

Plenary Address

Literacy in a new key

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Literacy, meaning alphabetic literacy, is no longer the keynote of Western culture. That is to say that capital-L Literacy is obsolete, having been done in when we killed the reading public, the *ground* of literacy. As with the Hydra (once her head was lopped off, new heads sprang up in its place), so with Literacy: now we see dozens, nay entire litters of (small-“l”) little literacies springing up spontaneously here and there with evident abandon.

So we are now in the delightful position that traditional (capital-L) Literacy is now *counter-cultural* in the West. Plato stood on the dividing-line, surrounded by pre- and proto-Literates. We too stand on a dividing line, actually the same one, though facing the other way, and surrounded by proto-Literates and post-Literates. (A post-Literate is someone who knows how to read, but prefers not to, finding it too slow, too laborious, or simply distasteful—or even pointless. There is nothing in the new electric technologies that demands a grounding in Literacy as a precondition for using them.) We are traveling in the direction opposite to Plato’s: he championed the new Literate culture; we, the new literacies.

Today, let us take some account of these little-l literacies, just for orientation.

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T. S. Eliot, another son of St. Louis, discovered a remarkable range of literacies alive in the daily press of his time. His observations provide a handy starting-point for our investigation into the state of literacies today: in “The Dry Salvages,” he wrote,

To communicate with Mars, converse with spirits,
To report the behavior of the sea monster,
Describe the horoscope, haruspicate or scry,
Observe diseases in signatures, evoke
Biography from the wrinkles of the palm
And tragedy from fingers; release omens
By sortilege, or tea leaves, riddle the inevitable
With playing cards, fiddle with pentagrams
Or barbituric acids, or dissect
The recurrent image into pre-conscious terrors—
To explore the womb, or tomb, or dreams; all these are the usual
Pastimes and drugs, and features of the press:
And always will be . . . (1941/1962, v.184-196)

Set aside attempts at definition; take the poetic route and make an inventory the acknowledged “literacies” around us. *In no particular order*, then, we find—

- Augury —Ought we to haruspicate or scry?
- Lip reading
- Face reading
- Body language
- Medical symptomology: it treats the body as a book. For that matter, why wouldn’t nearly all of the recognized “ologies” qualify as literacies? Here are a few candidates: anthropology, etymology, horology, physiology, demonology, martyrology, sexology, criminology, chronology, doxology, astrology, cardiology, biology, zoology, phrenology, ecology, geology, Assyriology, Egyptology, serology, osteology, Sinology, Scientology, topology, theology, hematology, sociology, virology, psychology, toxicology, neurology, climatology, tropology, primatology, typology, kinesiology, hydrology
- The hunter—reads sign
- The tracker—reads sign
- The detective, the CSI—reads the scene
- Cultural literacy—meaning, usually, how well-read is the candidate in basic facts and factoids concerning this or that culture? E. D. Hirsch went in search of the culture archetypes and found instead a heap of battered clichés. Basic to this topic, though, is encyclopedism.
- In a similar vein, *Religious Literacy* (Prothero, 2007, a book-club offering, subtitled *What every American Needs to Know—And Doesn’t*) offers “the core tenets of the world’s religions, along with a wealth of religious stories”
- Cultural anthropology—reads native and other cultures as texts.
- Reading an X-ray? Requires close observation, powers of discernment.
- Reading aloud as distinct from reading silently: they are sufficiently distinct as to merit recognition as separate literacies. That would make of speed reading a third mode of literacy. Richard Lanham (2006) regards reading aloud and reading silently as each offering a distinct posture of the sensibilities and of the imagination.
- Truman Capote observed scornfully, of another’s prose, “that’s not writing, that’s typing”: At a stroke he identified a different literacy—a style dictated by a technology. The typewriter introduced the 19th century to a range of new prose styles and experiences. Chesterton: women refused to be dictated to so they went out and became secretaries.
- “Word processing” then also identifies a literacy; and certainly documents created thus, rather than, say, handwritten in ink on paper, have their own style and freedoms.
- E-literature—a brand-new kind of writing—today delights in exploring the furthest recesses of digital freedom, and is still in the sandbox stage—that of greatest creative experimentation.
- Here is a current suggestion, found on the Internet: “In the war against ‘super bugs’ like MRSA, scientists are finding that the way to defeat them and any

other bacteria there may be by disrupting their communication. As this ScienCentral News video explains, decoding the language of bacteria might lead to powerful new antibiotics.” That suggestion opens the door to a number of additional literacies.

Evidently alphabetic Literacy has not been the only casualty of our new hunger for involvement. Numbers as well as letters work *via* detachment and abstraction. Both are classic left-hemisphere functions. Therefore, along with Literacy we must include the phenomenon called

- Numeracy—ability to work with numbers—which until recently occupied the headlines for a decade or more while various groups scientific and social lamented its demise. In *Innumeracy*, J. A. Paulos (1988) observed that

Quasi-mathematical questions arise naturally when one transcends one’s self. How many? How long ago? How far away? How fast? Which is more likely? How do you integrate your projects with local, national, and international events? with historical, biological, geological, and astronomical time scales?

People too firmly rooted to the center of their lives find such questions uncongenial at best, quite distasteful at worst. Numbers and “science” have appeal for these people only if they’re tied to them personally. . . . Getting such people interested in a numerical or scientific fact for its own sake or because it’s intriguing or beautiful is almost impossible. (p. 81)

Excessive concern with oneself makes it difficult to see this and thus can lead to depression as well as innumeracy. (p. 82)

- “Media literacy,” in general parlance means the skills necessary to recognize, evaluate, and apply the techniques of this or that medium. The emphasis is always on efficient cause, on cause-and-effect, because the focus is on content and application. The term rather vaguely subsumes a number of media and their respective literacies. So, for example, computer literacy or film literacy. Or any of the others:
- TV, radio, Internet, or photographic literacies abound, but no-one, interestingly, has proposed telephone or telegraph literacy. A very few media do not (yet) have an associated literacy, and for that reason they make a good study in themselves. Why are they exempt from the overall pattern? What else is exempt that might be included?
- Each of the Arts has its own literacy as well as its own literature, and so: music literacy, and dance literacy, etc. There is also an overall Arts literacy and a substantial literature.
- Precisely the same may be said of the sciences, with perhaps greater force than in the case of the Arts inasmuch as separations between the sciences are emphasized more than those between the Arts, which frequently miscegenate.

That’s enough of an inventory to give some sense of the current situation. All of the literacies I have mentioned, including the several media literacies, can without strain be subsumed under this heading: **Literacies of the Arts and the Sciences**. It

seems obvious and inescapable in the light of this our survey that the hallowed separations between the Arts, and those between the Sciences, and those between the Arts and the Sciences, have in practice long ago dissolved. Whoever masters multiple literacies in order to function in his field, at school or on the job, is engaged in bypassing those old separations and in exploiting the energies released when sciences or arts or both brush up against each other. One current approach to literacy, using the media available to a classroom, brings narrative smack up against a multiplicity of modes. It is called Digital Story Telling.

[Digital Story Telling] raises new aspects of language. The range of texts available to students spans not only literary genres and cultures but nonprint media forms as well. Students need to be able to “read” TV programming, digital stories, online discussions, and other kinds of media collages that consume much of the bandwidth in their tEcosystem [*sic*]. . . . [E]xperiencing more contemporary works in new-media form ideally situates [students] to be literate in the most useful, contemporary sense. (Ohler, 2008, pp. 46-47)

Such versatility in compounding various media and sundry literacies characterizes the digital world. Once transmuted into software, anything and everything becomes malleable, fluid, interchangeable. The digital is a world of constant transformation, and now it is running at warp speed.

The whirlwind of new media in the last decade has brought a corresponding kaleidoscope of styles and forms of awareness. When change is relatively slow, the need for training awareness is not so pressing. But when major new media appear every three or four years, the need becomes a matter of survival. Each new medium *is* a new culture and each demands a new spin on identity; each takes root in one or another group in society, and as these flow in and out of each other the abrasive interfaces generate much violence. It is urgent that we begin to study all of the forms of knowing, now called literacies. Multimedia means simply compound literacies. As discourse shifts from page to screen and, more significantly, to a networked environment; that is, as discourse decentralizes, the established definitions and relations automatically undergo substantial change. The shift in our world view from individual to network brings with it a radical reconfiguration in culture. Notions of authority are being challenged with each rise in the “beholder’s share.” Publishing, methods of distribution, peer review and copyright—every crucial aspect of the way we usually move ideas around—goes up for grabs.

A wealth of information creates a wealth of **in**attention: one of the ironies of living at the speed of light. Richard Lanham, in *The Economics of Attention*, has put his finger on several crucial new literacies.

The most obvious new group of attention economists may be the computer-human interface designers. This branch of information design subsumes all the efforts at web site design, amateur and professional, which we encounter on our daily voyages through cyberspace. The Internet constitutes a pure case of an attention economy. “Eyeballs” constitute the coin of the realm. If, as one sometimes reads, Internet com-

panies spend 75% of their money on marketing, this only makes sense in a world where stuff has given way to fluff. It should not surprise us that the dominant discipline, the economics that matters in this new theater, is design. (2006, p. 17)

Clearly, design is yet another distinct literacy, one that operates across the Arts at least. In the age of Knowledge Management (which is not related to knowing), information itself has become a literacy. It calls for acute powers of discrimination, and therefore also for training of perception rather than of ideas and concepts:

The more we are deluged with information, the more we notice the different ways it comes to us, the more we have—in pure self-defense—to become connoisseurs of it. The torrent of information makes us more self-conscious about it, about all the different packages it comes in, about the different ways we interpret it, and about how we should express our responses to it. It is more counterproductive than ever to demonstrate stylistic awareness. Stylistic self-consciousness should be the first line of defense for a child swimming in the information flood.

The need for a new way of thinking runs deeper still. Stylistic self-consciousness, the habit of looking at an expressive surface as well as though it, emerges logically from the nature of digital expression. The center of the computer revolution, as a new system of human expression, lies in its central polyvalent code. The same code that expresses words can generate images or sounds. Information can be moved from one sensory modality to another while still being driven by the same data. This choice of expressive means naturally generates stylistic self-consciousness. (Lanham, 2006, p. 143)

The skills that Lanham identifies as necessary to digital literacy already exist in the Arts and are available through the study of styles and of decorum. The new media not only translate their contents back and forth, they are now capable of translating each other into each other. The popular *Transformers* toys and films parody this digital metamorphosis in mechanical mode.

Today, school-age children are already fluent in multiple media, many of them quite sophisticated media, long before they reach the classrooms and learn of their scholastic ineptitude. These media have already wrought considerable changes on the architecture of their brains, changes not hospitable to alphabetic literacy. David Booth (2006) charges,

The new literacies, as they have been labeled, are concerned with multi-modal texts, such as comics, magazines, newspapers, the Internet, email, graphics, video, and sound. Together, these “texts” fill the lives of our students, and meaning accrues as students combine the messages from the different media into their own construct of the world.

We adults need to acknowledge our children’s literacy lives with comics and graphic novels, admit to our own addiction if we have one, recognize the opportunities for incorporating comics and cartoons wherever possible, and open their young lives to all of the different texts they will want and need in their immediate and future lives.

As media proliferate the need rises for study of how media manipulate or transform perception and sensibility in order to tune their relations in the structure of our culture. Another “design literacy” emerges at this point: cultural design. As long as each medium draws its host culture in its own image, why leave the consequences of allowing new media to enter the culture up to the manufacturers and marketers? Ecological approaches to these matters would seem indicated at every level from the nursery to the upper levels of society and culture. A “Tuning of the World” such as R. Murray Schafer imagined for the sonic environment can be launched from the study of literacies and extended to all media and all cultures.

Plato warred against the oral poets of his day as their procedures were not consistent with the new Literacy then in its toddlerhood. Specifically, *mimesis*, the technique by which reciters held their hearers in thrall, was the enemy. By *mimesis*, one could hear a poem once and be able to recite it perfectly for years thereafter; by deep *mimetic* immersion in the poetic experience, the cultural encyclopedia was conveyed and preserved from age to age. But *mimesis* was the utter reverse of detachment and the new world of abstract thought just emerging with the rise of philosophy and logic.

For the preliterate, *mimesis* is not merely a mode of representation but “the process whereby all men learn”; it was a technique cultivated by the oral poets and rhetors and used by everybody for “knowing,” via merging knower and known. The understanding survives in the maxim, “the cognitive agent is and becomes the thing known.” Using *mimesis*, the “thing known” ceases to be an object of attention and becomes instead a ground for the knower to put on. It violates all the properties of the visual order, allowing neither objectivity, nor detachment, nor any rational uniformity of experience, which is why Plato was at pains in the Republic to denounce its chief practitioners. Under the spell of *mimesis*, the knower (hearer of a recitation) loses all relation to merely present persona, person, and place, and is transformed by and into what he perceives. It is not simply a matter of representation but rather one of putting on a completely new mode of being, whereby all possibility of objectivity and detachment of figure from ground is discarded. Eric Havelock devotes a considerable portion of *Preface to Plato* to this problem. He discovered that *mimesis* was the oral bond by which the tribe cohered:

You threw yourself into the situation of Achilles, you identified with his grief or his anger. You yourself became Achilles and so did the reciter to whom you listened. Thirty years later you could automatically quote what Achilles had said or what the poet had said about him. Such enormous powers of poetic memorization could be purchased only at the cost of total loss of objectivity. Plato’s target was indeed an educational procedure and a whole way of life. (Havelock, 1963, p. 45) (McLuhan & McLuhan, 1992, p. 16)

David Booth shows the same mimetic process at work as educational procedure in the world of new literacies:

When students are inside the experience, needing to read and write in order to come to grips with the issues and concerns being discussed or examined, when texts are being interpreted or constructed as part of the learning process, then I can sense that a literacy event is happening. The young person needs not only to inhabit the words and images, but to see herself as a performer of what she has learned, representing and owning the learning. In effect, she herself becomes the literacy. And she reads and writes with her whole self, with her body, with her emotions, with her background as a daughter and student and citizen; she sits in school beside her family members, and she reads every text she meets alongside them, inside her cultural surround. Literacy is constructed through identity.¹ (2006, p. 53)

Booth is describing a culture of children fully immersed in their sensory world, one that adults may find foreign but which is increasingly a normal state for our children. It is normal too for the pre-literate or the non-literate native, as Barry Sanders (1994) suggests:

Through his interviews, Luria could describe the broad outlines of thinking under the conditions of orality, but in the end he could learn little of anything of the native intelligence of his peasants. Any paper-test—indeed, most questions posed by a literate interviewer—strains the oral person to do something he or she seems unable to do, which we can call by any number of different names—decontextualization, abstraction, disembedding, defining, describing, categorizing—things the average grammar school child does every night in homework assignments. For Luria’s peasants, however, these concepts seemed foreign. They lived fully in their sensory world. They saw no reason for removing themselves from it, and they had no tools for accomplishing that task. In the end, they refused to be pulled out of their immediate situation. Categorical terms held no practical use for them. “Tree” does not exist. But that tree stands over there; it provides shade and drops fruit. The pre-literate or non-literate remains deeply situated, and confronts experience by walking right up to it and grabbing hold of it. (p. 32)

Putting on the alphabet, the Greeks absorbed the technique of dissociation of sensibility. They invented the consonant and the phoneme and turned each of them into complete abstractions. They learned to abstract inner (imaginative) experience from outer (verbal) experience, split action from reaction, and the self from the group. The latter sundering produced the private individual with private aims and ambitions. The abstraction process went so far that neither the letter nor the phoneme has meaning (McLuhan & McLuhan, 1992, Chap. 1). More than the writer, the readers, in the act of reading, put on these dissociations as the basis of replaying and re-cognizing.

Maryann Wolf (2007) described how the brain rewires itself to meet any environmental contingency. “There are few more powerful mirrors of the human brain’s astonishing ability to rearrange itself to learn a new intellectual function than the act of reading.” She writes.

¹ An autistic reveals the same process: “My language is not about designing words or even visual symbols for people to interpret. It is about being in constant conversation with every aspect of my environment. Reacting to all parts of my surroundings.” (www.youtube.com/watch?v=Jny1M1hI2jc)

Underlying the brain's ability to learn reading lies its protean capacity to make new connections among structures and circuits originally devoted to other more basic brain processes that have enjoyed a longer existence in human evolution, such as vision and spoken language. We now know that groups of neurons create new connections and pathways among themselves every time we acquire a new skill. Computer scientists use the term "open architecture" to describe a system that is versatile enough to change—or rearrange—to accommodate the varying demands on it. Within the constraints of our genetic legacy, our brain presents a beautiful example of open architecture. Thanks to this design, we come into the world programmed with the capacity to change what is given us by nature, so that we can go beyond it. We are, it would seem from the start, genetically poised for breakthroughs.

Thus the reading brain is part of a highly successful two-way dynamics. Reading can be learned only because of the brain's plastic design, and when reading takes place, that individual brain is forever changed, both physiologically and intellectually. (pp. 4-5)

(It is gratifying, even after half a century, to have independent scientific recognition of a process that we have been calling closure.) Evidently cultures act in much the same manner, rewiring their components—reorganizing their energies—to adapt to current environmental pressures and the demands of new extensions of man (media). This is a core principle of the ecology of media.

An environment of multiple literacies calls for the generalist, the person able to read and interpret any text. The ancient grammarian or man of letters is suddenly the avant-garde. Encyclopedist and polyglot, he learned to read the language of forms and of formal causes. Each language embodies the knowledge and experience of its users; it is a teaching machine for the imagination and the sensibilities and a potent formal cause of culture.

Our problem in the year 2009 is essentially a grammatical one. We have to learn to read the language of forms, all forms, not just those we have on the table at present. New ones appear now every 2-3 years. Major ones, that is.

The grammatical tradition entailed reading of characters and forms in both Books, the written book and the Book of Nature. With slight adjustments, the tools and techniques of exegesis used by traditional Grammatica would work on each Book in our time, each little-l literacy. The techniques of Practical Criticism enable the practitioner to move easily between text and technology. It makes the reader mobile.

The medieval schoolboys' rhyme sums up the Grammarian's method of approach:

Omnis mundi creatura
Quasi liber et pictura
Nobis est, et speculum . . .

It was ever held that God Himself speaks to man in two ways, through Scripture and through that great speech called the Work of the Six Days. So there arose the trope of the Two Books which were set before man to read and to interpret, the Book of Nature

and the Book of Scripture. And of course the two were in complete harmony, though the two texts be writ in entirely separate languages, one in a language of words and one in a language of forms. You might even say that the language of the one is software (information) and that of the other is hardware (things). From the first, the Two Books implied the existence of at least two literacies, each offering multiple simultaneous levels of meaning. For the one, the familiar four levels of interpretation (literal, allegorical, tropological, anagogical); for the other, the corresponding four causes (formal, efficient, material, final).

He who would read both books, the Grammarian, had to be versed in the arts *and* the sciences, had to be able to work with any literacy that came his way: he learned to read the language of forms. Our contemporary situation—we find ourselves in an *environment* of multiple literacies—is a clear indication that the Two Books are reasserting themselves. Therefore, any modern education must include training in reading both Books: the Book of the World today includes the “literacy” of what we now regard as normal environmental ecology, and that of cultural ecology (media ecology). Furthermore, the new educational program has to include all the new literacies (additional literacies come to light every few weeks)—all in all a multitude of forms as yet lacking coordination. New media are new languages of perception, their grammars and syntaxes—their “literacies”—yet to be decoded. The reassertion in our environment of the ancient Two Books will inevitably bring forward their reader and interpreter, the Grammarian, in some suitably updated form. His training is necessarily going to be oriented towards encyclopedism instead of specialism. He must also be a reader of languages. He will be rather like the celebrated Renaissance Man. This is absolutely fitting inasmuch as we are in the throes of a global renaissance.

I am not proposing these things as a sort of ideal or an epitome of the kind of education we need today, but as what has to become the norm. Our survival, individual and cultural, depends on our ability to read and interpret ecologically what our man-made environments are saying to us and doing to us. Our electric information environment demands the skills of the explorer and the navigator; those of the student and the aesthete will no longer do the trick. We live in an information environment; we are drowning in information; we are deluged with answers: only the probe, the question, can guide the explorer and the navigator. An education system built on formal analysis and concepts *must* now give place to an education focused on training of critical awareness and training of perception. Though it can look like a “triumph of style over substance,” the shift is actually deeper and more fundamental than that. It represents a lessening of emphasis on ideological content and a revival of the study of environmental form and formal causality. It means retooling our universities from the condition of job factories to which they have recently sunk.

All of this suggests that every responsible person, every media-ecologist, must receive artistic training of perception—that is, everyone upon whom cultural or social responsibility devolves, whether through accident of birth or high station or political office. This might mean the foundation of a new kind of UN, one charged with active-

ly monitoring the perceptual environment not only of individual cultures but of the entire globe at once, *and adjusting it from time to time*. This is no whimsical notion—not any more. Such “tuning of the world” is absolutely necessary for any culture that aims to survive the accelerating onslaught of new technologies.

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I have tried to suggest a few considerations to keep in mind during our deliberations these next few days. As media ecologists, you know we change culture every time we change media, and we are changing media—introducing new media—at a furious rate just now. Each new environment means a completely new way to see and imagine the world and opens a new act on center stage of the Global Theatre.

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