Ilana Snyder, ed. ***Silicon Literacies: Communication, Innovation and Education in the Electronic Age***. London: Routledge, 2002. 190p.

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This work is one in a series from Routledge about literacy. Other titles include *City Literacies*, *Situated Literacies*, *Multiliteracies*, and *Global Literacies and the World-Wide Web*. The editor of *Silicon Literacies*, Ilana Synder, teaches at Monash University and says the intent of the book is "to present theoretical and practical understandings of silicon literacy practices" for the classroom (173). The eleven articles in the collection cover much of the world: Australia, the U.S., the U.K., Canada, and Singapore.

Like almost all anthologies, this one is uneven. Let me dispense with the chaff. There is a rather pedestrian piece on describing how customer ratings at eBay.com have become "a highly valued 'currency'" and a near obsession for some online amateur merchants (26). Another piece, which describes using simple visual symbols in place of words at websites, is addressed to teachers of learners with special needs. A creative writer from Vassar University offers his musing on "post-hypertextual rhetorics" in a self-indulgent piece that has only the most tenuous discursive possibilities. An article titled "Technological Revolution, Multiple Literacies, and the Restructuring of Education" promises fireworks but delivers only the bland and obvious, such as this: "The question is not whether computers are good or bad in the classroom.... Rather, it is a question of what to do with them" (157). Rather than give examples or suggest policy, the author moves on to more empty proposals: "This situation calls for critical approaches that make us aware of how media construct meanings, influence and educate audiences, and impose their messages and values" (159). Ah, yes, and how should we do that? In fact, I think my rhetoric courses do exactly this and the author seems to agree. His general suggestion is that the use of computers and the Internet "necessitates promoting more sophisticated abilities in traditional reading and writing," including rhetorical study (161). Now for the more interesting articles.

Catherine Beavis, from Melbourne's Deakin University, suggests that many primary school students are likely to be more computer literate than their teachers. She quotes research that claims "in the twelve months prior to interview in April 2000, 95 per cent of Australian children aged 5-14 used a computer" (50). I hope comparable numbers of teachers also used computers, but if they did, many were likely to use them only in the context of doing their job rather than to play the video games that engross many of their students. Beavis suggests that such

different contexts for computer use, between faculty and students, cause a "mismatch between school expectations and definitions of literacy and the kinds of knowledge young children bring for their future development in literacies, both print and digital" (49). More prosaically, the point is that teachers are not likely to know the novelistic world of Pokemon, which Beavis says may involve the "need to recognize and make use of the skills, strengths and attributes of some 150 different creatures/characters" (48). Beavis contrasts two less well known games, Magic and Mayhem, "a highly visual and literary game" (52), with Abe's Exoddus, a game that relies on irony, "both verbally and visually," to offer "parody or satire" of our world (55-56). Beavis says that in Abe's Exoddus violence is always comic, yet the dark and vivid graphics suggest movies such as *Alien* "and film about forced labour camps," presumably in such places as Nazi Germany (56). Oddworld is a software company that offers three games, including Abe's Exoddus. Visiting the company's website in 2001, Beavis found that the "Oddworld website… included amongst its 'inspirational links' the Save Tibet and Amnesty sites," which are highly committed to the politics of this world (56). The Save Tibet link is still featured in 2004, but Amnesty International has been dropped: see <http://www.oddworld.com/>. In contrast to the political and narrative contexts of Abe's Exoddus, the Magic and Mayhem game shifts "from narrativity to geography, with parallels concerning the navigation, mapping and colonization of physical and cyberspace" (55).

Beavis reports that in classes using these games, "contrary to popular beliefs," students were "intensely social and interactive, with three to four students grouped around a single screen, working the controls, reading the instructions, taking notes of what appeared on screens, trying out solutions, arguing and so on" (56-57). Girls were less enthusiastic participants and among the boys there was a surprising shuffle in assessment. Beavis reports that "students normally disengaged in school became highly focused and involved, while more print-oriented, literary students were for the moment marginalized if they could not also operate in this visual, digital world" (59).

Mark Warschauer, from the University of California at Irvine, argues against the popular belief that the Internet invariably increases the hegemony of the English language around the world. Warschauer suggests that there is a kind of dialectic at work. He quotes sources who claim 80% "of the first generation of webpages were written in English" and that, in 1999, "English remains the default tongue of international discussion online, as well as of e-commerce" (62). On the other hand, Warschauer quotes a source to say that the Internet offers a medium "to define and defend local identities," based not only on message or

content, such as that of militant Islam or Queer Nation, but also on the level of linguistics and language use (63). He gives three interesting examples. Internet chat rooms offer an opportunity for native Hawaiians to "communicate with each other in their own language." Otherwise "there is no other location with a critical mass of Hawaiians who can communicate with each other in their own language" (65). In Egypt, Internet users adopt a kind of patois that uses "a romanised version of Egyptian colloquial Arabic" to communicate in informal e-mail and chat rooms (67). In Singapore there is a similar phenomenon; "chat rooms are filled with Singlish," which is "a highly colloquial dialect of English" that the government of Singapore hopes to stamp out (see, e.g., "A War of Words over 'Singlish'" <http://www.singapore-window.org/sw02/020729ti.htm>). These three examples illustrate a kind of pastiche seen in the movie *Brazil* where advanced technology is embedded in 1940s fashion and a fascist political culture. The suggestion by both the movie and Warschauer is that technology does not determine, or perhaps, does not even imply cultural use. In these three very different parts of the world, Internet technology is used to preserve or to invent ways "of protecting… local identity" (70). Finally, Warschauer reminds us that "the majority of English speakers in the world are not native speakers, but are rather those who have used English as a foreign… language" and consequently they may have more than one way to read and write on the Net (71).

Nicholas Burbules, from the University of Illinois, investigates the metaphor of the Internet as physical space or a location that we might figuratively walk through. He suggests that users explore unknown places in two ways, by mapping and by recognizing architectural structures. Mapping the Internet includes creating a list of favorites in a browser and making, or following, hyperlinks on webpages. Such mapping, Burbules suggests, changes the Web from "a huge online encyclopaedia," to a place "where users come to find and make meanings" (78). I was surprised that Burbules did not mention Yahoo's attempts to offer guidance, for example through Yahoo! Picks <http://picks.yahoo.com/>, which recommends sites under various category headings. Nor did Burbules mention educational portals, such as Columbia University's Fathom <http://www.fathom.com/>. Burbules explains that architectural structures on the Web include "how webpages are designed, how the multiple pages within websites are organized and interrelated," and how links figuratively provide paths to walk from one building to another. Readers should be careful to notice that constructing maps and planning architectural structures is rhetorical and does not construct the physical structure of the Internet. The emerging science of networks, perhaps better known by the "six degrees of separation" idea, finds that complex networks have unexpected

structures. (For the "six degrees of separation," see the Kevin Bacon game at <http://www.cs.virginia.edu/oracle/> and an explanation of its significance at <http://www.santafe.edu/sfi/publications/Bulletins/bulletinFall99/workInProgress/smallWorld.html>.) Albert-Laszlo Barabasi, one of the founders of network science, says that "starting from any page, we can reach only about 24 percent of all documents [on the Internet]. The rest are invisible to us, unreachable by surfing" and unmapped (165). This is caused by hubs in the network, which lead to high traffic sites like Amazon.com or Yahoo.com. Hubs provide easy links into popular sites and to other sites in a central core, but they provide no links back to the millions of homely websites like yours and mine. Moreover, this cannot be changed by maps or architecture. Barabasi says that the Internet "cannot be shaped by any single user or institution, because the Web has no central design—it is self-organized. It evolves from the individual actions of millions of users" (174).

Still, Burbules points are useful for rhetorically analyzing Web pages. As a teacher who has large Internet classes, I am acutely aware that I have a global understanding of a course, with its hundreds of posts and emails, that no student has. I am aware that while I think of the class as involving as many as 50 students, a student who does not read the posts made by other students comes to think of the class as a tutorial. Burbules makes a related point, saying that without a hit counter or guestbook, "each new user approaches the site as if it had never been visited before." He reminds us to think about audience; about the "visibility and hiddenness" of Web pages, how "they disclose or conceal" to sometimes build "gated communities" that address only a select few (81-82).

George Landow spent thirty years at Brown University before moving to the University of Singapore. His article has two interests. His broad interest concerns how institutions lack techniques to cope with large-scale change or paradigm shifts: "the institution has no means of distinguishing between success and failure, true innovation and a dreadful mistake" (111). On a more specific and limited scale, Landow provides illustrations of mistakes that administrators at Brown made about his Web work. These mistakes will resonate with readers who develop web courses or websites that university administrators typically find to be nice but insignificant as publications or indications of professional work. Incredibly, Landow says his various websites received "as many as 8 million hits" a month and were "endorsed by the ministries of education (or the equivalent) in France, Sweden, Scotland, England and the United States" (112). But when he brings them to the attention of administrators at Brown as something they might use for recruitment or to demonstrate research, "the university leadership simply is not interested in them," obviously because they know nothing about how the Internet

affects communication, education, and culture! Landow continues in his deceptively unemotional tone, "I suggested to one senior administrator that we could publicise either a proposed department of digital culture or the entire university by putting a statement of Brown sponsorship in each document. I even offered to hand over management of the sites to a committee, a group of editors, whatever. This proposal was not deemed worthy of a response (112-113)! My own professional situation is perfectly captured by Landow's statement that "like so many other American institutions, Brown still does not have any way of counting hypertext and most computing work in the humanities toward tenure or promotion" (113). Landow's article should be mandatory reading for university administrators who assess faculty and make—or fail to make—decisions about goals and resources regarding "the way digital technology affects long-held conceptions of teaching, learning, scholarship, intellectual property, publication, institutional structures, and the like" (114).

J. Yellowlees Douglas, from the University of Florida, reports developing nearly the same class that I teach online, a professional writing class for business students. She found that the students in the online course were "easily the best group I have taught in my seventeen-year career" (119). She held a chat session on Saturday mornings that fostered real discussion. Consequently, she found herself moderating discussions in contrast to the conventional classroom experience where "the instructor nearly always establishes the course's 'tone'" (120). I concur with her point that in contrast to conventional classrooms, where "most discussion is carried by a handful of students," every student is involved in online discussion (120). Instructors can examine logs of discussion sessions to assess students as well as read and respond to discussion posts, e-mail, and HTML presentations. Perhaps the most innovative technique that Douglas adopted was to simulate real world writing by relying on a peer review process in which her evaluation of documents was only one of four equally weighted grades. I wonder about the ethics and legality of awarding final grades to students when, perhaps, 75% of the grade has been determined by students. But I agree that her method probably accomplishes three things: (1) "It ensures students grapple with the vagaries of writing for a genuine audience"; (2) in contrast to "conventional classrooms, [where] students write papers for their instructors' eyes," her students write for peers who may better approximate commercial clients and product end-users; (3) when they turn to their own writing, students are conscious of ideas or principles that they used to critique a peer's paper.

Another innovation that students appreciated: their professional writing papers were also submitted as assignments to a business class, giving them yet an-

other assessment. Douglas ends by making two points. The first is that teaching an online class requires far more work by the instructor and more support by the institution in the form of teams of professionals who design, deliver, troubleshoot, and assess the course. It is apparent, for example, that Douglas was far more involved with her colleagues in the business college than she would have been if she had taught a conventional classroom writing course. Responding to students is not limited to three hours a week in class and a few office hours. Douglas reminds us "the length of time between e-mail queries and replies, and the swiftness with which instructors responded to asynchronous discussion posting loomed large in evaluations of faculty performance" (124). In my online graduate classes, I respond to e-mail and discussion posts seven days a week. Douglas' second point is provocative. She claims that the online class she taught offered, not just an equivalent educational experience, but a superior one. This is based on her idea of what a university education in business and writing should achieve. The "continual rounds of team work, peer critiques and evaluations, and friendships" created for online students the kind of professional community that even resident students, much less commuter students, rarely find or develop at a traditional university (128).

Chris Bigum, from Central Queensland University, offers a business and administrative perspective in regard to adopting and using computers in higher education. He makes the common-sense observation that "the user has to be convinced there is some advantage in using the new technology" to do the work she is presently doing. But, "when the new technology is put in place, things happen that bear little relationship to what was imagined" (131). Bigum suggests that adopting new technology causes a community to become more self-conscious about what it does, why it does it, and what else it might do. "The one thing that a community can and will need to have more expertise in is knowledge about itself" (137).

Ron Burnett is president of a Canadian art institute. He is evidently old enough to remember how in the 1970s we in the arts and humanities used to gnash our teeth when forced to justify our teaching in terms of behavioral objectives. He sees much of the same problem being repeated with distance education. Thinking of the current popularity of assessment, Burnett asks, "why are we testing more than ever in a blatant return to the 1950s?" (152). He also questions our glib assumptions about the Internet medium. "It remains unclear, however, whether the Web is interactive…. In and of itself, the use of each of e-mail, listservs, chat or hyperlinked webpages, says very little about the quality of interaction" (146). Yes, and yet these undefined jargon terms are the very ones that, for example, WebCT

uses to evaluate and promote what it identifies as superior distance courses. When I filled in various categories to submit my courses for a competition, I simply guessed at what those at WebCT might have in mind for various jargon terms. When I received the judge's response, it suggested a kind of Procrustean bed that assumed a good course was one that used all the tools the program offered.

Burnett asks why the architectural arrangement of computer labs looks "very much like language labs." He suggests that it has "to do with the ease with which a teacher can monitor the work of students" (146-147). Surprising for an administrator, Burnett suggests that in teaching how to use computers, we remain timid and unadventuresome. "We need only ask one question to comprehend the weakness of learner-centered approaches using digital technologies and networks." Would we allow learners to comprehensively edit a website? Burnett says something like this happens "in the online gaming world, where a small group of hackers redesigned" games for their own interests (152). I had not thought of this, but I may develop a rudimentary website and ask my professional writing students to redesign it. It seems more immediately engaging than asking them to build their own individual sites from scratch.

Silicon Literacies offers an interesting and useful number of articles. Most of the authors succeeded in keeping a good balance between policy, theory, and speculation, on one hand, with specific examples and suggestions on the other. I closed the book thinking of two major changes in how I teach my online classes. I suspect that many readers will share my feeling that it is interesting to learn of innovative distance education projects around the world when colleagues at our schools seem largely indifferent or skeptical. Most of all, I am tempted to quote passages from George Landow's article in my next annual review. ❋

Works Cited

Barabasi, Albert-Laszlo. *Linked: How Everything Is Connected to Everything Else and What It Means for Business, Science, and Everyday Life*. New York: Penguin Plume, 2003.