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MANAGING THE PLATFORM Higher Education and the Logic of Wikinomics

By David J. Staley

Compiling and editing an encyclopedia involves numerous management challenges, ranging from securing interested contributors, to motivating them to stay on time and on task, to satisfying the publisher's demands, to haggling over content standards. I know these challenges from having spent the past several months compiling and editing the five-volume *Encyclopedia of the History of Invention and Technology*. Based on my experiences, I am now envious of Wikipedia: of how it is managed and of the dramatic results it has quickly achieved. Wikipedia, of course, is the "online free-content encyclopedia that anyone can edit." Started in 2001, Wikipedia currently has more than 2.5 million articles in the English version, with more than 75,000 active contributors working on more than 10 million articles in more than 250 languages.¹

David J. Staley is an adjunct associate professor and Director of the Goldberg Program for Excellence in Teaching in the Department of History at The Ohio State University. He is Principal of The DStaley Group, a strategic futuring consulting firm.

Quite aside from the content produced, however, Wikipedia is an efficient way to marshal the talents of many bright, capable people to produce knowledge. The real significance of Wikipedia and similar Web 2.0 technologies is the way in which they organize people and activities, not simply the way in which they create and distribute information. Don Tapscott and Anthony Williams call this new organization of activities “wikinomics.”² At its heart, wikinomics involves motivated amateurs who voluntarily produce knowledge and information in a new form of social and managerial organization. Socially, a wiki-ized system cannot exist without an agreement among the members of that system to behave in a certain fashion. Managerially, wikinomics is built on the idea of the “platform.” Wikipedia and other social networking sites provide a space or platform upon which all kinds of activities can flourish, with the idea of a platform transcending any particular technology or application and referring to either virtual or physical worlds. Collaboration among many users upon such a platform often produces unplanned and emergent results—results frequently unattainable in a command-and-control management setting. In a wiki-ized setting, leadership thus involves “managing the platform,” with leaders ensuring the vitality and stability of the platform rather than regulating the actions and activities of the people who use the platform.³

Wikinomics and Web 2.0 technologies represent as important a historical phenomenon as the birth of bureaucracy; indeed, we should refer to this moment in time as signaling a participatory turn in our culture. Yet whereas this participatory turn is rewriting the rules for many industries, most notably the software industry, we have yet to witness the full effects on the university—specifically on how we might organize, manage, and lead colleges and universities in the future.

The question for those of us in higher education is, How might the logic of Web 2.0, the logic of commons-based peer production, and the logic of platform management transform the idea of the university and the very activities—teaching and learning, research, and publishing—that lie at the heart of this enterprise?

The University as a Platform

Yochai Benkler begins his influential article on the economics of commons-based peer production by relating a question first posed by the economist Ronald Coase: Why do firms exist?⁴ In the context of higher education, Coase’s question prompts a similar question: Why do universities exist? What function do they fulfill that cannot be fulfilled by some other organization or mechanism? Asking this question allows us to explore the larger implications raised by wikinomics: Will a new form of organization emerge that will perform the same or similar tasks as the university? Will a new form of organization emerge that will fulfill certain functions not currently being performed by universities? Will a new form of organization emerge that will be better and more efficient at providing the services traditionally offered by the university?

Universities exist to create knowledge, to transmit that knowledge to students, to share that knowledge with the wider world, and to certify knowledge and skills. They exist because they are an efficient way of bringing together students

and teachers, knowledge seekers and knowledge producers. As teachers and students gathered together in the twelfth century, the first European universities emerged to formalize and legalize these gatherings. But at its heart, the university was born to provide a structure to govern the student-teacher relationship.

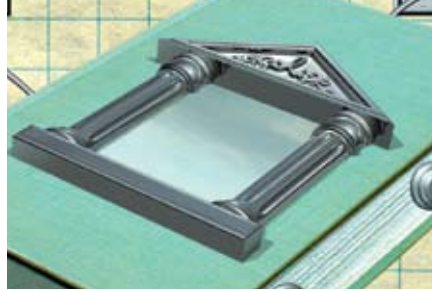
How will the logic of wikinomics affect this time-honored arrangement between teachers and students? We are seeing many Web 2.0 applications emerging in higher education today. Wikis as collaborative writing spaces are an especially prevalent application in many writing-intensive courses, with some instructors finding wikis to be useful for peer editing. Likewise, the popularity of professors’ lectures uploaded to YouTube suggests that there is a hunger for educational content that is made freely and widely available to everyone.⁵ Perhaps the most noteworthy of this type of Web 2.0 initiative is MIT’s OpenCourseWare (OCW) movement (<http://ocw.mit.edu/OcwWeb/web/home/home/index.htm>). This movement—which is increasingly being replicated at other institutions—is about making the content of MIT’s courses (the syllabi, lecture notes, and teaching materials) widely available to everyone, not just MIT students, and thus removing the barriers that have kept this content behind the ivy-covered walls of admissions criteria. Of course, making the content available is not the same thing as “opening the course up”: non-MIT students might have access to the materials, but they do not have access to the class discussions, for example. Nor are these class materials editable by users, another feature of a truly wiki-ized system. Finally, whereas MIT students can receive credit and credentialing by taking these courses, these are (at best) sources of informal learning for everyone else.

Again, the real significance of wikinomics and Web 2.0 technologies is that they signal a participatory turn in our culture; it is about the people involved and how they are organized, not just the content produced or the technology used for its distribution. Stepping beyond MIT’s OCW in this direction is the proposed Peer-2-Peer University (P2PU).⁶ In addition to offering freely available



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class materials, P2PU (<http://www.peer2peeruniversity.org/>) promises that these courses will be taught (or facilitated) by a corps of well-known professors. P2PU will not offer formal credit, though it may issue informal certificates. Although it represents a significant move, P2PU is not fully wiki-ized: both the class materials and the professors who will teach with them are preselected and are not “editable.” P2PU is certainly more open than a traditional university, yet it is still not a “platform university.”

A significant move toward this new platform university has come with the development of Wikiversity (http://en.wikiversity.org/wiki/Wikiversity:Main_Page), an initiative from the Wikimedia Foundation, the stewards of Wikipedia. Like MIT’s OCW, Wikiversity is a collection of learning materials; the difference is that these learning materials are produced by Wikiversity participants, who are, like their counterparts in Wikipedia, motivated volunteers. In addition, the Wikiversity course materials, unlike those made available by MIT, are editable by users. The materials are organized into “portals” or “faculties” (at present, the terms are being used interchangeably)—what we might call “colleges” in a traditional university. Each of the various portals might include any number of “schools,” and each school might have “departments.” “Courses” are thus organized in this very traditional fashion, with the difference being that all of the courses and learning materials are created by Wikiversity participants. There are no admissions criteria; there are no “professors” (although there are “course leaders”). Just as with an article in Wikipedia, anyone can contribute course materials, anyone can create a faculty or a school, anyone can lead a course.⁷ Wikiversity is still quite young (it began as an independent project in August 2006) and is still evolving. Indeed, we have yet to realize the full potential of the platform in a wiki-ized university.

The Constructivist Classroom and Wiki-ized Universities

The freedom and the active participation envisioned by the founders of Wikiversity have their antecedents in the “constructivist classroom,” which first gained prominence in the 1990s. In the constructivist classroom, students are permitted a more active role in their learning; the teacher in such a setting does not lecture at the front of the room, with the students dutifully listening to and copying down everything the teacher says. Instead, students are invited to work together, to engage in discussion, to solve problems, and to otherwise “construct their knowledge.” The constructivist classroom was more than simply a new pedagogical technique; the classroom space itself was transformed into a kind of platform where students were invited to explore/create/construct knowledge. Peer production is very much a part of the constructivist classroom setting.

In the constructivist classroom, the role of the teacher—too easily brushed off as the “guide on the side”—transforms from containing and controlling all of the knowledge to managing the platform by setting up and enforcing the rules and procedures that will guide student learning. Teachers must cede some of the control of the direction of the learning in such a classroom, since what is learned is oftentimes an emergent function of the quality of the students and the nature of their interactions, which cannot be fully planned or controlled by the teacher. In this setting, the teacher serves as the “choice architect” of the learning experience: the one who establishes the context in which students may exercise a fair degree of choice.⁸ (Put another way, the

role of the teacher in a constructivist setting is like being a “procedural author,” as defined by Janet Murray when discussing virtual reality spaces.)

But a true wiki-ized university would not stop at the classroom. That is, what if the university as a whole could be conceived and managed like a constructivist classroom? Gardner Campbell quotes a video-game executive who was describing two types of MMORPGs: “There is the theme-park approach and the sandbox approach. . . . Most games are like Disneyland . . . which is a carefully constructed experience where you stand in line to be entertained. We focus on the sandbox approach where people can decide what they want to do in that particular sandbox, and we very much emphasize and support that kind of *emergent behavior*.”¹⁰ Campbell would have us substitute “educated” for “entertained” in the above quote and apply this insight to the way we organize our universities. “Most colleges and universities,” Campbell notes, “are more theme-parks than sandboxes,” meaning that learning is made as uniform and as controlled as possible (under the name of “standardization” and “outcomes-based” assessments). In contrast, a sandbox conjures up images of unstructured, unplanned, emergent play that is determined by the players. Imagine a university organized and managed like a sandbox, where teachers and students are invited to play and create in an unstructured environment—or, rather, in an environment structured by their own actions, choices, and decisions.

What sorts of innovations might emerge in such a university-as-sandbox, in a wiki-ized university? As in the first European universities, teachers and students might come together to form voluntary associations around areas of common interests.¹¹ But in a wiki-ized university, they would be even more self-governed and autonomous. Teachers with an interest in a subject and a desire to share their knowledge with others would enter the platform of the wiki-ized university in order to locate and attract students with a desire to learn. When enough teachers and students coalesce around a particular topic of interest, they would form their own school or department. More

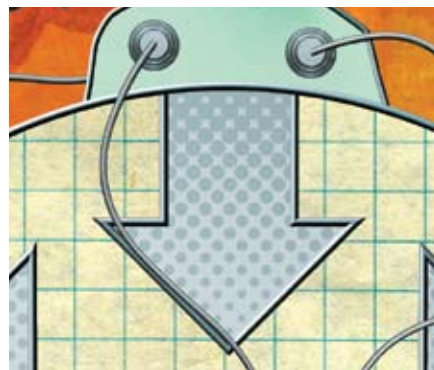
important, these schools or colleges would form and uniform as collaborations between teachers and students ebb and flow: today, one subject may be in the ascendancy, but in two years, another newly emerging field of interest might arise or perhaps two other schools may have merged in the interests of interdisciplinary collaboration. Think of the speed, efficiency, and flexibility in setting up such a college or school, versus the slow, laborious process of even getting course approval in the modern university. The formation of these associations would be, in theory, more responsive to students' needs and teachers' interests.

The curriculum and the course of study of a wiki-ized university would be more fluid and dynamic than any that has existed before. Consider early U.S. colleges, for example, where the curriculum was established by tradition and enforced by the president; every student studied the same subjects, in the same prescribed order. With the emergence of the modern university at the end of the nineteenth century came, among other things, the elective system, which gave students some (bounded) control over their course of study. In a wiki-ized curriculum, the courses of study would be "open" to both faculty and students: students not only could choose which courses to take but also could design their own courses. More broadly, majors, faculties, departments, and schools would form (and uniform) in a self-organizing and more responsive fashion. Think of the way articles are decided on Wikipedia via the collective decision of the participants rather than being handed down by tradition or enforced by higher authority. What if entire curricula were designed in this fashion, emerging like a folksonomy? The university would begin to look very much like a bar camp, where the agenda (the curriculum) would emerge as a result of the interactions of the teachers

and students. Although bar camps are face-to-face gatherings, they are still very much part of this larger participatory turn in our culture at large, signaling that the logic of Web 2.0 and its application to a wide variety of human organizations need not be digitally and technologically mediated. Indeed, a wiki-ized university could just as easily be a face-to-face organization.

What would an admissions policy look like in a wiki-ized university? MIT's OCW shares course materials with whoever wants to see them, but it maintains an admissions and credentialing firewall. What if the entire class, not just the materials, was opened up to anyone? The educational opportunities afforded through the Center for Open and Sustainable Learning (<http://cosl.usu.edu/>) form perhaps the best-known example of open admissions, but even before COSL, there were real-world analogies: consider the public lectures offered by ancient colleges such as Gresham College in London (<http://www.gresham.ac.uk/>) or the College de France in Paris (<http://www.college-de-france.fr/default/EN/all/college/>)—though neither college offers degrees. At a time when gaining access to higher education is becoming harder—but also more necessary—a system that welcomes anyone, without payment and with only a desire to learn, would seem to be an excellent remedy.

What might "credentialing" look like in a wiki-ized university? Currently,



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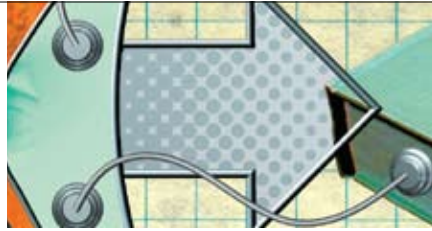
MAIN FEATURES OF THE WIKI-IZED UNIVERSITY

The wiki-ized university

- is a "platform,"
- is permeable (no formal admissions process),
- consists of voluntary and self-organizing associations of teachers and students,
- consists of a self-organizing and intellectually fluid curriculum,
- does not offer tenure to professors (professors' longevity is determined by the community),
- is governed by protocols based on community values and mores rather than on administrative rules and fiats,
- does not grant diplomas or certificates,
- encourages play (and even failure),
- is governed by "intellectual barter" and makes all knowledge created therein free to anyone,
- is managed by administrators who "bubble up" from among the members of the community,
- is managed by administrators who maintain the platform as "choice architects" and lead via cultivation and care, not command and control, and
- has a fluid temporal structure: there are no "semesters"; teaching and learning are ongoing activities.

students cannot earn diplomas or credentials through Wikiversity. On what basis might degrees be conferred? Would participants even want degrees? What would a degree or certificate from a wiki-ized university signal? Concerns would surely be raised about the quality of these credentials, similar to the debates about the quality of the articles in Wikipedia. As is often the case in peer-production networks, it is possible that "reputation" would emerge as a kind of informal credential in a wiki-ized university. The larger question is, To what degree will such informal learning and "credentialing by reputation" be legitimated and accepted by society?

In platform management, the leader of the platform writes and enforces rules for participating in the shared platform space and then steps back to see what emerges.



What about research and the creation of new knowledge? For example, as Wikiversity grows and develops, new original research will more than likely be produced by the participants. The model here is something like the Hamilton Institute (<http://www.hamiltoninstitute.com/>), an online think tank where new research is produced by enthusiastic amateurs. The model would resemble the status of research in the eighteenth century, when advances in knowledge were often carried out by independently wealthy amateurs (e.g., the members of the Lunar Society) rather than by professionals at formal research centers like universities. In a wiki-ized university, research might be conducted by anyone and could be presented—and peer-reviewed—at an open seminar or symposium. Research could thus be carried out by individuals or, perhaps more likely, by teams of motivated amateurs.

Management

At present, there is no “president” of Wikiversity, nor are there provosts, deans, or department heads. But in the very near future, an academic management system for Wikiversity is likely to emerge, developing along similar lines as Wikipedia. Although it may appear so on the surface, Wikipedia is not really some sort of Brownian free-for-all. Indeed, Wikipedia has a governance structure, though one based on a very different kind of management principle from what governs many contemporary organizations (and universities). Administration in Wikipedia emerges via the decisions and activities of its participants, much as the articles bubble up from the actions of writers and editors.¹²

Wikipedia and other wiki-ized systems are a kind of “distributed network,” and such networks have their own kind of management system and style. Alexander Galloway has written eloquently on the kinds of control mechanisms that are present in distributed networked sys-

tems, under the term *protocol*. “Protocol is not a new word,” he notes. “Prior to its usage in computing, protocol referred to any type of correct or proper behavior within a specific system of conventions. It is an important concept in the area of social etiquette as well as in the fields of diplomacy and international relations. . . . However, with the advent of digital computing, the term has taken on a slightly different meaning. Now, protocols refer specifically to standards governing the implementation of specific technologies. Like their diplomatic predecessors, computer protocols establish the essential points necessary to enact an agreed-upon standard of action . . . protocol is a technique for achieving voluntary regulation within a contingent environment.”¹³

The platforms of wiki-ized systems are governed by such protocols. In platform management, the leader of the platform writes and enforces rules for participating in the shared platform space and then steps back to see what emerges. So, the articles that appear on Wikipedia are not decided on by an overarching “editor” (as they are in my encyclopedia) but emerge from the decisions, the edits, the additions, and the deletions of a number of people, all bound by the rules and protocols of Wikipedia.

What is interesting about the management of Wikipedia is that administrators also “emerge” in this system. Those who contribute many articles or who are otherwise actively engaged and have established a reputation in Wikipedia are collectively selected to serve as developers, “CheckUsers,” stewards, bureaucrats, and administrators. Like a Wikipedia article, these managers are selected via the collective actions and decisions of the participants. Something similar will more

than likely occur in Wikiversity: particularly active participants who have earned reputations for skill and experience will be selected to serve as “conveners of faculties,” or “facilitators of schools,” or “head professors,” or some such. Whatever they are called, their role will be to ensure the protocols, to administer the platform, and to facilitate the emergent, unexpected, uncontrolled activities of Wikiversity. In such a wiki-ized university, academic managers start to look like teachers in a constructivist classroom: they are choice architects, they are procedural authors, they are “guides on the side” who manage the platform.

Clearly, the wiki-ized university requires a quite different outlook toward academic management and leadership. If we are indeed witnessing a larger shift in social life toward organizations that are distributed networks, then we will also require new ways of thinking about leadership in such systems. (And it is not only universities that need to be rethinking their assumptions about leadership and management: corporations and other entities need to do so as well.) Given a distributed network of autonomous individuals, the president of a wiki-ized university of the future will resemble not a CEO but a curator: a steward of protocols, one moved by the principles of cultivation and care rather than command and control.¹⁴

The Wiki-ized University of the Future

As noted above, what is especially fascinating to study in a wiki-ized system is the behavior of the participants. The most important—and most unpredictable—driver for the continued success of commons-based, peer-production systems like Wikipedia is the notion of nonmonetized, volunteer contributions. What draws people to write articles for Wikipedia or to work on code for Linux or to otherwise volunteer their time and talent in a wiki-ized project? What are the incentive structures of Wikipedia, and what is the incentive economy that it represents? How are people motivated to create value without the expectation of monetary reward?¹⁵ Indeed, can there truly be a nonmonetized incentive economy? Does wikinomics represent a radical shift beyond the firm or the market?

Does it reflect a new kind of economic organization? Volunteerism remains the trickiest problem of the peer-production/wiki-ized setup. Wikipedia is based on volunteer labor as its engine; what will happen if people no longer want to volunteer or if volunteering simply becomes exploitation?

If a wiki-ized university is to emerge and thrive, it will have to be driven by volunteerism. We do see some idea today of how “volunteer teaching” might look: think of the faculty at a place like the University of Phoenix. Most teaching faculty have day jobs—and in fact are hired *because* they have day jobs—and teach at the university for a nominal stipend. If something like the Phoenix model is what develops in a wiki-ized university setting, this would suggest that a new type of “professorate” will emerge, consisting of those who teach or publish or conduct research for their own personal or professional satisfaction or for some other nonmonetized benefit. That is, we would see a return to something like the motivated amateur scholar of the eighteenth century, a scholar who does not make money from research or publication but who receives income from another source. Would we need, therefore, a “professional professorate”? What if we defined a “professor” as someone who has expertise/qualifications sanctioned by the world outside the university, who then enters the “university platform” as a volunteer participant and attracts interested students to share his or her knowledge and expertise, and who exits again to a professional life in the world outside of the university platform, toggling back and forth between these two realms? We would have, in effect, an all-volunteer university. (Another plausible scenario, seen in the P2PU plan, is that professors with “day jobs” at traditional universities will volunteer their time and energies in a wiki-ized university.)¹⁶

I predict that a new form of academic organization is emerging—a challenger to the university. For the moment we can call this new system of knowledge production and distribution a wiki-ized university, but its final name and configuration have yet to be determined. The wiki-ized university will probably not displace the traditional university but will likely exist alongside it, albeit in direct competition. The traditional university is the *Encyclopaedia Britannica* to this Wikipedia-style academic organization—this newly emerging, peer-produced, knowledge platform. For leaders of the new organization, the ability to manage the platform will allow unplanned and unexpected activities—indeed, will allow the wiki-university itself—to emerge and flourish.

Notes

The author wishes to thank the Berglund Center for Internet Studies summer institute participants, who helped to develop the list of “main features of the wiki-ized university.”

1. See “Wikipedia:FAQ/Overview,” <http://en.wikipedia.org/wiki/Wikipedia:Overview_FAQ#What_is_Wikipedia.3F>, and “Wikipedia:About,” <<http://en.wikipedia.org/wiki/Wikipedia:About>>, accessed on November 24, 2008.
2. Don Tapscott and Anthony D. Williams, *Wikinomics: How Mass Collaboration Changes Everything* (New York: Portfolio, 2006).
3. On organizations as platforms, see Clay Shirky, *Here Comes Everybody: The Power of Organizing Without Organizations* (New York: Penguin Press, 2008).
4. In short, Coase’s answer is that firms exist to deal with production and resource allocation issues not dealt with efficiently by markets. See Yochai Benkler, “Coase’s Penguin; or, Linux and the Nature of the Firm,” *Yale Law Journal*, vol. 112, no. 3 (2002), pp. 369–446. See also Benkler’s expansion of these ideas in *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (New



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- Haven, Conn.: Yale University Press, 2007), available online: <<http://yupnet.org/benkler/>>.
5. For example, see UC Berkeley’s channel on YouTube: <<http://www.youtube.com/ucberkeley>>.
6. Jeffrey R. Young, “Proponents of Online Education Plan to Start Peer-to-Peer University,” *Chronicle of Higher Education*, October 24, 2008, <<http://chronicle.com/free/v55/i09/09a01201.htm>>.
7. For a look inside a Wikiversity class, see Norm Friesen and Janet Hopkins, “Wikiversity; or, Education Meets the Free Culture Movement: An Ethnographic Investigation,” *First Monday*, vol. 13 no. 10 (October 6, 2008), <<http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2234/2031>>.
8. Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (New Haven, Conn.: Yale University Press, 2008).
9. See Janet Murray, *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* (New York: Free Press, 1997), pp. 152–53.
10. Gardner Campbell, “Theme Parks and Sandboxes,” *Gardner Writes* <<http://www.gardnercampbell.net/blog/1/?p=551>>, December 1, 2007 (emphasis added).
11. This might look something like the newly emergent Supercool School (<http://www.supercoolschool.com/>). A potential student posts a query asking that a particular course be made available. As more people join the request list, the potential class is deemed “full,” at which time a request for a teacher is made, to be filled by anyone who wants to teach the requested course. Note that there are no preestablished courses, students, or teachers. The platform of the Supercool School facilitates this activity.
12. On the governance structure of Wikipedia, see Fernanda B. Viégas, Martin Wattenberg, and Matthew M. McKeon, “The Hidden Order of Wikipedia,” Visual Communication Lab, IBM Research, <http://www.research.ibm.com/visual/papers/hidden_order_wikipedia.pdf>, and Andrea Forte and Amy Bruckman, “Scaling Consensus: Increasing Decentralization in Wikipedia Governance,” *Proceedings of the 41st Hawaii International Conference on System Sciences*, 2008, <<http://csdl.computer.org/plugins/dl/pdf/proceedings/hicss/2008/3075/00/30750157.pdf?template=1&loginState=1&userData=anonymous-IP1223136700127>>.
13. Alexander R. Galloway, *Protocol: How Control Exists after Decentralization* (Cambridge: MIT Press, 2004), p. 7.
14. On the idea of leadership/management as “cultivation,” see especially Thomas W. Malone, *The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style, and Your Life* (Boston: Harvard Business School Press, 2004).
15. Benkler, “Coase’s Penguin,” pp. 423–43. See also Andrea Forte and Amy Bruckman, “Why Do People Write for Wikipedia? Incentives to Contribute to Open-Content Publishing,” GROUP 05 Workshop, “Sustaining Community: The Role and Design of Incentive Mechanisms in Online Systems,” International Conference on Supporting Group Work, November 6–9, 2005, Sanibel Island, Florida, <<http://www.cc.gatech.edu/~aforte/ForteBruckmanWhyPeopleWrite.pdf>>.
16. Or in still another scenario, the “volunteerization of the professorate” might also accelerate the trend toward “casualization” and the increasing use of low-paid, itinerate adjuncts. On the “casualization” of academic labor, see Marc Bousquet, *How the University Works: Higher Education and the Low-Wage Nation* (New York: New York University Press, 2008).