Rhetorics and Technologies

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Rhetoric in (as) a Digital Economy

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In this essay I explore the theoretical implications of the paradigmatic shift occasioned by the technological developments of Web 2.0,[1] focusing on how the emerging digital economy of Web 2.0 is changing, or ought to change, our notions of rhetoric and writing. A playful subtitle for this essay might be "How Do 'the Long Tail' and 'the Wisdom of the Crowd' Matter to Rhetoric and Writing?" The two phrases refer to two popular books: Chris Anderson's 2006 book *The Long Tail: Why the Future of Business Is Selling Less of More* (based on his 2004 *Wired* magazine article "The Long Tail") and James Surowiecki's 2004 book *The Wisdom of Crowds*. In brief, long-tail economics refers to a key feature of digital economics: because of the low cost of selling and distributing digital information (and even of selling nondigital products via digital means), it is possible to sell products to smaller market niches than in nondigital economies. In rhetorical terms this means that it is economically feasible to design and distribute tailored information for smaller audience groups (versus trying to make a single information product work for a larger general audience).[2] Social networking refers to Web 2.0 applications that are built from user-generated content. Social networking Web sites such as Flickr, Delicious, YouTube, and others coordinate the power of many contributors, many of them amateur contributors, and sift their creations through a system that assesses their value.

Simply put, my overall point here is that developments in network-based technology—particularly the emergence and success of "the networked information economy" (Benkler, *Wealth*) and of Web 2.0 social networking—will dramatically change rhetoric theory and the practice of writing. What I mainly do in this essay is take a scene-act perspective—to use one of the dyads out of Kenneth Burke's dramatistic rhetorical method. In Burkean terms, I am examining

how the *scene* of digital writing (particularly the social dynamic of the Internet) affects the *act* of writing and composing. But at the end I shift to a scene-agent perspective that looks at the *who*, particularly the whos that are, or could be, excluded or exploited in this emerging scene.

I begin with a consideration of the relationship between rhetoric, digital economics, and delivery, arguing that economics is, or should be, a key component of any rhetoric theory. I then discuss digital economics and social networking—"the long tail" and "the wisdom of the crowd"—describing these phenomena and pointing to their implications for rhetoric and for writers. (I illustrate this point via discussion of a research project I worked on through the WIDE Research Center at Michigan State University.) I generally applaud this move toward social networking—as it represents empowerment of the audience in rhetorical interactions—but I also consider the darker side of social networking and of economic systems based on user-generated content.

Rhetoric, Digital Economics, and Delivery

As I have argued elsewhere, economics has always been an important component of rhetoric,[3] but historically the relationship has only occasionally been articulated, appreciated, or examined within the field of rhetoric—most notably by Deirdre McCloskey and Richard Lanham (see also Johnson-Eilola, "Relocating"; Johnson-Eilola, "Accumulation"; Carter; Salvo).

I need to distinguish my treatment from both McCloskey's and Lanham's. My focus is *the economics of rhetoric*, not *the rhetoric of economics*. Whereas McCloskey looks at how rhetoric plays a role in the field of economics, I am looking at the economics of rhetoric—that is, how rhetorical contexts themselves rely on an economic system of exchange. The exchange is not always a commercial one, but there is an exchange of value that serves as the motivation for the production and circulation of rhetorical objects. So, in linking rhetoric and economics, I am not doing it à la McCloskey.

Nor am I doing it quite à la Richard Lanham. In *The Economics of Attention*, Lanham argues that in the digital age we need a new economic model—an economy of attention based on rhetoric, which he sees from a stylistic and design perspective as the art of deploying creative, imaginative, and innovative techniques for grabbing and keeping audience attention. In this realm—and I would agree with Lanham on this point—specific domain expertise matters less, rhetoric matters more. However, Lanham's stylistic view of rhetoric misses an essential point about the digital economy. It is not just about style; it is also about substance and value (see Goldhaber). A broader view would see rhetoric as requiring a productive and pragmatic knowledge about how to create information products that will matter to people—that is, be usable and useful. A broader view of rhetoric would include inquiry procedures (that is, inventional tactics) aimed at understanding what motivates people to create, search, and circulate knowledge.

In other words, the digital economy needs a robust view of rhetoric, a view that includes inventional procedures for developing knowledge and for collaborating with audiences to co-create knowledge.

Classical Roman rhetoric had two terms for the development of content and for the distribution of information products: *inventio* and *actio*. These two concerns—invention and delivery—are two of the three historically neglected canons of rhetoric (memory being the third). That neglect has to do with the persistence in recent history and in popular culture of a predominant alphabetic, print-based view of thinking about writing. The print view sees writing in reductive terms as "words on a page." That view still sees writing instruction as mainly a matter of teaching style and arrangement (syntax and diction, grammatical competency, arrangement of ideas on the page), and teaching it mainly within the realm of print. That is the narrow, instrumental view of writing: writing is simply the words you choose to convey your message and how you organize them on the page. The "content" for your writing comes from someplace else (that is, from real disciplines). Rhetoric as the dress of thought. It is important to note, though, that Lanham has a high degree of respect for the dress of thought. Clothing matters to him; there is a good deal of substance in style, he argues. But nonetheless he holds to a binary view that fundamentally sees content development as something outside the realm of rhetoric. As does Peter Ramus, he disconnects invention from rhetoric.

But there is another view of writing, the substantive view, in which writing has a much larger scope. In the substantive view, the art of writing includes understanding the entire scene or context of communication, inventing and developing content, determining audience needs, constructing effective arguments, designing effective interfaces, compiling evidence, understanding community and cultural values, figuring out where and how to deliver the message (through what technological means), coordinating and collaborating among various writers and groups, predicting the flows and interrelationships among the elements of communication, ad infinitum. In short, writing involves a bunch of decisions, issues, and questions that involve critical thinking, deep analysis of communication situations, and both theoretical and practical how-to knowledge. This set of concerns *is* part of the art of rhetoric—and that is what is most changed in digital environments.

When rhetoric asks questions about audience and purpose—What is my purpose for writing? Who is my audience?—it is also implicitly asking questions about the economics of delivery. What motivates someone to produce and distribute a piece of writing? What motivates someone else to access it, read it, interact with it? What drives the interaction and makes it productive for both parties? These are basic questions of digital economics, but also basic questions for rhetoric, particularly for the canon of delivery (Porter, "Recovering Delivery"; Eyman, "Digital Rhetoric").

Why do we write? The stock answer in rhetoric and composition has often been something like "to inform, to persuade, to entertain." But why would anyone want to inform somebody or create a poem? What is the point of doing *that*? There is another calculus involved in any act of writing: purpose in the sense of *value*. There must be some value for the reader or for the writer in the act of producing, distributing, exchanging texts. Somebody has information; somebody else needs it. Somebody wants to express a feeling; somebody else needs to feel it. But what motivates such an exchange? Writing—*all* writing, I would say—resides in economic systems of value, exchange, and capital. Not necessarily monetary or commercial systems—think about Bourdieu's notions of cultural capital and social capital[4]—but economic systems nonetheless. The kind of economics I am talking about has to do with value more broadly defined. It might well involve the exchange of money, but the motivation could just as easily be based on desire, participation, sharing, emotional connectedness. This is the secret of the Web 2.0 dynamic.

This broader sense of value helps to explain the proliferation of blogs on the Web and the growing number of entries in spaces like Wikipedia. As Clay Shirky has said, from an economic standpoint, "It sure is weird that the Wikipedia works" (qtd. in Aigrain). It is not weird if you accept that people write because they want to interact, to share, to learn, to play, and to help others. That drive of people to interact socially is a key feature of the new digital economy—and the rhetorical basis of social networking.[5] It explains the popularity of blogs and of social networking spaces such as Facebook, MySpace, and YouTube.

The Digital Economics of "The Long Tail"

"The long tail," a term coined by Chris Anderson, refers to how conventional economic models are overturned by Web-based communications (see Shirky, "Power Laws"). In the digital realm of no-cost reproduction and low-cost distribution, it is economically viable to make money on products that have a low sales volume. Attracting a wide readership (market) is no longer as important, not when you are talking about a product that costs very little to reproduce and distribute. The cost of distribution is so low in the digital realm that I can invest my energy manufacturing a product that sells to only twelve people (or even two). This is a very different economic model from that of the manufacturing economy—or of the print economy—and rhetoric needs to understand how that fundamental difference influences its basic concepts (its notion of audience, for instance) and its modes of production (for example, digital design practices).

"The long tail" refers to the image in figure 9.1—which Chris Anderson made famous in his *Wired* article by the same name. The long-tail chart illustrates the difference between two kinds of business models: the market of hits (the left side of the chart, the Head) versus the market of niches (the right side of the chart, the Long Tail). In the old twentieth-century economy of "the hit"

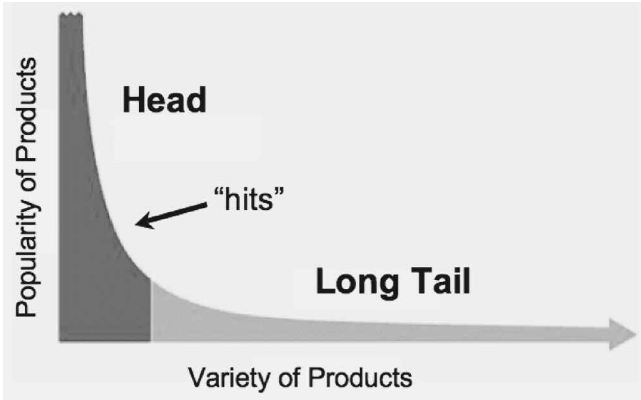

Fig. 9.1 The long tail of digital economics

(Anderson, "Rise and Fall"), businesses would develop and market a product to appeal to a large consumer base—the mass market. They would sell one kind of product, or a narrow range of products, and try to achieve high sales volume.

In the twenty-first century, Anderson argues, we are moving toward the business model of "the long tail," where "the future of business is selling less of more" (the subtitle of Anderson's book). Meaning this: We are now entering an economy where it is possible to produce a much wider variety of products and services, sell them to a small number of customers, and still succeed. There is money to be made in the long tail, where total sales can equal the total of the "head."

Some examples: According to Anderson, 98 percent of the products in a digital economy generate some sales: "a quarter of Amazon's book sales come from outside its top 100,000 titles. . . . [That is the] power of the aggregate market" (*The Long Tail* 23). Rhapsody, the online music distribution system, can compete favorably with Wal-Mart in terms of music sales, precisely because it works the economic niche of the long tail.[6] A given Wal-Mart outlet has a limited number of songs available in inventory (in hard CDs)—and so it caters to the mass market by stocking a few number of likely best-selling hits, not a wide variety of CDs. Rhapsody, as an online service, can provide more choices for consumers because it deals in digital copies and it uses the Internet as its distribution mechanism. The result is more diversity and more choices for consumers because the market can support products and services of interest to small market niches. Because of the low cost of Internet production and distribution, there is money to be made in the long tail.

We see abundant examples of this form of business on the Internet—but Anderson points out that this is not an economic development for Internet

products only. His example of a non-digital product: flour. Have you noticed that there are more different brands of flour on the shelves of the grocery store now compared to ten or twenty years ago? Why? Because collecting digital information about food shoppers' buying habits allows stores to stock more precisely what is needed at any given time—in short, to cater to specific niche buyers. Digital technology does play a key role in enabling this economy to happen, as checkout scanning technology enables stores to manage inventory more precisely to match consumer buying habits. So we now have the emergence of what Anderson calls the "long-tail aggregator"—"a company or service that collects a huge variety of goods and makes them available and easy to find." Online we have the examples of Rhapsody and iTunes with music, Netflix with movies (competing successfully with Blockbuster, which has responded by developing an online component), eBay and Amazon with physical goods, and Google with information.

This approach to marketing products represents a philosophical shift away from "one size fits all" thinking and the mentality of "the big hit" to products and services tailored for smaller groups, for specific user needs, for market niches. In other words, we are talking about a different kind of consumer "audience," as both Anderson and Yochai Benkler acknowledge: "The audience is shifting to something else. . . . Increasingly the mass market is turning into a market of niches. . . . thanks to the economics of digital distribution" (Anderson, *The Long Tail* 5–6). "Consumers are changing into users—more active and productive than the consumers of the industrial information economy" (Benkler, *Wealth* 126–27).

This development creates the expectation for online writing that information will be tailored to specific user needs and to small audiences: I could do that if time and resources were not an issue. But I'm running a software company; how can I afford to write twelve different user manuals for twelve different kinds of users? How do I deliver tailored information products to that long tail of users? The answer lies, I think, in repackaging (that is, single sourcing) and outsourcing. You take existing information and redesign it, remediate it, and redeliver it for new audiences and purposes. You produce RIOs (reusable information objects). You do not develop new content yourself, or at least not very much. Rather, you "outsource" by setting up and managing a social network for users.

The software industry has been using this approach for some time with online user forums. In the old model of technical writing, you would write a comprehensive user manual that tried to imagine every task, every problem that a user might encounter using an application or product. That is, the one-size-fits-all, big-hit approach that generates a 462-page manual (that nobody reads). Then, to handle particular user questions, you would set up a telephone help line. It became clear early on that such an approach was not economically

viable—it was expensive, and it did not work that well for solving specific user problems.

What we see now is a different approach. If you are a professional communicator thinking about how to provide user support, you might develop a three-pronged approach: (1) Provide minimal basic print documentation that everybody is likely to need. (2) Provide online tutorials to help people learn to do specific tasks. (3) Sponsor a user community where users can help one another answer very specific, idiosyncratic questions. This community network links users of the application or product. The network can provide conventional information resources (documentation, tutorials), but it also has a user forum that allows the users to help one another out. The professional communicator's role in this process is to design the forum, provide editorial controls, develop new documentation as needed, and add functionality to the site. This is using the long tail in conjunction with a social, user-based approach to documentation.

An example of such an approach is Adobe's user forums. Users of particular software applications, such as Dreamweaver, can join a threaded discussion related to use of the product.[7] I logged in to one of these Dreamweaver support forums at 9:30 one Sunday morning and found thirty-five other users logged in. A group of four was helping "SuzyQ2U" solve a problem she was having with installing pop-up menus. She had posed a very specific question that concerned not only Dreamweaver but also her particular network configuration, her browser, and other issues particular to her local context. The problem was a highly specific and local one, in other words. Other users helped her solve her problem. Another time, I visited the Dreamweaver forum at 7:00 A.M. I found seventeen users logged in to the General Discussion site. Two users—cripaustin and Murray—had an exchange of several postings just between the two of them: cripaustin had a "Quick Question" about centering divs, and Murray provided him an answer eighteen minutes later. Over several messages, they exchanged coding suggestions. In yet another discussion thread, a poster named malcster posted a message asking for critical feedback on his Web site. Over the next two days he received fifty-eight responses from nineteen different respondents.

Here is where we see the linkage between digital economics and social networking. That is the connection that Yochai Benkler has been exploring in his work, particularly in *The Wealth of Networks.* Benkler is investigating this phenomenon of social sharing in terms of gift exchange economy (see also Benkler, "Political Economy"; Benkler, "Sharing Nicely"). His first point is that conventional monetary notions of economics are inadequate for explaining the phenomenon of social networking. Like carpooling, social networking does not usually generate dollars directly—but, like carpooling, it does generate economic value, value that is not easily captured by standard economics models.

The term that Benkler employs to describe this phenomenon is "commons-based peer production," a term that describes a mode of economic production

in which the creative energy of large numbers of people is coordinated (usually with the aid of the Internet) into meaningful projects, mostly without traditional hierarchical organization or financial compensation.[8] He compares this mode of production to "firm production" (wherein a centralized decision process decides what has to be done and by whom) and to "market-based production" (in which tagging different prices to different jobs serves as an attractor to anyone interested in doing the job).

The key social feature of such an economic model is the presence of a "commons," which Benkler defines as "a particular type of institutional arrangement for governing the use and disposition of resources. Their salient characteristic, which defines them in contradistinction to property, is that no single person has exclusive control over the use and disposition of any particular resource. Instead, resources governed by commons may be used or disposed of by anyone among some (more or less well defined) number of persons, under rules that may range from 'anything goes' to quite crisply articulated formal rules that are effectively enforced" (Benkler, *Wealth* 2).

The Dreamweaver user forums might be seen as an example of a commons, and also as an example of "distributed writing"—to adapt the notion of "distributed computing," the technique of deploying multiple processors working in tandem to solve computational problems (Benkler, "Sharing Nicely" 289). Distributed writing refers to solving human problems by creating a viable commons, a social network that will tap into the wisdom of the crowd.[9]

Social Networking and "The Wisdom of the Crowd"

Time magazine's "Person of the Year for 2006" was "You"—by which *Time* meant everybody who engages in social networks on the World Wide Web and contributes value to those networks.[10] Of course "You" is not "everybody"—so the "you" here already exposes a gap in the conversation. "You" is actually a privileged minority of higher-end users. Many of the Web 2.0 advocates assume that "everybody" is involved in social networking. Clearly not so.

What *Time* is acknowledging is the power and value of social networks: a lot of people are using the Internet to share information, even when they are not being paid for it. Social networking refers to sites and applications that create a user community and that allow (more accurately, depend on) users to produce content—that is, their existence depends on UGC (user-generated content). Users upload, store, and tag content (bookmarks, videos, photos). This creates a large searchable and *dynamic* database that all users in the community can access. This kind of social network is a "folksonomy" (Joshua Porter), a database in which the community of users (including so-called nonexperts) contribute content and create the organizing structure through tagging. This type of Web design taps into "the wisdom of crowds." It is unlike a taxonomy, for which the organizing structure is predetermined, top-down, and expert driven.

The chief advantage of a folksonomic approach is that it allows you to "see what people are thinking," to find out what people are reading, and to see what tags others use to organize content. It puts the wisdom of the crowd to work for the community. The other key to it is social interaction. It is not just a static, one-way, top-down delivery of prefab information. The information is in constant flux, and there is a constant social interaction involved in the process of sharing it.[11]

The key feature of these social sites is the tags that users use to label files—a kind of metadata similar to a keyword but created by the person uploading the file (that is, ordinary users). This approach is based on the assumption that "crowds have wisdom," which is James Surowiecki's main point in *The Wisdom of Crowds.* Surowiecki's basic argument is that "under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them" (xiii). "The right circumstances" is an extremely important phrase. For certain specialized skills, the crowd is not the best approach. Think about auto mechanics, brain surgery, and airplanes in flight. For those functions, you certainly want domain experts, specialists with particular knowledge and skills pertaining to that particular task.[12]

The crowd can function better than domain experts, according to Surowiecki, in larger, messy, unpredictable, and complex social problems and decision making. One example Surowiecki cites is the beehive (referencing and echoing Thomas Seeley's book *The Wisdom of the Hive*). Bees cooperatively search for food, pool their information, and maximize the resources of the community to locate the optimal food source to ensure the success of the group: "Bee foragers end up distributing themselves across different nectar sources in an almost perfect fashion, meaning that they get as much food as possible relative to the time and energy they put into searching. It is a collectively brilliant solution to the colony's food problem" (Surowiecki 27).

Another example is the Pro-Am movement in astronomy, a movement in which professionals and amateurs work together to create more reliable knowledge, and create it faster, than professionals alone (because more eyes matter): "Amateurs multiply the power of astronomy many times" (Anderson, *The Long Tail* 61).

Another example comes out of the research of one of my dissertation students at Purdue University, Laurie Cubbison, who conducted an online ethnography studying patients with chronic fatigue syndrome and fibromyalgia syndrome ("Validating Illness"). Cubbison studied an online community developed by patients for sharing information and for talking about their condition because they were not getting the help they needed from their doctors. They pooled their collective knowledge about symptoms and treatments in a way that actually created clinical knowledge about chronic fatigue and fibromyalgia. In isolated locations, neither doctors nor patients had enough knowledge or

experience. But through the power of the collective the group was able to create useful medical knowledge, raising awareness about the syndromes and about which treatments worked and which did not.

So the question is, In what positive ways can the crowd contribute to the composing process? We can quickly call on some general principles: Many minds are good for brainstorming and project conception. However, too many cooks can spoil the drafting process. For some phases of written production, the crowd has a positive value; for others, it is better to deploy experts and individuals. But this question merits more composition research: When does folksonomic involvement help writing production? When is individual production more effective and efficient?

Social Networking Case: The "Teachers for a New Era" Project

The Teachers for a New Era (TNE) project at Michigan State University provides an example of how social networking can help solve a complex social problem.[13] It shows how writers can design a social system aimed at distributing complex information to a broad user base in a way that will be useful to those users. The key to success here is twofold: (1) In accordance with assumptions of folksonomic social networking, let the users decide what is valuable information. Do not impose value from the top down. Do not let the domain experts overdetermine value. Rather, circulate information throughout the user pool and let the wisdom of the crowd determine value. (2) Create a system that helps users do their work more efficiently. Reduce the learning curve for participation. Create a participatory social economy that generates value through increased participation. Again, Web-based social networking designs are ideal for meeting these criteria.

The five-year TNE project was funded by the Carnegie Foundation with the goal of developing a comprehensive and rigorous set of teacher knowledge standards for teacher education at Michigan State University—with the ultimate goal of systemically changing the structure of teacher education nationwide. The major outcome of this project was the Teacher Knowledge Standards (TKS) guide, a comprehensive set of standards for K–12 teacher education across a number of subject areas: science, math, social studies, and literacy education. The TKS was published in November 2004 in the Green Book, a thirty-four-page bound print document presenting several hundred standards, in outline form, across six major topic areas.

I came into the project as part of a consulting team coordinated through the WIDE Research Center at Michigan State University and was charged with this task (in year 4 of the TNE project): Figure out a way to deliver the TKS to the intended audience—teacher educators in a variety of subject areas—in a way that would give the TKS persuasive power and influence. In other words, we were called on to play a fairly traditional technical communications role: serve as a

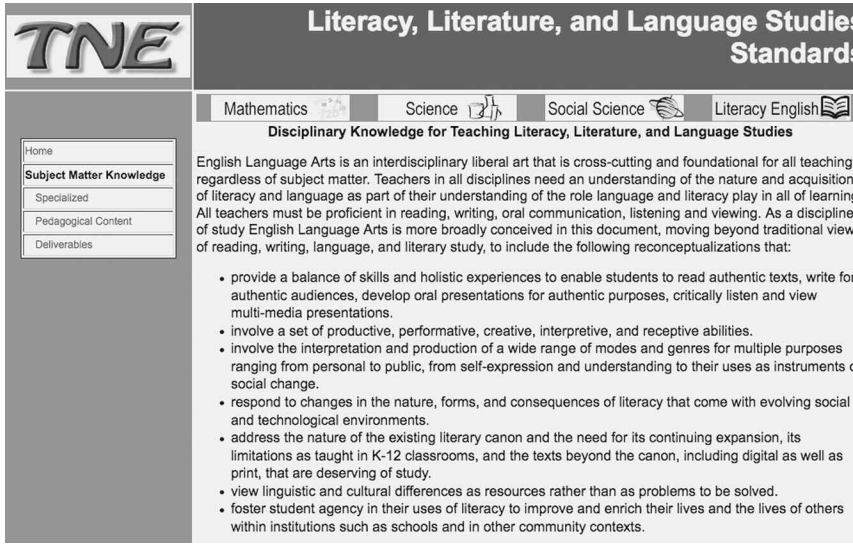

Fig. 9.2 Web 1.0 online version of Teacher Knowledge Standards for Literacy, Literature, and Language Studies

bridge or translator, transmitting expert-developed knowledge to end users expected to implement that knowledge.

The Green Book was clearly not an effective way to deliver the TKS—and we observed that early in the first phase of our research. Print standards are inert and static. They do not influence or integrate well with teachers' work. On the practical level of writing production, teachers find it difficult to move (copy and paste) standards from print format into forms that they actually use on a daily basis (assignment descriptions, teacher evaluation rubrics). In addition, there was considerable political resistance to the TKS. Most teachers' responses to the idea of the TKS were, yeah, yeah, another set of standards—No standards left behind. They already saw themselves as forced to deal with multiple standards, multiple bureaucracies producing standards, mostly by outside agents with little or no knowledge of (or respect for) the work that teachers actually do. This was not a promising communication situation.

Simply uploading the Green Book to the Web did not help either.[14] On the Web, teachers could more easily view the standards and more easily copy and paste them into instructional materials. But the standards still remained inert and abstract and dauntingly textual, as shown in figure 9.2.

Our recommendation derived from our interviews with teachers and our observations of their work practices. In other words, our research process started with deep audience analysis, particularly analysis of the teachers' work practices. Our first research question was, How do teachers currently integrate standards into their work? In our interviewing we used a contextual inquiry approach.[15]

We interviewed the teachers in their offices or classrooms, we asked them to show us documents they used in their teaching, we looked at how they organized information on their hard drives, we observed where standards were located in their workspaces (on hard drives, on bookshelves), and we asked them to walk us through their processes for doing class preparation. These observations were aimed at trying to understand teachers' work practices in situ so that standards could become enmeshed in those practices and, most important, helpful to those practices. We decided early on that delivering the TKS in a one-directional, top-down model was doomed to fail. Our contextual interviews had allowed us to observe far too many standards documents sitting on teachers' bookshelves collecting dust.

We recommended the creation of a Web-based "resource hub" that would combine taxonomic and folksonomic approaches to design. The Teacher Knowledge Standards would be presented more or less taxonomically; we saw that necessity—that was, after all, what our client directed us to do. But our observations and interviews with teachers indicated that for these standards to be used and embraced, something other than a top-down, taxonomic model was necessary. The best hope for implementation of the standards was to intertwine them with teachers' work practices and create an information product that would allow teachers the opportunity to engage, contest, and revise the standards. For the TKS to have the desired influence, the teachers needed to make the standards their own; to have the ability to revise, select, translate, critique, and prioritize them; and to be able to integrate them easily into their pedagogies (for example, have easy access to useful information that could be quickly copied and pasted into lesson plans and assignment sheets).

Hence we also integrated a folksonomic design that allowed teachers to post their own assignments and syllabuses and use the research hub as a kind of content management system for their teacher education courses, but then also link their materials to the standards. We hypothesized that this dual design model would promote adoption, and also revision, of the TKS.

The product that we ultimately produced for "delivery" of the standards—the Literacy Resource Exchange—was a social network for teachers to share materials within an environment where the standards hovered implicitly as one tab among many on the interface. Teachers could engage them or not, discuss them or not, as they wished. This environment values the wisdom of the crowd and seeks its input—rather than simply mandating adherence to predetermined standards or procedures. Figure 9.3 shows the home page interface for the first version of the Literacy Resource Exchange—showing what the teacher sees after logging on to the site. This page contains a window for Popular Tags, leading the teacher to resources that others have found useful. The site allows teachers to upload and share teaching materials. It also allows them to create discussion groups and to share teaching resources within those groups.

Fig. 9.3 Web 2.0 social networking site for teacher educators—early test version of the Literacy Resource Exchange (Porter and Hart-Davidson)

The Literacy Resource Exchange is, in effect, a social network along the lines of Delicious, YouTube, or Flickr. It is based on the folksonomic assumptions that teachers have wisdom, that the best way to produce an economically valuable resource for teachers is to give them responsibility for developing its content, and that the best way to "present" the teacher standards is to put them in a dynamic system that allows them to be changed, revised, prioritized, ignored, and, in effect, re-created. As a model for the writing process, our work involved not generating content so much as (1) understanding our audience's needs, talents, and knowledge and (2) designing a "commons," a social network encouraging teachers to share their knowledge in ways beneficial to the group.

The Dark Side of Social Production: Issues of Access and Labor

Before we embrace too wholeheartedly the benefits of social networking, peer production, and user-generated content, it is important to consider several critical-ethical questions: Who is excluded from this digital economy? Who does not have full (or any) access to participation? And who, then, is left behind? Who is rewarded and paid for their labor? And who is not? Is an economy based on so much "free labor" a fair and just economy?

The Issue of Access

Designing for access has long been an important consideration for Web designers—certainly for ethical reasons of equity and fairness, but, increasingly, for economic reasons as well. The basis of long-tail economics is creating content for small market niches—and doing that requires designing information for particular user needs. It has never been ethically fair—and it is now no longer economically smart—to design systems for some standard "generic user."

Access is an old problem in rhetoric. We could see it as the problem of addressing the general audience, a question that the eighteenth-century rhetorician George Campbell addressed in *The Philosophy of Rhetoric* (see James E. Porter, *Audience* 32–34). It is easy to look at general-population characteristics and make facile judgments about "access." In practice, though, access is a complex challenge that rhetoric ought to be taking up more earnestly, as it pertains in basic ways to audience. Accessibility is an important consideration for system design—and not simply accessibility for physically challenged users. What the data show is that there are a range of accessibility variables that need to be accounted for, ranging from socioeconomic status, to broadband access, to sight issues, to educational limitations.[16]

It is not enough to say that Internet usage is now "widespread," just because we have data that tells us there are 200 million Internet users in the United States and that 75 percent of adults in the United States use the Internet "at least occasionally" (Pew). Those grand numbers by themselves mislead. Within these generalized numbers lie some troubling educational and socioeconomic differences. It is important to note that, as of August 2008, for those with household incomes less than $30,000 per year the level of Internet usage is only 56 percent, whereas it is 95 percent for those with annual household incomes greater than $75,000. And although the overall percentage of U.S. residents using the Internet is rising, the gap between users and nonusers is widening. Only 38 percent of Americans over age 65 use the Internet. And, maybe most troubling of all, only 38 percent of those who have not graduated from high school use the Internet (the figure is 66 percent for high school graduates and 95 percent for college graduates; Pew; Fox). We can perhaps expect that the age divide will lessen over time, but the education and socioeconomic divides seem to be widening, not narrowing.

Designing for a diverse audience is a challenge that needs to be addressed—and even principles of universal design may not be sufficient to address this wide variety of needs. The first design principle is an equity issue: All interested users should be able to participate in social networks. The second principle is an economic one as well as an ethical one: Diversity is a key criterion for design of systems that rely on the wisdom of the crowd; "the simple fact of making a group diverse makes it better at problem solving" (Surowiecki 30).

The Issue of Labor

Richard Barbrook ("Digital Economy"; "High Tech") and Tiziana Terranova are two cultural critics, among many, who urge caution regarding the optimistic claims about open source and social networking bringing new power to users: "We cannot agree with the digerati's claims that the Internet turns every user into an active producer, and every worker into a creative subject" (Terranova). They wonder whether a generation of Netslaves, a new form of oppressed labor,

is being duped into volunteering their expertise. Terranova wonders whether the increasing reliance on user-generated content results in "a degradation of knowledge work" and a devaluing of digital skills.[17]

When Doritos invited consumers to make their own video commercials[18] (as part of its "Crash the Superbowl" marketing campaign), and then announced its plan to air the winning commercial during the 2007 Super Bowl XVI broadcast, was that an innovative approach to advertising that provides an opportunity for the ordinary user? Or was it a form of outsourcing that takes jobs away from knowledge workers? You have to be a little worried when *BusinessWeek* pronounces "free labor" as the Best Idea of 2006 and goes on to suggest that business should take full advantage of this windfall before the digital dupes wake up: "How long before the unpaids start stomping for their cut? Catch them while you can" ("Free Labor").

Not all gift economies are innately unjust, as Terranova admits: "Free labor is not . . . necessarily exploited labor." Think about volunteer fire departments, academic discussion groups, or unpaid student internships. But we need an ethical metric for determining when labor is exploitative versus when labor works to mutual benefit, to generate value for all parties. One such metric is a reciprocity principle: What value do workers derive from free labor? Lerner and Tirole point to two incentives motivating programmers to contribute free labor in the open source movement, the career concern incentive and the ego gratification incentive: "The *career concern incentive* refers to future job offers, shares in commercial open source-based companies, or future access to the venture capital market. The *ego gratification incentive* stems from a desire for peer recognition" (58). Lerner and Tirole also note that programmers can gain practical knowledge that can directly translate into cost savings, but that the greater long-term benefit might be increased systems knowledge from working in a fluid environment with a larger number of other contributing programmers.

Barbrook ("Digital Economy") points out that a new kind of worker—the "digital artisan"—emerges from this kind of economy, and that such a person develops skills that can translate into pay eventually. In Anderson's terms, the digital artisan may start out at the far end of the long tail, but through experience and exposure and circulation, become more and more well known, move toward the body, and achieve financial success. Although this narrative sounds promising, we should be wary of such Horatio Alger stories. The process might work for a few, but does it work for most?

The metric might be qualified, then, to something more like "immediate and comparable reciprocity"—that is, the value is obtained fairly soon and at a comparable level of exchange. Think about the gift economy of the academic discussion list. Academics within such lists typically post questions to the group (for example, asking about resources on a given topic), and benefit from the wisdom of the crowd in the form of helpful information collected from an expert

community. But what are the ethical expectations governing such communities? If you read the list and benefit from the wisdom of the crowd, are you expected to return the favor, at least occasionally, when somebody else in the community needs information that you could provide? If the flow of information is only one way, a few committed participants providing free information, then is the community at large exploiting the good will and commitment of the few? Or do the members of such communities post out of sheer good will and the satisfaction of helping others? Is reciprocity not necessarily an expected part of such an economy? Is the value to be gained in the giving rather than in the receiving?

This kind of gift-sharing economy does not generate revenue internally: nobody gets paid for posting. But the internal economy does generate revenue externally—if you think in terms of increased knowledge and productivity. A forum can lead to improved professional status for its participants in the form of publications, jobs, promotions, consulting work, teaching tips, practical skills gained, and the like. Are user forums sponsored by companies such as Adobe working on a similar ethic—or are those user forums an instance of the software industry cutting costs, outsourcing labor, and avoiding its responsibility to support its products? Are the companies simply offloading technical help on to their customers? Or do such forums supplement more traditional forms of support by deploying the wisdom of the crowd to solve problems and answer questions that conventional documentation and online help could not as efficiently address?[19]

Those who design interactive systems must ask such critical-ethical questions—and, beyond merely asking them, follow up to make sure that social networks meet relevant accessibility standards and, if the systems rely on user-generated content, that they provide reciprocal value to users, not simply take advantage of free labor.

Conclusion: Implications for Writers

When talking about writing in digital spaces, we need to reconceptualize writing from the economic standpoint of production, consumption, and exchange (Trimbur; Marx). Writers in the digital milieu encounter an economic exchange system that is different from that of print. Capital resides not so much in the original texts you produce, but rather in your ability to deliver and circulate texts in ways that make them accessible and useful to others and in your ability to collaborate with others, to share files, to co-create meaning in social spaces. In other words, in the digital economy, what we come to think of as "writing ability" is shifting in rather dramatic ways toward a community and collaborative notion of networked writing. The professional writer becomes more a creator of communities, of networks, than a creator of content.

In the field of technical communication Johndan Johnson-Eilola has been talking about this shift for ten years or more, noticing, first, that the emphasis is

shifting from "technical" to "communication": that is, digital industries have "shifted portions of their revenue streams to providing information rather than technological products. Some organizations that work specifically in information produce little or no products of the industrial type" (Johnson-Eilola, *Datacloud* 252). In this information economy the professional writer becomes what Johnson-Eilola calls, citing Robert Reich's term, a symbolic-analytic worker: "People in this type of work identify, rearrange, circulate, abstract, and broker information in response to specific, concrete situations. They work with information and symbols to produce reports, plans, and proposals. They also tend to work online, either communicating with peers . . . or manipulating symbols. . . . Creativity is no longer the production of original texts, but the ability to gather, filter, rearrange, and construct new texts—symbolic-analytic work, articulations" (Johnson-Eilola, *Datacloud* 28, 134).

The traditional assumption that expertise lies mainly within disciplinary or professional domains of expertise is challenged by Web 2.0 developments, advocates of which advance the counter position that expertise lies in community choice through "folksonomic tagging" (Shirky, "Communities"; Shirky, "Power Laws"; Joshua Porter; O'Reilly, "What Is Web 2.0?"). In the world of Web 2.0, information content development is determined by communities of users, ordinary end users who are not experts or domain specialists (see Brown and Duguid; Golder and Huberman). For certain kinds of tasks—particularly for messy, complicated, and open-ended exploratory work and for solving wicked problems—the best option may be to get experts out of the way and to design systems to include dynamic collaboration with nonexperts.

The field of technical communication has long lived with the distinction between domain expert (aka, content producer, specialist, scientist) and end user (aka, audience, public, nonspecialist). This dichotomy between expert/producer and nonexpert/receiver is a key defining feature of the field, historically speaking (for example, it is the fundamental assumption of the linear communication model, the so-called Shannon-Weaver model[20]). Not coincidentally, it has also been the defining historical binary for the field of rhetoric since the fifth century B.C.E.—that is, the distinction between rhetor/writer and audience. In technical communication the process of user-centered design is an acknowledgment that users have useful knowledge and can contribute productively to the design of systems. User-centered design is a development model geared toward bringing user knowledge into the design process at a much earlier stage (Johnson).

The social dynamic of Web 2.0 threatens to overturn the fundamental expert-novice rhetorical model upon which writing and communication theory has long depended. What if the job of experts is not to solve problems by themselves, but rather to design robust collaborative systems that allow diverse groups of users (experts and nonexperts alike) to pool community resources in

order to solve problems? The notion of "expert" is shifting away from its traditional basis in "content knowledge" to another basis: expert as skilled social networker and collaborator.

In the kind of digital economy discussed here the role of the writer shifts from production of original content for a large mass audience to managing information resources in ways that direct tailored information to smaller audiences, maybe even the single user, with very specific needs. Doing this work requires knowledge of how to do research (particularly audience research), how to work within and to manage collaborative teams, how to deliver information, and how to test and evaluate information (usability knowledge).[21]

As if the author was not already dead, Web 2.0 fires more bullets into the author's cold carcass. The rhetorical shift occasioned by Web 2.0 creates a technological presumption in favor of end users (audiences). In such a writing economy, some traditional writing skills continue to be important—research, audience analysis, rhetorical effectiveness, collaboration. But these practices work in very specific ways in online environments—and, I would argue, cannot be effectively taught outside those environments. Overall, the skill set that is needed for work in this economy is the ability to

- repackage, redesign, remediate, and redistribute existing information for new audiences and contexts;
- make and maintain connections (a) between people, and (b) between people and information resources;
- design social networks that enable productive collaborative thinking and work and that allow for the effective and efficient distribution of information;
- select and tailor information for small market niches (specific audiences); and
- design indexing, tagging, filtering, and searching strategies that allow audiences to find needed information.

Finally, a question: Is the appropriate role for rhetoric simply to follow technology development—to adapt its theories and practices to fit changing communication circumstances? Or is it possible that rhetoric can help shape and influence the digital economy and social networking? My answer to that question can be summed up in two phrases: "information" and "knowledge work." If the basis of a digital economy concerns (a) the development of "information"—and not just information as a static product, but more important the transformation of information into useful knowledge; and (b) if the digital economy concerns the delivery and circulation of information via social networks in ways that create value for users, then writing teachers, communication scholars, and rhetoric theorists certainly have a lot to offer this discussion. The neglected rhetorical canon of delivery again becomes important. Not the old version of

delivery for oral discourse, but a remediated delivery for digital environments. To accomplish this, rhetoric must understand why and how digital economics pertain to writing practice and shift its theoretical and pedagogical emphasis toward digital forms of invention, production, and interaction. In 1990 Kathleen Welch admonished us about a new paradigm we still have not quite heeded: "The fifth canon [delivery] . . . is now the most powerful canon of the five" (31).

Notes

1. According to Cormode and Krishnamurthy, "the essential difference between Web 1.0 and Web 2.0 is that content creators were few in Web 1.0 with the vast majority of users simply acting as consumers of content, whereas any participant can be a content creator in Web 2.0 and numerous technological aids have been created to maximize the potential for content creation." See also O'Reilly, "What Is Web 2.0?"; O'Reilly, "Open Source"; and the Wikipedia definition of Web 2.0 at http://en.wikipedia.org/wiki/Web_2.

2. Other important discussions of digital economics include Barlow; Raymond; Lessig; Tapscott; and Williams, "Innovation"; Tapscott and Williams, *Wikinomics*. See also "The Power of Us."

3. See James E. Porter, "Why Technology," "Rhetoric," "Why We," "Opening," "Recovering"; Porter and DeVoss, "Rethinking"; and DeVoss and Porter, "Why Napster."

4. Writing well before the digital age, Pierre Bourdieu tells us two things of importance to digital distribution: (1) the importance of symbolic capital in a society should never be underestimated; and (2) the relationship between symbolic and material capital matters (that is, they have an effect on each other). Symbolic capital is tied to the potential and actual development of material economic capital.

5. Nardi et al. ("Why We Blog") conducted in-depth interviews with twenty-three bloggers to determine their motivations. What they found was a variety of motivations for blogging, including "documenting one's life; providing commentary and opinions; expressing deeply felt emotions; articulating ideas through writing; and forming and maintaining community forums" (43). The value of blogging, for most of these bloggers, pertained to their desire to articulate and share their views; monetary gain was not a principal motivating factor.

6. For a visual graphic of the long tail as it applies to Rhapsody online music sales, see http://longtail.typepad.com/the_long_tail/images/tailgrowth2_1.jpg.

7. For examples of such user forums, see "Dreamweaver Support Forums" at http://www.adobe.com/cfusion/webforums/forum/index.cfm.

8. Most academics are involved in commons-based peer production, or at least they are if they participate in email discussion groups (aka, listservs). Most professional discussion groups—such as H-RHETOR (for scholars working in the history of rhetoric), AoIR-L (for the Association of Internet Researchers), and CHI-WEB (for Web designers)—are based on a gift-exchange economy. Scholars and practitioners participate on these lists not to make money directly but rather to share information and resources of value to the community. You post information helpful to others in the hope (or expectation) that you will receive useful information in return. But sharing is not

the only motive in this kind of context: You might also hope to establish your reputation, to become known and respected as knowledgeable in a certain area, to distribute and circulate your own work, or to enhance your scholarly capital. You join lists pertinent to your interests, your research, your teaching, your political aims—and you contribute according to interest and value. No money ever passes hands on these lists. But such lists are common and active and, I would argue, useful.

9. Of course in any social network based on a gift-sharing economy, there are always "freeriders" (Ripeanu et al.), lurkers, and low-sharing users—participants who tap into the knowledge of a community without contributing any value themselves. As Ripeanu et al. discovered, "Our data for the distribution of contributions within a single community shows that a minority of gifters in a community are responsible for most of the gifting." However, they add, digital communities can install social protocols to encourage gifting. Nielsen also points out that within most user groups "participation inequality" is rampant. He refers to the 90–9–1 principle: in most online forums 90% of users lurk, 9% contribute occasionally, 1% produce the bulk of the information. On Wikipedia, 99.8% of users are lurkers.

10. To view the *Time* magazine cover for December 26, 2005, visit http://www.time.com/time/covers/0,16641,20061225,00.html.

11. Some examples of folksonomic Web 2.0 Web sites include Delicious (a site for sharing bookmarks), Flickr (for photo management and filesharing), SlideShare (for slide presentations), and YouTube (for videos).

12. Surowiecki is careful to delineate circumstances in which the wisdom of the crowd can effectively be deployed, versus circumstances in which "the madness of the mob" is likely to prevail. The wisdom of the crowd works well for complex social problems of an interdisciplinary nature. But to deploy this wisdom appropriately requires designing a social network based on these features: diversity of opinion (skills, knowledge); independence; decentralization; aggregation; access to information; and simultaneous (not sequential) decision making.

13. The TNE project Web site is at http://tne.msu.edu/default.htm.

14. For a complete list of the Teacher Knowledge Standards, see https://www.msu.edu/~tne/index.html.

15. Contextual inquiry is a user-centered methodology that involves interviewing and/or observing users in their normal workspaces and, to the extent possible, observing their work practices.

16. For a more detailed discussion of access as a rhetorical subtopic of delivery, see James E. Porter, "Recovering Delivery."

17. Søren Mørk Petersen worries about "capitalism's ability to piggyback" on user-generated content. He outlines the ways in which Web 2.0 can be viewed as "an architecture of exploitation that capitalism can benefit from: 1. Through a distributed architecture of participation, companies can piggyback on user generated content by archiving it and making interfaces, or using other strategies such as Google's AdSense program. 2. Designing platforms for user generated content, such as Youtube, Flickr, Myspace and Facebook." See also Albrechtslund; Scholz.

18. See http://promotions.yahoo.com/doritos/index.php.

19. For example, for its popular Web-authoring tool Dreamweaver, Adobe provides a fairly robust Help Resource Center in addition to its user forums. In other words, the

company is still producing documentation and tutorials (some of which permit user comments and annotations) in addition to sponsoring user-generated assistance. In this case, I would say, Adobe is not abdicating its responsibility to users but rather deploying the wisdom of users, in conjunction with conventional modes of help, to provide the best possible range of assistance.

20. For a visual representation of "The Shannon-Weaver Model" of communication see http://www.cultsock.ndirect.co.uk/MUHome/cshtml/introductory/sw.html.

21. Research and theory pointing us in the right direction includes Bonnie Nardi's research on network WORK (see Nardi, Whittaker, and Schwarz, "It's Not" and "NetWORKers"); Johndan Johnson-Eilola's research on the changing nature of work in technical communication (Johnson-Eilola, "Accumulation," "Relocating," and "Writing"); and William Hart-Davidson's emergent work ("Web 2.0"). Hart-Davidson ("Web 2.0") asks the important question, What happens to writers when users become content producers? (See also Hart-Davidson, "On Writing.") Others in writing studies who have discussed the implications for writers of Internet-based technology development and new media include Daniel Anderson; Rice; Hoffman; Reid; and WIDE.

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