New technologies brought about by the computer are causing writing to take on more and more the features of orality. The computer's emphasis on speed reduces or even eliminates distance, which is one of the key features of orality. Orality is immediate and relies on assumptions, on gaps to be filled in by the auditor. It is also "socially minded" and agonistic. Literacy, by contrast, is anything but immediate—it accepts distance, even encourages it. Literacy minimizes assumptions and fills in gaps. Two transformations (hypertext and electronic mail) are reinforcing existing aspects of literacy and communication while at the same time transforming them. Hypertexts are the first texts in which the elements of meaning, of structure, and of visual display are fundamentally unstable. Hypertext has speeded up the circumvention of linear manuscripts begun by pagination, indexes, and bibliographies. An age of "secondary orality" (as Walter Ong terms it) is dawning. Secondary orality is the orality of telephones, radio, television, virtual reality, and electronic mail, all of which depend on texts for their existence and operation. It is the lack of distance—permitted by speed—that makes electronic mail messages seem conversational and sometimes combative. Teachers of literacy need to get ready for secondary orality and prepare students for a future which includes hypertext, electronic mail and virtual reality. (RS)
Electronic Literacy:
What's in Store for Writing and Its Instruction
by Bruce Maylath
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I'm about to do something that rarely makes sense to most literate types in the 20th century. I'm going to speak to you by reading aloud from a text. Granted, I've constructed the text so that when I read it I may sound as if I'm just talking extemporaneously. At least, that's what I'm aiming for.

I make this point because today at this session we're taking up the issue of literacy, and to understand how literacy is changing, you need to understand, first, how literacy differs from orality, and second, how literacy has changed as it's moved from manuscripts to printing presses and now to word processors.

I say word processors, but even that's a print-based term. What we're really talking about are computers, and computers are changing more than just print; they're changing the nature of print, even the need for print, indeed, they're changing our sense of consciousness and awareness.

What computers do more than anything else is accelerate. They radically increase the speed with which we do things. With their emphasis on speed, they also reduce or even eliminate distance. If you don't remember anything else from my talk, remember this: Speed reduces distance. Why is that so important? Because when you're talking about communication, absence of distance is one of the key features of orality.

Here are some of the applications of the computer that I'd like you to think about for the next 15 minutes. The Macintosh computer now comes with a microphone and speaker as part of its standard accessories. Perhaps you don't use them because you lack the software or--and this is especially true of the literacy minded folk that populate English departments--you're not sure how they mesh with the keyboard. Well, there's a reason why they're now considered standard operating equipment. At least one software program allows you to place an icon next to the text you're composing to mark a voice message. The writer--or rather writer/speaker--perhaps I should say orator--records a voice message via the microphone. When the reader--perhaps I should say auditor--sees the icon, that person clicks the icon and listens to the message that accompanies the written text. Now, if you're like me, a question has just popped up in your mind: why bother then with the text at all?

But then maybe texts are no longer meant for human readers. At several large firms, including Lockheed, Apple, and Wells Fargo, all based here in California, résumés are now read by computer. A company in Santa Clara called Resumix has, in its founder's words, combined "artificial intelligence...with the newest image processing technology to come up with a better way to hire people" (Howe). Clearly they're not hiring the people that used to be hired in personnel departments.

In January this year at the Loews Theaters in New York, you could watch the movie "I'm Your Man" (Zonana). What's so special about that? At six plot junctures, the audience got to pick which of two or three options it wanted to see next. In other words, each day's audience got to see a different version of the movie--up to 18 versions, squared.

In St. Louis at the old Union Station, now turned into a 19th century looking shopping mall, you can pay a few dollars to slip on a computer-laden helmet that will take you into virtual reality. And that's just for entertainment. If a picture paints a thousand words, imagine what virtual reality will do to reliving a story that used to be a narrative in a book.

Underneath all of these applications of technology runs an undercurrent of change we've barely noticed. Communication that we've assumed bears the marks of literacy has come to bear more and more of the marks of orality. Ultimately, it's a result of speed, and one of the consequences of
speed is the reduction of distance, McLuhan's "global village", if you will.

Orality
Before going any further, let's take a look at--or for you in the audience, take a listen to--some features of orality. Orality is immediate. It lacks distance. It also relies on assumptions, on gaps to be filled by the auditor. With the speaker and hearer in interplay, orality builds ideas collaboratively. It is "socially minded" (Lindhardt). It's also agonistic. In oral societies, listeners and speakers approach each other in combative style. In addition, orality is repetitious. It depends on fixed expressions, proverbs, and even clichés. Let's go over some of the reasons why.

I'm going to begin with the item I listed last. Orality is repetitious, as Walter Ong points out, because thinking memorable thoughts requires mnemonic devices and patterns. "Mnemonic needs," says Ong, "determine even syntax" (34-35). Thus, orality breeds redundancy to keep speaker and listener on track. In short, orality has to contend with short memories.

Orality can be collaborative and assumptive because speaker and listener are ever present--and change roles, often within microseconds, resulting in what sociolinguists call conversational overlap. If the listener doesn't understand something, the listener just asks. The speaker needn't supply much information unless the speaker discovers that the listener needs more, something the listener stands ever ready to signal with so slight a sign as a puzzled furrow in the brow. Orality is immediate. It lacks distance.

Literacy
Literacy, by contrast, is anything but immediate. Literacy accepts distance, even encourages it. It's "individually minded" (Lindhardt). Literacy also minimizes assumptions and fills in the gaps. It has no need for repetitions, It has no need for memory. Consequently, literate types frown on the clichés that oral types find so dear and even necessary for basic communication.

Why the differences with orality? Writing was invented to cross distances: the distance of physical space or the distance of time. You can still read Aristotle this afternoon, 8,000 miles from Athens and 2,500 years since Aristotle read his texts to his students. Indeed, literacy promotes distance and individualism. To say it as Ong does, "Oral communication unites people" (69). "Writing and print isolate" (74).

Writing has consequences we rarely think about today; we take them so much for granted. As its own mnemonic device, writing demands the elimination of redundancy. In a text, repetitions just get in the way and use up space and time. In the process, however, writing imposes a strain on writers by forcing them to deviate from the patterns of redundancy they find natural as speakers. "With writing," says Ong, "the mind is forced into a slowed-down pattern that affords the opportunity to interfere with and reorganize its more normal, redundant processes" (40).

(Would you like me to repeat that?)

Because writing allows the writer to interfere, reorganize, revise, literate societies place a premium on precision. The idea is so literary that people in oral societies find the notion of precise ideas a foreign kind of thinking. (This is not to say that oral societies can't understand precision. A hunting society needs precision of aim just to stay alive.)

As teachers of literacy, all of you here had better prepare for some changes. The point of this address--I hesitate to say paper--the point of this address is that the new technologies brought about by the computer are causing writing to take on more and more of the features of orality.

For the time being, however, we're seeing a phenomenal increase in the artifacts of literacy. Walter Ong notes that "electronic devices are not eliminating printed books but are actually producing more of them" (135). Don't expect that trend to last. Jay Bolter points out that several generations after Gutenberg invented movable type, printers were still trying to make their impressions look like manuscripts (3). Ong says that we need to keep in mind an old principle: "a
new technology of the word reinforces the old while at the same time transforming it" (153).

The transformations are leading to a new orality. I'll take up two of these transformations here: hypertext and electronic mail. First, hypertext.

You're probably aware by now of the network nature of hypertext. It lacks a hierarchy or a linearity. What the movie audiences in New York saw in January was a kind of hypertext. But hypertext isn't new. Many of our conversations take place in a kind of hypertext. You're going to hear a hypertext as soon as I finish speaking and we go to questions. Some of you will ask questions of Nancy, some of Susan, some of me, back to Susan, then me, then Nancy, and so on. We'll bounce around. That's hypertext. You'll do it every day at this conference, and you won't think anything of it. Or at least you wouldn't have until now.

Jay Bolter and George Landow are the current authorities in this area, at least to the extent that the texts of books still establish authority. Bolter points out that "electronic text is the first text in which the elements of meaning, of structure, and of visual display are fundamentally unstable" (31). Fixed text disappears. Individualized texts take its place (8). Landow notes that linearity and hierarchy have not matched individual reader's needs for a long time. It was manuscript cultures that invented pagination, indexes, and bibliographies, all as a way of circumventing the linearity of the texts they were producing. Hypertext has speeded up the circumvention. We've been able to create hypertexts of linear texts for a long time. It's just that it took forever. The speed of the computer has made hypertexts commonplace. Eventually linear texts may look odd, even alien.

What's more, hypertext is being combined with hypermedia. That's what the Macintosh microphone and speaker are all about. Landow calls the resulting conglomeration "multilinear multimedia hypertext" (28). You don't like that idea? You're comfortable with old-fashioned literacy? Think about this comment by Landow: "Most poststructuralists write from within the twilight of a wished-for coming day; most writers of hypertext write of many of the same things from within the dawn" (87).

What's dawning is an age of "secondary orality," as Ong terms it (3). Secondary orality depends on literacy, ironically enough. It's the orality of telephones, radio, television, virtual reality, and E-mail, all of which depend on texts for their existence and operation. Secondary orality resembles old orality in that it emphasizes participatory mystique, it fosters communal sense, it concentrates on the present moment, and it uses formulas (Ong, 136). Think about e-mail--electronic mail--which appears on the surface to be a text, a product of literacy. On one level it is. If you've ever glanced at a bulletin board on Internet, Gopher, or any of the other e-mail networks, you're struck right away by the orality of it. It looks more like a transcript of an oral conversation than a composed text. Indeed, E-mail users think so much in oral terms that they forget that the extralinguistic cues absent from print--things like a frown or a smirk--can't be seen on the receiver's screen. So many messages of mirth and irony were being misinterpreted as serious messages that e-mail users eventually created a non-verbal symbol to transmit the lacking facial expressions. Still tied to the keyboard, they created a sideways smile, :) (colon, right parenthesis). Here we have an instance of Bolter's axiom: "In the electronic writing space...picture writing moves back toward the center of literacy" (55).

Notably, e-mail observers have pointed out the bluntness and seeming rudeness of some of the messages. They've chalked this up to the distance between users. I contend that it's just the opposite. It's the lack of distance--permitted by speed--that makes the exchanges seem conversational, and as Ong has observed, oral societies rooted in conversation are by nature agonistic, combative. The combativeness of e-mail is not much different from agnostic verbal play of oral cultures: dickering in the Arab bazaar, for instance, or playing the dozens in African-American neighborhoods of American cities.
What does this mean for teachers of literacy, teachers like us? First, it means we'd better get ready for secondary orality. Scandinavian rhetorician Jan Lindhardt notes that in his native country of Denmark, schoolchildren are much more attuned to sound than were Danish children 20 years ago. They are less attuned to texts, a finding corroborated in the US by Connors and Lunsford's study, outlined in the Ma and Pa Kettle series in the 3C's journal. As we recognize the changes, we need to make sure we're not preparing children for their parents' past, nor even our present, but instead their future, a future which includes hypertext, e-mail, and virtual reality. Landow says that we need to reconfigure students, showing them how to formulate the right questions to retrieve information. He says we also need to reconfigure teachers and disciplines. Interdisciplinarity is the hypertext of the academy.

We also need to think about who's getting instruction in the new kinds of literacy and orality. Alvin Toffler, who's probably thought about these changes more than anyone else, remarks that the gaps between rich and poor, armed and unarmed, are miniscule compared to the gaps between the informed and the uninformed, those who control access to knowledge and those who don't. Says Toffler, the U.S. suffers from "an information divide" as deep as the Grand Canyon (366). Landow offers similar warnings. Having heard three addresses now on the changes we face, let's talk in hypertext about the ways we'll face up to those changes as teachers of words.

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