembly—Chair Reflections*, http://uncfacultyassembly.blogspot.com/2010/10/faculty-productivity.html.

18. Productivity in education is defined by the National Governors Association as "awarding more higher education certificates and degrees within the same resources, while maintaining quality," in Ryan Reyna's "Compete to Complete: Common College Completion Metrics," linked from "News Release: Governors Emphasize the Importance of Education for Economic Competitiveness," February 28, 2011, National Governors Association, http://www.nga.org/portal/site/nga/menuitem.6c9a8a9ebc6ae07eee28aca9501010a0/?vgnextoid=606e750978b5e210VgnVCM1000005e00100aRCRD&vgnextchannel=759b8f2005361010VgnVCM1000001a01010aRCRD.
19. The Redesign Alliance is "a member organization of institutions, organizations and companies committed to and experienced with large-scale course redesign"; see *The Learning MarketSpace*, January 2007, National Center for Academic Transformation, http://www.thencat.org/Newsletters/Jan07.htm.
20. National Center of Academic Transformation, http://www.thencat.org/. Their electronic newsletter, aptly named Learning MarketSpace, "highlight[s] ongoing examples of redesigned learning environments using technology and examin[es] issues related to their development and implementation."
21. For a summary of the master plan see http://ucfuture.universityofcalifornia.edu/documents/ca_masterplan_summary.pdf.
22. A 2009 UC Regents' decision increased tuition by 32 percent (see Alan Duke, "University of California Students Protest 32 Percent Tuition Increase," CNN, November 20, 2009, http://edition.cnn.com/2009/US/11/19/california.tuition.protests/index.html) and another 8 percent was mandated for 2011–12 (see Donna Hemmilla, "UC Regents Increase Fees, Financial Aid," UC Newsroom, November 17, 2010, University of California, http://www.universityofcalifornia.edu/news/article/24527). Additionally, a substantial increase in out-of-state students (who pay tuition costs close to those of elite private universities) brings in considerable revenue.
23. Michael Milken's efforts to democratize education (since his release from prison for junk bond trading) bear fruit in his company Knowledge Universe. In 2007 it was announced that he had plans to sell a "1 billion stake in Knowledge Universe, Miles Weiss, "Milken Plans to Sell $1 Billion Stake in . . . Knowledge Universe," Bloomberg, March 20, 2007, http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aegRVUyZrUiQ&refer=home. As Josh Keller and Marc Parry wrote in the *Chronicle of Higher Education*: "Mr. Edley believes demand for degrees would be 'basically unlimited.' In a wide-ranging speech at Berkeley last month, Mr. Edley, who is also a top adviser to Mr. Yudof, described how thousands of new students would bring new money to the system. . . . In the long term, he said, online degrees could accomplish something bigger: the democratization of access to elite education"; "U. of California Considers Online Classes, or Even Degrees," *LAUC-B Blog*, May 17, 2010, University of California Berkeley Library, http://blogs.lib.berkeley.edu/laucb.php/2010/05/17/u-of-california-considers-online-classes-or-even-degrees. This is the logic of capitalist democratization.
24. Richard Vedder, "The Higher Education Bubble," *Forbes*, April 5, 2011, *blogs.forbes.com/ccap/2011/04/05/the-higher-education-bubble/*.
25. Concerning web3 see "Web 3.0 Concepts Explained in Plain English," Digital Inspiration, http://www.labnol.org/internet/web-3-concepts-explained/8908/.

26. Jack Stripling, "Governing Boards Turn to Technology to Reinvent the University," *Chronicle of Higher Education*, April 5, 2011, http://chronicle.com/article/Governing-Boards-Turn-to/127023/.
27. University of California Commission on the Future, *Final Report*, November 2010, http://ucfuture.universityofcalifornia.edu/presentations/cotf_final_report.pdf.
28. Indeed some of them specifically echo the "winning strategies" proposed by the global management consulting firm McKinsey & Company, which advises reducing nonproductive credits and redesigning the delivery of instruction as a means toward the goal of 60 percent higher degree productivity. See "Winning by Degrees: The Strategies of Highly Productive Higher-Education Institutions," McKinsey & Company, http://www.mckinsey.com/clientservice/Social_Sector/our_practices/Education/Knowledge_Highlights/Winning%20by%20degrees.aspx.
29. Until it met with significant resistance, an effort was made to associate the program with the UC Berkeley brand. "A new online bachelor's degree soon may be offered by the University of California Berkeley. The university's Board of Regents has informally endorsed a plan to bring the school its first online undergraduate degree program"; "New Online Bachelors Degree Program Considered for University of California," © 2010, *GetEducated.com, LLC*, http://www.geteducated.com/online-education-facts-and-statistics/latest-online-learning-news-and-research/365-first-online-bachelors-degree-program-considered-for-university-of-california.
30. "The University of California will conduct a pilot project involving the coordinated development, delivery, and formal evaluation of online, credit-bearing, UC-quality courses for undergraduate students," "Project Participants," UC Online Instruction Pilot Project, University of California, http://groups.ischool.berkeley.edu/onlineeducation/project-participants.
31. When the Online Instruction Pilot Project was proposed, Christopher Edley affirmed that it would be completely funded by private sources. The project was unable to raise these funds. President Yudof has agreed to come up with seven million dollars to fund the pilot study, funds that the new business plan of the Pilot Project envisages paying back from income generated by non-UC students participating in the pilot.
32. Symptomatic of this commercialization is this carefully worded distinction between "online learning" and "e-learning": "'E-learning,' rather than 'online learning' has been used as it appears to be considered to be the more all-encompassing term across the countries we reviewed. Across the countries included in this study, the term 'online learning' tends to be used and understood in more narrow terms—perhaps describing only the process of learning delivered by the internet, rather than the employment of a wide range of technologies and practices to aid learning and teaching which is made possible through ICT in the broadest sense," "JISC Strategy 2010–2012."
33. The Digital Millenium Copyright Act of 1998, http://www.copyright.gov/legislation/dmca.pdf. Noble writes that this act established a bias toward the commodification of knowledge in *Digital Diploma Mills*.
34. Ibid.
35. Harley and Lawrence, "The Regulation of E-Learning."

36. For an account of these various projects see Taylor Walsh, *Unlocking the Gates: How and Why Leading Universities Are Opening Up Access to Their Courses* (Princeton, 2011).
37. See Robin Wilson, "Tenure, RIP: What the Vanishing Status Means for the Future of Education," *Chronicle of Higher Education*, July 4, 2010.
38. Martin Trow, "Some Consequences of the New Information and Communication Technologies for Higher Education," Center for Studies in Higher Education Occasional Paper Series CSHE.5.00 (April 2000), 3, also writes that they "undermine the distinction between nonprofit and for-profit institutions."
39. A study done by the National Center for Academic Transformation (NCAT) indicated that institutions could reduce costs by 37 percent on average, through their course redesign to online courses; "Who We Are," National Center for Academic Transformation, http://www.thencat.org/whoweare.html. Another study they discuss, "Changing the Equation" (which concerned community college math courses), cut costs per student by 28 percent on average (their percentage was lower because they used more full-time faculty). See "Cost Reduction Strategies," National Center for Academic Transformation, http://www.thencat.org/Mathematics/CTE/CTECost_Reduction_Strategies.htm.
40. David Noble gives an account of the business relation between UCLA's extension division (which already operates for profit) and Unext, a private corporation, and of the questionable manipulations of intellectual property issues that were finessed in that context. See also Nicholas Confessore, "The Virtual University," *New Republic,* October 4, 1999, http://tigger.uic.edu/~rramakri/Readings/Education/The%20Virtual%20University.htm. Confesorre writes that OLN (Online Learning Network) "is a for-profit spin-off of UCLA Extension," which itself "enrolls about 70,000 students per year, earning revenues of roughly $42 million." He lists many other such arrangements.
41. "A Compact for Postsecondary Education," National Governors Association, http://www.nga.org/Files/pdf/0707INNOVATIONPOSTSEC.PDF.
42. K^{12} International Academy, http://www.k12.com/int.
43. In addition to the commission recommendations, the report includes recommendations issued directly from the UC Office of the President (UCOP), University of California Commission on the Future, Final Report, November 2010, http://ucfuture.universityofcalifornia.edu/presentations/cotf_final_report.pdf.
44. See Walsh, *Unlocking the Gates.*
45. Concerning the Gates Foundation's Next Generation Learning Challenges, see http://nextgenlearning.org/the-grants/wave-1-challenges. See also this account of Gate's education funding: "Gates Goes Open," April 7, 2011, "News," *Inside Higher Ed*, http://insidehighered.us2.list-manage.com/track/click?u=ed1d2ff123b6b83dd97022f88&id=9ac733b492&e=f7aaadf1b4.
46. Stanley Fish, "The Last Professor," *Opinionator, New York Times*, Jan 18, 2009, http://opinionator.blogs.nytimes.com/2009/01/18/the-last-professor/ on Frank Donoghue's *The Last Professors: The Corporate University and the Fate of the Humanities* (New York, 2008).
47. See Alan Liu's humanities database, Voice of the Shuttle, http://vos.ucsb.edu/, and his *The Laws of Cool: Knowledge Work and the Culture of Information* (Chicago, 2004).
48. Samothrace: Framing the Mysteries in the Sanctuary of the Great Gods, Emory University, http://www.samothrace.emory.edu/.

49. HyperCities, http://hypercities.com/. HyperCities Geo-Scribe, an extension of HyperCities (a mark-up tool that brings together books and maps in a collaborative authoring environment for exploring the spatial dimensions of literature), has recently been awarded a Google Digital Humanities Research Award.
50. This leads some to ask whether "Humanities 2.0" might become an entirely separate field. See Patrik Svensson, "The Landscape of Digital Humanities," *Digital Humanities Quarterly* 4, no. 1 (Summer 2010), http://digitalhumanities.org/dhq/vol/4/1/000080/000080.html.
51. Cathy N. Davidson and David Theo Goldberg, *The Future of Learning Institutions in the Digital Age* (Cambridge, MA, 2009), 11. This report is available in a free digital edition on the MIT Press website at http://mitpress.mit.edu/9780262513593.
52. Here we detect the influence of John Seely Brown, who began his career at Xerox and Xerox Parc and once served on the board of the MacArthur Foundation. He is co-author, with Paul Duguid, of *The Social Life of Information* (Cambridge, MA, 2000), in which the authors argue that the notion of an information economy has been superseded by a conception of the knowledge economy. Brown and Duguid emphasize the social aspect of this conception of knowledge and its potential for innovation of collaborative practices. They promote a notion of learning that depends on web2 practices and values such as peer-to-peer participatory learning, collaboration, etc. Brown is also author, with Douglas Thomas, of *A New Culture of Learning: Cultivating the Imagination for a World of Constant Change* (Lexington, KY, 2011).
53. Cathy N. Davidson and David Theo Goldberg, *The Future of Thinking: Learning Institutions in a Digital Age* (Cambridge, 2010), The John D. and Catherine T. MacArthur Foundation Reports on Digital Meaning and Learning, MIT Press, http://mitpress.mit.edu/books/full_pdfs/Future_of_Thinking.pdf. The dedication to this essay reads: "To John Seely Brown, who got us (all) going."
54. Indeed, in their "Overview of a Collaborative Project," which serves as an introduction to their report, Davidson and Goldberg do acknowledge the support they have received from Duke University and UC. They explicitly state that "it is not our purpose to condemn traditional institutions but, we fervently hope, to be among those inspiring the kinds of change that will make our learning institutions better" (ibid., 7). This statement, however, is at odds with the tone of the chapters that follow.
55. An enormous amount of material is now available for free online through sites such as Academic Earth ("building a user-friendly educational ecosystem") at http://academicearth.org, Open Culture (http://www.openculture.com/), and YouTube Edu, as well as various iTunes U sites (those of UC Berkeley and Stanford, for example). Google has digitized books; there are electronic maps as well as open courseware through Yale, MIT, and other institutions.
56. Anya Kamenetz, "The Virtual University," *American Prospect*, April 20, 2010, http://prospect.org/cs/articles?article=the_virtual_university.
57. For-profit institutions exploit this doxa but it has been challenged. Paul Krugman, for example, writes, "It's no longer true that having a college degree guarantees that you'll get a good job, and it's becoming less true with each passing decade." See "Degrees and Dollars," "Opinion Pages," *New York Times*, March 6, 2011, http://www.nytimes.com/2011/03/07/opinion/07krugman.html. He points out that many knowledge-worker jobs can also be automated and put educated job seekers out of work. In this connection see also David Noble, *Digital*

Diploma Mills: The Automation of Higher Education (New York, 2002). Parts one and three are available online at http://communication.ucsd.edu/dl/ddm1.html and http://communication.ucsd.edu/dl/ddm3.html, respectively.
58. The National Center for Academic Transformation, http://www.thencat.org/.
59. Wikiversity, http://en.wikiversity.org/.
60. Kamenetz, "The Virtual University."
61. The Digital Humanities Manifesto 2.0, stanford.edu/~schnapp/Manifesto%202.0.pdf.
62. Todd Presner, "Digital Humanities 2.0: A Report on Knowledge," 2010, Connexions, http://cnx.org/content/m34246/1.6/content_info.
63. Moxie Software produces social networking software for corporations; see http://www.moxiesoft.com/?ac=PPC.G.moxie;p. For the Rome Reborn project see Rome Reborn: A Digital Model of Ancient Rome, Virtual World Heritage Laboratory, University of Virginia, http://www.romereborn.virginia.edu/.
64. Presner's point is that Wikipedia "represents a very different model for creating, authorizing, and distributing knowledge; Google Earth and HyperCities represent others. . . . A central part of the work of the humanities must be to create and interrogate new models for knowledge production"; Presner, "Digital Humanities."
65. Ibid. Presner, "Digital Humanities."
66. David L. Kirp, *Shakespeare, Einstein, and the Bottom Line: The Marketing of Higher Education* (Cambridge, MA, 2003), 185.
67. Ibid., 191.
68. In "The Grim Threat to British Universities," *New York Review of Books*, January 13, 2011, an essay that complements Sara Amsler's piece in this volume, Simon Head analyzes the role of the HEFCE in the current university crisis in Britain. He does not, however, discuss the important role of JISC (and the interests associated with global e-learning) in this connection; http://www.nybooks.com/articles/archives/2011/jan/13/grim-threat-british-universities/.
69. Chris Anderson, "Free! Why $0.00 Is the Future of Business," *Wired* 16, no. 3, February 25, 2008, http://www.wired.com/techbiz/it/magazine/16-03/ff_free.
70. Ibid.
71. See "How to wiki" for a complete list. "To follow the money," he explains, "you have to shift from a basic view of a market as a matching of two parties—buyers and sellers—to a broader sense of an ecosystem with many parties, only some of which exchange cash." Media companies make money around free content.
72. For example, you can get Flickr free, but the few that subscribe to Flickr Pro, an upgraded version of it, provide sufficient profit to enable the free resource.
73. Anderson, "Free!"
74. See "Imagine 2011: Qi Lu and Delivering the Digital Promise—Microsoft Advertising," YouTube video, 3:51, posted by "MicrosoftAdvertising," March 31, 2011, http://www.youtube.com/watch?v=NF_P5iU8-jY.
75. Lawrence Lessig, *Code Version 2.0* (New York, 2006), 4.
76. Tim Wu, *The Master Switch* (New York, 2010), 7.
77. Jaron Lanier, *You Are Not a Gadget* (New York, 2010), 48.
78. Ibid., 28.
79. Lessig, *Code Version 2.0*, 5.
80. Shoshana Zuboff's remark is cited in Brown and Duguid's *The Social Life of Information*, 30.

81. Kirp, *Shakespeare, Einstein, and the Bottom Line*, 202.
82. Lessig, *Code Version 2.0*, 77.
83. Lanier, *Gadget*, 14.
84. Ibid., 4.
85. Lessig, *Code Version 2.0*, 4.
86. See Head, *The Ruthless Economy*.
87. Kevin Kelly, "Better than Free," *The Technium* blog, January 31, 2008, http://www.kk.org/thetechnium/archives/2008/01/better_than_fre.php.
88. Luciano Floridi, *Information: A Very Short Introduction* (Oxford, 2010), 16.
89. Johanna Drucker addresses the MIT Communications Forum on these questions in "Humanities Approaches to the Graphical Expression of Interpretation," MITWorld video, 1:31:53, lecture presented at Humanities + Digital Visual Interpretations Conference hosted by Hyperstudio: Digital Humanities at MIT, May 20, 2010, http://mitworld.mit.edu/video/796.
90. Johanna Drucker, "Blind Spots," *Chronicle of Higher Education*, April 3, 2009, http://chronicle.com/article/Blind-Spots/9348.
91. See Bernard Stiegler's philosophy "school": pharmakon.fr, Ecole de philosophie d'Epineuil-le-Fleurial, http://pharmakon.fr/wordpress/.