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# WRITING IS A TECHNOLOGY THAT RESTRUCTURES THOUGHT

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### I

LITERACY is imperious. It tends to arrogate to itself supreme power by taking itself as normative for human expression and thought. This is particularly true in high-technology cultures, which are built on literacy of necessity and which encourage the impression that literacy is an always to be expected and even natural state of affairs. The term 'illiterate' itself suggests that persons belonging to the class it designates are deviants, defined by something they lack, namely literacy. Moreover, in high-technology cultures—which, more and more, are setting the style for cultures across the world—since literacy is regarded as so unquestionably normative and normal, the deviancy of illiterates tends to be thought of as lack of a simple mechanical skill. Illiterates should learn writing as they learned to tie their shoe-laces or to drive a car. Such views of writing as simply a mechanical skill obligatory for all human beings distort our understanding of what is human if only because they block understanding of what natural human mental processes are before writing takes possession of consciousness. These views also by the same token block understanding of what writing itself really is. For without a deep understanding of the normal oral or oral-aural consciousness and noetic economy of humankind before writing came along, it is impossible to grasp what writing accomplished.

Recent research work, however, in the field and in the library, is offering the opportunity to overcome our chirographic (and typographic) bias. This work has deepened our understanding of what I have styled primary orality, the orality of cultures with no knowledge at all of writing, as contrasted with what I have styled secondary orality, the electronic orality of radio and television, which

grows out of high-literacy cultures, depending for its invention and operation on the widespread cultivation of writing and reading. Classical scholars, from Milman Parry—the prime mover in the orality–literacy universe—through Albert Lord, Eric Havelock, and others, sociologists and linguists such as Jack Goody, Wallace Chafe, and Deborah Tannen, cultural anthropologists such as Jeff Opland, historians such as M. T. Clanchy, and many others from even more diversified fields, including the late Marshall McLuhan, the greatest diversifier of all, have opened vistas into primary orality which enable us better to understand differences between the oral and the literate mind. My own work in opening such vistas, for whatever it is worth, began deep in Renaissance and earlier intellectual history, and has moved into the present, without, I hope, losing live contact with the past. We can now view in better perspective the world of writing in which we live, see better what this world really is, and what functionally literate human beings really are—that is, beings whose thought processes do not grow out of simply natural powers but out of these powers as structured, directly or indirectly, by the technology of writing. Without writing, the literate mind would not and could not think as it does, not only when engaged in writing but even when it is composing its thoughts in oral form.

Functionally literate persons, those who regularly assimilate discourse such as this, are not simply thinking and speaking human beings but chirographically thinking and speaking human beings (latterly conditioned also by print and by electronics). The fact that we do not commonly feel the influence of writing on our thoughts shows that we have interiorized the technology of writing so deeply that without tremendous effort we cannot separate it from ourselves or even recognize its presence and influence. If functionally literate persons are asked to think of the word 'nevertheless', they will all have present in imagination the letters of the word—vaguely perhaps, but unavoidably—in handwriting or typescript or print. If they are asked to think of the word 'nevertheless' for two minutes, 120 seconds, without ever allowing any letters at all to enter their imaginations, they cannot comply. A person from a completely oral background of course has no such problem. He or she will think only of the real word, a sequence of sounds, 'ne-ver-the-less'. For the real word 'nevertheless', the sounded word, cannot ever be present all at once, as written words deceptively seem to be. Sound

exists only when it is going out of existence. By the time I get to the 'theless', the 'ne-ver' is gone. To the extent that it makes all of a word appear present at once, writing falsifies. Recalling sounded words is like recalling a bar of music, a melody, a sequence in time. A word is an event, a happening, not a thing, as letters make it appear to be. So is thought: 'This is paper' is an occurrence, an event in time. We grasp truth articulately only in events. Articulated truth has no permanence. Full truth is deeper than articulation. We find it hard to recognize this obvious truth, so deeply has the fixity of the written word taken possession of our consciousness.

The oral world as such distresses literates because sound is evanescent. Typically, literates want words and thoughts pinned down—though it is impossible to 'pin down' an event. The mind trained in an oral culture does not feel the literate's distress: it can operate with exquisite skill in the world of sounds, events, evanescences. How does it manage? Basically, in its noetic operations it uses formulaic structures and procedures that stick in the mind to complement and counteract the evanescent: proverbs and other fixed sayings, epithets, that is, standard, expected qualifiers (the *sturdy* oak, the *brave* warrior, *wise* Nestor, *clever* Odysseus), numerical sets (the three Graces, the seven deadly sins, the five senses, and so on), balance, rhythms of all sorts ('Blessed are the poor in spirit, for theirs is the kingdom of heaven')—anything to make it easy to call back what Homer recognized were 'winged words'. Primary oral culture also keeps its thinking close to the human life world, personalizing things and issues, and storing knowledge in stories. Categories are unstable mnemonically. Stories you can remember. In its typical mindset, the oral sensibility is out to hold things together, to make and retain agglomerates, not to analyse (which means to take things apart)—although, since all thought is to some degree analytic, it does analyse to a degree. Pressed by the need to manage an always fugitive noetic universe, the oral world is basically conservative. Exploratory thinking is not unknown, but it is relatively rare, a luxury orality can little afford, for energies must be husbanded to keep on constant call the evanescent knowledge that the ages have so laboriously accumulated. Everybody, or almost everybody, must repeat and repeat and repeat the truths that have come down from the ancestors. Otherwise these truths will escape, and culture will be back on square one, where it started before the ancestors got the truths from their ancestors.

I have discussed these formulaic and narrative strategies in *Orality and Literacy* (1982). In 1985, John Miles Foley's new *Oral-Formulaic Theory and Research* shows, as nothing has ever done before, how universal such strategies are across the globe and across the centuries. Foley provides summaries of over 1,800 books and articles covering 90 different language areas.

Our literate world of visually processed sounds has been totally unfamiliar to most human beings, who always belonged, and often still belong to this oral world. *Homo sapiens* has been around for some 30,000 years, to take a conservative figure. The oldest script, Mesopotamian cuneiform, is less than 6,000 years old (the alphabet less than 4,000). Of all the tens of thousands of languages spoken in the course of human history only a tiny fraction—Edmonson (1971: 323) calculates about 106—have ever been committed to writing to a degree sufficient to have produced a literature, and most have never been written at all. Of the 4,000 or so languages spoken today, only around 78 have a literature (Edmonson 1971: 332). For some of the others linguists have devised more or less adequate ways of writing them, with results that appear in linguistics publications and convention papers that have no noteworthy effect at all on the actual users of the language. Dr C. Andrew Hofling has recently completed a linguistic study of discourse in the Itza Mayan language which transcribes the language in the Roman alphabet. This transcription is essential for linguistic studies, but it is useless, inconsequential, for the Itza Maya themselves. With only some 500 speakers, the language has no effective way of developing a literate culture. Most languages in the world today exist in comparable conditions. Those who think of the text as the paradigm of all discourse need to face the fact that only the tiniest fraction of languages have ever been written or ever will be. Most have disappeared or are fast disappearing, untouched by textuality. Hard-core textualism is snobbery, often hardly disguised.

Only in recent centuries have human beings generally had the idea that a language *could* be written, and even today many peoples do not believe their language can be written. In Dayton, Ohio, on 25 February 1983, I saw a videotape of a Methodist missionary and linguist who had worked out an alphabetization of a previously unwritten language in the South Pacific and witnessed her difficulty in convincing the speakers of the language that she could write down *their* utterances. They believed that only the languages

they knew as written, such as English or French, *could* be written.

All this is not to deny that spoken languages are all amenable to conversion into writing (always with only partial success or accuracy) or that, given the human condition and the advantages conferred by writing, the invention of writing, and even of alphabetic writing, was sure to occur somewhere in the evolution of culture and consciousness. But to say that language *is* writing is, at best, uninformed. It provides egregious evidence of the unreflective chirographic and/or typographic squint that haunts us all.

## II

Writing was an intrusion, though an invaluable intrusion, into the early human lifeworld, much as computers are today. It has lately become fashionable in some linguistic circles to refer to Plato's condemnation of writing in the *Phaedrus* and the Seventh Letter. What is seldom if ever noticed, however, is that Plato's objections against writing are essentially the very same objections commonly urged today against computers by those who object to them (Ong 1982: 79–81). Writing, Plato has Socrates say in the *Phaedrus*, is inhuman, pretending to establish outside the mind what in reality can only be in the mind. Writing is simply a thing, something to be manipulated, something inhuman, artificial, a manufactured product. We recognize here the same complaint that is made against computers: they are artificial contrivances, foreign to human life.

Secondly, Plato's Socrates complains, a written text is basically unresponsive. If you ask a person to explain his or her statement, you can get at least an attempt at explanation: if you ask a text, you get nothing except the same, often stupid words which called for your question in the first place. In the modern critique of the computer, the same objection is put, 'Garbage in, garbage out'. So deeply are we into literacy that we fail commonly to recognize that this objection applies every bit as much to books as to computers. If a book states an untruth, ten thousand printed refutations will do nothing to the printed text: the untruth is there for ever. This is why books have been burnt. Texts are essentially contumacious.

Thirdly, Plato's Socrates urges, writing destroys memory. Those who use writing will become forgetful, relying on an external source for what they lack in internal resources. Writing weakens the mind.

Today, some parents and others fear that pocket calculators provide an external resource for what ought to be the internal resource of memorized multiplication tables. Presumably, constant repetition of multiplication tables might produce more and more Albert Einsteins. Calculators weaken the mind, relieve it of the setting-up exercises that keep it strong and make it grow. (Significantly, the fact that the computer manages multiplication and other computation so much more effectively than human beings do, shows how little the multiplication tables have to do with real thinking.)

Fourthly, in keeping with the agonistic mentality of oral cultures, their tendency to view everything in terms of interpersonal struggle, Plato's Socrates also holds it against writing that the written word cannot defend itself as the natural spoken word can: real speech and thought always exist essentially in the context of struggle. Writing is passive, out of it, in an unreal, unnatural world. So, it seems, are computers: if you punch the keys they will not fight back on their own, but only in the way they have been programmed to do.

Those who are disturbed about Plato's misgivings about writing will be even more disturbed to find that print created similar misgivings when it was first introduced. Hieronimo Squarciafico, who in fact promoted the printing of the Latin classics, also argued in 1477 that already 'abundance of books makes men less studious' (Ong 1982: 80). Even more than writing does, print destroys memory and enfeebles the mind by relieving it of too much work (the pocket calculator complaint once more), downgrading the wise man and wise woman in favour of the pocket compendium.

One weakness in Plato's position is that he put these misgivings about writing into writing, just as one weakness in antiprint positions is that their proponents put their objections into print, and one weakness in anti-computer positions is that they are articulated in articles or books printed from tapes composed on computer terminals. The law at work here is: once the word is technologized, there is no really effective way to criticize its condition without the aid of the technology you are criticizing. The complaints about these three inventions are all the same because writing and print and the computer are all ways of technologizing the word.

The new technology of writing, it is now clear, was operating in Plato's lifeworld in ways far too convoluted for even Plato to

understand. The technology of writing was not merely useful to Plato for broadcasting his critique of writing, but it also had been responsible for bringing the critique into existence. Although there was no way for Plato to be explicitly aware of the fact, his philosophically analytic thought, including his analysis of the effects of writing, was possible only because of the effects that writing was having on mental processes. We know that totally oral peoples, intelligent and wise though they often are, are incapable of the protracted, intensive linear analysis that we have from Plato's Socrates. Even when he talks, Plato's Socrates is using thought forms brought into being by writing. In fact, as Eric Havelock has beautifully shown in his *Preface to Plato* (1963), Plato's entire epistemology was unwittingly a programmed rejection of the archaic preliterate world of thought and discourse. This world was oral, mobile, warm, personally interactive (you needed live people to produce spoken words). It was the world represented by the poets, whom Plato would not allow in his Republic, because, although Plato could not formulate it this way, their thought processes and modes of expression were disruptive of the cool, analytic processes generated by writing.

The Platonic ideas are not oral, not sounded, not mobile, not warm, not personally interactive. They are silent, immobile, in themselves devoid of all warmth, impersonal and isolated, not part of the human lifeworld at all but utterly above and beyond it, paradigmatic abstractions. Plato's term *idea*, form, is in fact visually based, coming from the same root as the Latin *videre*, meaning to see, and such English derivatives as *vision, visible*, or *video*. In the older Greek form, a digamma had preceded the iota: *videa* or *widea*. Platonic form was form conceived of by analogy precisely with visible form. Despite his touting of *logos* and speech, the Platonic ideas in effect modelled intelligence not so much on hearing as on seeing. The visual model favoured clarity, but also shallowness. 'I see what you say' lacks the depth of 'I hear what you say.' Plato of course was not at all fully aware of the unconscious forces at work in his psyche to produce his literate reaction, or overreaction, to a lingering, and by his time retardant, orality. But he unconsciously adjusted to the threat of shallowness in his 'idea' philosophy by giving his thought what is often called a poetic cast and by avowing that the depths of truth not only escape writing but also even oral articulation.

III

In downgrading writing, Plato was thinking of writing as an external, alien technology, as many people today think of the computer. Because we have by today so deeply interiorized writing, made it so much a part of ourselves, as Plato's age had not yet made it fully a part of itself, we find it difficult to consider writing to be a technology as we commonly assume printing and the computer to be. Yet writing (and especially alphabetic writing) is a technology, calling for the use of tools and other equipment, styli or brushes or pens, carefully prepared surfaces such as paper, animal skins, strips of wood, as well as inks or paints, and much more. Writing technologies have differed in different parts of the world. In their own indigenous technologies of writing, East Asia—China, Korea, and Japan—typically used not pens but brushes, not liquid ink in inkhorns or inkwells, but ink blocks, on which the wet brush was rubbed as in making water-colour paintings, in this sense 'painting' rather than 'writing' (etymologically, 'scratching') their texts.

In *From Memory to Written Record: England 1066–1307*, M. T. Clanchy (1979) has an entire chapter entitled 'The Technology of Writing'. He explains how in the West through the Middle Ages and earlier almost all those devoted to writing regularly used the services of a scribe because the physical labour writing involved—scraping and polishing the animal skin or parchment, whitening it with chalk, resharpening goose-quill pens with what we still call a penknife, mixing ink, and all the rest—interfered with thought and composition. Chaucer's 'Wordes unto Adam, His Owne Scriveyn' humorously expressed the author's resentment at having to 'rubbe and scrape' to correct his scribe Adam's own carelessness in plying his craft. Today's ballpoint pens, not to mention our typewriters and word processors or the paper we use, are high-technology products, but we seldom advert to the fact because the technology is concentrated in the factories that produce such things, rather than at the point of production of the text itself, where the technology is concentrated in a manuscript culture.

Although we take writing so much for granted as to forget that it is a technology, writing is in a way the most drastic of the three technologies of the word. It initiated what printing and electronics only continued, the physical reduction of dynamic sound to quiescent space, the separation of the word from the living present, where alone real, spoken words exist.

IV

Once reduced to space, words are frozen and in a sense dead. Yet there is a paradox in the fact that the deadness of the written or printed text, its removal from the living human lifeworld, its rigid visual fixity, assures its endurance and its potential for being resurrected into limitless living contexts by a limitless number of living readers. The dead, thing-like text has potentials far outdistancing those of the simply spoken word. The complementary paradox, however, is that the written text, for all its permanence, means nothing, is not even a text, except in relationship to the spoken word. For a text to be intelligible, to deliver its message, it must be reconverted into sound, directly or indirectly, either really in the external world or in the auditory imagination. All verbal expression, whether put into writing, print, or the computer, is ineluctably bound to sound forever.

Nevertheless, by contrast with natural, oral speech, writing is completely artificial. There is no way to write 'naturally'. Oral speech is fully natural to human beings in the sense that every human being in every culture who is not physiologically or psychologically impaired learns to talk. Moreover, while talk implements conscious life, its use wells up naturally into consciousness out of unconscious or subconscious depths, though of course with the conscious as well as unconscious co-operation of society. Despite the fact that they govern articulation and thought processes themselves, grammar rules or structures normally originate, live, and function far below the level at which articulation functions. You can know how to use the grammatical rules or structures and even how to set up new rules or structures that function clearly and effectively without being able to state what they are. Of all the hundreds of thousands of grammar rules or structures that have been at work in all the tens of thousands of languages and dialects of humankind, only the tiniest fraction have ever been articulated at all.

Writing or script differs as such from speech in that it is not inevitably learned by all psychologically or physiologically unimpaired persons, even those living in highly literate cultures. Moreover, the use of writing or script does not inevitably well up out of the unconscious without the aid of stated rules. The process of putting spoken language into writing is governed by consciously contrived, articulated procedures: for example, a certain pictogram

will be consciously determined to stand for a certain specified word or concept, or *a* will be consciously ruled to represent a certain phoneme, *b* another, and so on. (This is not at all to deny that the writer-reader situation created by writing is deeply involved with unconscious processes which are at work in composing written texts once one has learned the explicit, consciously controlled rules for transposing sound into a visual code.)

To say writing is artificial is not to condemn it but to praise it. Like other artificial creations and indeed more than any other, writing is utterly invaluable and indeed essential for the realization of fuller, interior, human potentials. Technologies are not mere exterior aids but also interior transformations of consciousness, and never more than when they affect the word. Such transformations of consciousness can be uplifting, at the same time that they are in a sense alienating. By distancing thought, alienating it from its original habitat in sounded words, writing raises consciousness. Alienation from a natural milieu can be good for us and indeed is in many ways essential for fuller human life. To live and to understand fully, we need not only proximity but also distance. This writing provides for, thereby accelerating the evolution of consciousness as nothing else before it does.

Technologies are artificial, but—paradox again—artificiality is natural to human beings. Technology, properly interiorized, does not degrade human life but on the contrary enhances it. The modern orchestra, for example, is a result of high technology. A clarinet is an instrument, which is to say a tool. A piano is an intricate, hand-powered machine. An organ is a huge machine, with sources of power—pumps, bellows, electric generators, motors—in motion before the organ is touched by its operator. Antiquity had no orchestras such as ours because it was unable to make any kind of instrument, musical or other, with the precision tooling even of a clarinet. Its maximum experience of precision was at the level of a good pair of scissors. Modern precision tooling has its roots in the late Middle Ages and its first major achievement was printing from movable alphabetic type.

A modern orchestra is the product of precision-tooled technology. Beethoven's scores consist of almost innumerable, precise directions to highly-trained technicians, specifying exactly how they are to use their individual tools. *Legato*: do not take your finger off one piano key until you have hit the next. *Staccato*: hit

the key and take your finger off immediately. And so on for thousands of actions which musicians must practise until mechanically perfect. To be a first-rate musician, a *sine qua non* is to be a superb technician. There is no substitute for mechanical mastery of the tools.

As musicologists well know, it is pointless to object to electronic compositions, as non-musicologists sometimes do, on the grounds that the sounds come out of a mechanical contrivance. What do you think the sounds of a piano come out of, not to mention an organ? Or the sounds of a clarinet or bassoon or even a whistle? These things are all mechanical contrivances. The fact is that by using the mechanical contrivance a clarinettist or pianist or an organist can express something poignantly human that cannot be expressed without the mechanical contrivance. To achieve such expression effectively, of course, the musician has to have interiorized the technology, made the tool or machine a second nature, a psychological part of himself or herself. Art imitates nature. Art follows nature, and joins itself to nature. Art is second nature. But it is not nature. *Natura* in Latin, like *physis* in Greek, means birth. We are not born with art but add it to ourselves. Mastering a musical tool, making it one's own, calls for years of mechanical 'practice', learning how we can make the tool do mechanically all that it can do. Little boys and girls know how boring it can be. Yet such shaping of the tool to one's self, learning a technological skill, is hardly dehumanizing. The use of a technology can enrich the human psyche, enlarge human spirit, set it free, intensify its interior life.

I instance the modern orchestra here to make the point that writing is an even more deeply interiorized technology than the performance of instrumental music is. To understand what writing is, which means to understand it in relation to its past, to orality, one must honestly face the fact that it is a technology.

V

Writing, in the strict sense of the word, as has already been seen, was a very late development in human history. The first script, or true writing, that we know was developed among the Sumerians in Mesopotamia only around the year 3500 BC, less than 6,000 years ago. The alphabet, which was invented only once, so that every

alphabet in the world derives directly or indirectly from the original Semitic alphabet, came into existence only around 1500 BC.

Speech is ancient, archaic. Writing is brand-new. Can one make out a case for some sort of archaic writing earlier than 6,000 years ago? It is of course possible to count as 'writing' any semiotic mark, that is, any visible or sensible mark which an individual makes and assigns a meaning to—a simple scratch on a rock or a notch on a stick, for example. If this is what is meant by writing, the antiquity of writing is perhaps comparable to the antiquity of speech. However, investigations of writing which take 'writing' to mean any visible or sensible mark with an assigned meaning merge writing with purely biological behaviour. When does a footprint or a deposit of faeces or urine (used by many species of animals for communication) become 'writing'? Using the term 'writing' in this extended sense to include any semiotic marking trivializes its meaning. The critical and unique breakthrough into new kinds of noetic operations and new worlds of knowledge was achieved within human consciousness not when simple semiotic marking was devised but when what we ordinarily mean by writing was developed, that is, when a coded system of visible marks was invented whereby a writer could determine, in effect without limit, the exact words and sequence of words that a reader would generate from a given text. This is what we regularly mean today by writing or script. We have to say 'in effect . . . the exact words' because no form, even of the alphabet, will always eliminate all ambiguities. The notation 'read' on a document may be the imperative (rhyming with 'bead') and mean 'read this' or it may be the past participle (rhyming with 'head') and mean 'this has been read'. But a true writing system will reduce ambiguities to a negligible minimum and make those that occur readily clarifiable.

Of course, writing is not suddenly 'invented' but grows out of orality by stages. Hence it cannot be understood in depth without circumstantial familiarity with the primary orality which is its seedbed. Discussions of writing which ignore its roots in orality and restrict themselves to alphabetic printed texts from the age of Romanticism on can produce effects which are interesting often because they are unavoidably distorted.

All writing systems do not have the same psychic or even neurophysiological structures or effects. Most studies investigating psychic, intellectual, and cultural contrasts between oral and

writing cultures have looked only to contrasts between orality and alphabetic writing. The effects of other writing systems have just begun to be explored. For example, recent research (Tzeng and Wang 1983) has shown that readers of Chinese script use the right cerebral hemisphere significantly more than do readers of alphabetic script, which is geared more to the analytic left hemisphere. Such studies need to be developed still more.

Writing, in the ordinary sense of a coded system of visible marks enabling a writer to determine, in effect without limit, the exact words and sequence of words that a reader will generate from a given text, is the most momentous of all human technological inventions. It is not a mere appendage or accessory to oral speech. Because it moves speech drastically from the oral-aural or voice-and-ear world to a new sensory world, that of vision, writing transforms speech and thought as well. Notches on sticks and other *aides-mémoire* can lead up to writing, but they do not restructure the human lifeworld as true writing does. And no other writing system restructures the human lifeworld so drastically as alphabetic writing. Or so democratically, for the alphabet is relatively easy to learn. By contrast, Chinese character writing, though more aesthetically and semantically rich than alphabetic writing can ever hope to be, is élitist, despite heroic efforts to democratize its use. Its total mastery demands more time than most people can afford. As is well known, the People's Republic of China is undertaking to teach all its populace Mandarin, the largest of the many Chinese languages (referred to as 'dialects' customarily but misleadingly, for they are mutually incomprehensible when spoken). If and when everyone can speak Mandarin, it is quite certain, to my mind, that the alphabet will be introduced—with incalculable losses to literature but massive operational gains elsewhere.

### VI

In treating of the effects of writing one has to guard against reductionism. All changes in social and noetic structures that can be identified after writing is introduced are not due simply to writing. Writing itself has social causes. It grows, for example, first in urban environments for use in recording ownership and related uses. Throughout its history, writing interacts massively with all sorts of social structures and practices, so that it by no means follows

exactly the same development in all cultures (see Graff 1981). Although certain general cross-cultural patterns are identifiable, in various transitional cultures there are various kinds of interfaces between literacy and orality and various kinds and amounts of oral residue (Goody and Watt 1968, Ong 1982, and the many references there).

But if there is no warrant for reductionism, there is more than ample warrant for relationism. Once writing is introduced into a culture and grows to more than marginal status, it interacts with noetic and social structures and practices often in a bewildering variety of ways, as, for example, Brian Stock has shown in great detail for parts of Western Europe in the eleventh and twelfth centuries. Sooner or later, and often very quickly, literacy affects marketing and manufacturing, agriculture and stock-raising and the whole of economic life, political structures and activities, religious life and thought, family structures, social mobility, modes of transportation (a literate communication system laid the straight Roman roads and made the ancient Roman Empire, as Innis long ago pointed out), and so on *ad infinitum*. Even informal person-to-person conversations between literates are not structured like those among persons in a primary oral culture. Simple queries for information acquire a new status, for oral cultures typically use words less for information and more for operational, interpersonal purposes than do chirographic and typographic cultures. Writing is only one of the various developments making for the transformation of consciousness and of society, but once writing takes over, it appears to be the most crucial development of all. Almost everything in the noetic and social structures of a society where writing has been widely interiorized relates in one way or another to writing, although just how a particular phenomenon does so has to be examined carefully in any given case in any given culture.

## VII

One of the most generalizable effects of writing is separation. Separation is also one of the most telling effects of writing and hence can serve here to give some final form to this discussion. Writing is diaeretic. It divides and distances, and it divides and distances all sorts of things in all sorts of ways. Distancing or 'distanciation' is one of the effects of writing commonly discussed

by those coming from the Husserlian and Heideggerian traditions, such as Paul Ricoeur (1981), but their discussions are highly specialized and abstractly schematic, paying little if any attention to the actual history of writing, its growth out of orality, or to the socio-psychological complexities this history presents us with—that is, to the sort of things earlier detailed here. Their phenomenology is fundamentally synchronic, not diachronic. And without a diachronic phenomenology, our present situation does not show its true contours for we do not become aware of how matters stood before writing, and to that extent, as earlier stated, are relatively unaware of what writing truly is.

Many of the phenomena here associated with separation or division or distancing could also be discussed under various other headings, some of them less abstract headings than separation or division, but few other headings would be so handily inclusive. My observations here on separation or distancing will be condensed and, if only for that reason, should serve, I hope, to open discussion and to suggest further study. Here, then, are some of the ways in which writing separates or divides. Writing ties together so many things in so many interrelations that some of the itemizations here inevitably overlap.

1. Writing separates the known from the knower. It promotes 'objectivity'. Any writing system does this, but the alphabet does so most of all, since it most thoroughly dissolves all sounds into spatial equivalents. Havelock (1976) has shown how the ancient Greeks' invention of the first fully vocalic alphabet, the most radical of all writing systems, gave them their intellectual ascendancy by providing access to the thorough intellectual 'objectivity' that led to modern science, and modern forms of thought generally, although the science of the ancient Greeks remained far more rhetorically structured and far more embedded in the human lifeworld than our science is today.

Of course, language in its original oral state already begins the separation of known from knower. Simple naming is the most archaic and still the basic operation in this separation: when a small child looking at a picture-book with mother delightedly calls out 'Tree!' he or she puts the object 'out there' as different from self and mother and from other diversely named objects as well. The separated object can be both distanced and shared with mother simultaneously. It is great fun. But, involved in the real time of the

interpersonal sound world, oral naming alone cannot achieve the distancing brought into being by writing, which is a time-obviating and otherwise radically decontextualizing mechanism.

Enhanced separation of the known from the knower is probably the most fundamental value of writing, from its beginnings to the present. Between knower and known writing interposes a visible and tangible object, the text. The objectivity of the text helps impose objectivity on what the text refers to (see Olson). Eventually writing will create a state of mind in which knowledge itself can be thought of as an object, distinct from the knower. This state of mind, however, is most fully realized only when print intensifies the object-like character of the text.

However, whatever its intimate effects on knowledge, the physical text is not itself knowledge, for knowledge, verbalized or other, can exist only in a knowing subject. In place of knowledge once possessed and formulated verbally by a living person, texts substitute coded marks outside any knower which a knowing subject possessed of the code can use to generate knowledge in himself or herself. Knowledge itself is not object-like: it cannot be transferred from one person to another physically even in oral communication, face-to-face, or *a fortiori* in writing. I can only perform actions—produce words—which enable you to generate the knowledge in yourself. The concept of 'medium' or 'media' applied to human communication uses an analogy which is useful but nevertheless so gross, and so inconspicuously gross, that it regularly falsifies what human communication is. I myself try to avoid the term now, though I have used it in earlier books and articles. 'Medium' applies properly to manual or machine transferral of pattern, not to human communication. Since knowledge cannot be physically transferred verbally from one human person to another but must always be created by the hearer or reader within his or her own consciousness, interpretation is always in play when one listens or when one reads.

2. Whereas oral cultures tend to merge interpretation of data with the data themselves, writing separates interpretation from data. Asked to repeat exactly what they have just said, persons from a primary oral culture will often given an interpretation of what they originally said, insisting and clearly believing that the interpretation is exactly what they said in the first place (Olson, citing Ruth Finnegan). They have difficulty in grasping what literates mean by word-for-word repetition. The text provides a new

scenario. The text is a visual given, a datum, separate from any utterer or hearer or reader. What one says (or writes) about the text is something else, distinct from the text-object and what it as such represents. This is not to deny that any understanding of a text always involves interpretation: for what the object-like text represents is not an object, but words. It is simply to state that the status of interpretation becomes different with writing.

3. Writing distances the word from sound, reducing oral-aural evanescence to the seeming quiescence of visual space. But this distancing is not total or permanent, for every reading of a text consists of restoring it, directly or indirectly, to sound, vocally or in the imagination.

4. Whereas in oral communication the source (speaker) and the recipient (hearer) are necessarily present to one another, writing distances the source of the communication (the writer) from the recipient (the reader), both in time and in space. It is as easy to read a book by a person long dead or by a person thousands of miles away as it is to read one by a friend sitting at your elbow. Oral communication provides no comparable condition until the invention of sound recordings, which, however, depend on writing for their existence and, despite their aura of immediacy, distance speaker and hearer even more than writing does, interposing between the two mechanisms far more complicated than those of writing and print, and abolishing all direct relationship to lived time.

5. Writing distances the word from the plenum of existence. In their original, spoken condition, words are always part of a context that is predominantly non-verbal, a modification of a field of personal relationships and object-relationships. The immediate context of spoken words is never simply other words. The immediate context of textualized words is simply other words.

6. By distancing the word from the plenum of existence, from a holistic context made up mostly of non-verbal elements, writing enforces verbal precision of a sort unavailable in oral cultures. Context always controls the meaning of a word. In oral utterance, the context always includes much more than words, so that less of the total, precise meaning conveyed by words need rest in the words themselves. Thus in a primary oral culture, where all verbalization is oral, utterances are always given their greater precision by nonverbal elements, which form the infrastructure of the oral utterance, giving it its fuller, situational meaning. Not so much

depends on the words themselves. In a text, the entire immediate context of every word is only other words, and words alone must help other words convey whatever meaning is called for. Hence texts force words to bear more weight, to develop more and more precisely 'defined'—that is 'bordered' or contrastive meanings. Eventually, words used in texts come to be defined in dictionaries, which present the meaning of words in terms of other words. Oral cultures present the meaning of words by using them (Goody 1968). Oral people are generally altogether uninterested in defining words by other words (Ong 1982: 53-4, citing Luria 1976). What the word 'tree' means is determined by putting the word in non-verbal context, as in pointing to a tree, not by saying in words what 'tree' means.

7. Writing separates past from present. Primary oral cultures tend to use the past to explain the present, dropping from memory what does not serve this purpose in one way or another, thus homogenizing the past with the present, or approximating past to present. To use Jack Goody's term, their relationship with the past is homeostatic. By freezing verbalization, writing creates a distanced past which is full of puzzles because it can refer to states of affairs no longer effectively imaginable or can use words no longer immediately meaningful to any living persons.

8. Writing separates 'administration'—civil, religious, commercial, and other—from other types of social activities. 'Administration' is unknown in oral cultures, where leaders interact non-abstractly with the rest of society in tight-knit, often rhetorically controlled, configurations. 'Administration' can have two senses: (1) a distinct group able to oversee and manage, in a more or less abstractly structured fashion, complex social wholes or activities or (2) the work such a group actually does. In both senses administration comes into being with the development of written documentation and scribal expertise. At first, in more marginally textualized society, administrators relied on scribes for exploitation of the possibilities of textuality but, with wider and deeper textualization, eventually found it advantageous to be able to read and write themselves (Stock 1983; Cressy, Laqueur, and Stevens in Resnick 1983).

9. Writing makes it possible to separate logic (thought structure of discourse) from rhetoric (socially effective discourse). The invention of logic, it seems, is tied not to any kind of writing system

but to the completely vocalic phonetic alphabet and the intensive analytic activity which such an alphabet demands of its inventors and subsequently encourages in all sorts of noetic fields. All formal logic in the world, down to that used for computers, stems from the ancient Greeks (the later development of some formal logic in India, which may have been an independent development, came only after Greek logic had effectively taken over and of course after India had use of the alphabet).

10. Writing separates academic learning (*mathēsis* and *mathēma*) from wisdom (*sophia*), making possible the conveyance of highly organized abstract thought structures independently of their actual use or of their integration into the human lifeworld. Wisdom regards not abstractions but holistic situations and operations in the density of the real human lifeworld. Learning by apprenticeship, with which academic learning contrasts, had kept even specialized knowledge integrated into this lifeworld and had helped to keep wisdom as the noetic as well as the practical ideal. When cultures first assimilate writing, however, they tend to put wise sayings into texts. New technologies of the word always reinforce earlier conditions of utterances but at the same time transform them. But wise sayings in texts are denatured: they do not function the way they function in oral cultures. Oral cultures do not recite lists of decontextualized wise sayings, such as are found in biblical wisdom literature, but, in fact, quite commonly and even typically use such sayings separately as parrying devices in real-life agonistic oral exchange. Once wise sayings are written down, oral culture is weakening, though its demise may take many hundreds of years. Today Ibo entrepreneurs in Onitsha in Nigeria are printing and selling collections of proverbs to marginally oral people who are unaware of the fuller implications of literacy, much as Erasmus was doing for residually oral Europeans almost five hundred years ago.

11. Writing can divide society by giving rise to a special kind of diglossia, splitting verbal communication between a 'high' language completely controlled by writing even though also widely spoken (Learned Latin in the European Middle Ages) and a 'low' language or 'low' languages controlled by speech to the exclusion of writing. Besides Learned Latin, the other high languages created and sustained by writing to produce similar diglossia have been Sanskrit, Classical Arabic, Rabbinical Hebrew (all alphabetically written) and Classical Chinese (written, but not in the alphabet). In all these

cases the high language has been not only a written language but also a sex-linked language, no longer a mother tongue, used only by males (with exceptions so few as to be negligible). As social structures changed with the advance of technologies and women worked their way out of the massive responsibilities of pre-technological household management (which often included highly skilled crafts and even major manufacturing activities) and into academic education, the diglossia was reduced and gradually eliminated. As women entered academia, some did learn the high languages, but only when these were on the wane and no longer used as languages of instruction or of normal academic discourse. Of the tens of thousands of books written in Learned Latin through the eighteenth century and beyond, virtually none are by women. Instead, women helped put the low, vernacular languages in competition with the high language. Eventually one or another dialect of various low languages was taken over by writing and replaced the original high language. This has happened to all the high languages just mentioned—which are in fact the major high languages of the world—with the partial exception of Classical Arabic in the still linguistically fluid Arabic-speaking world.

12. Writing differentiates grapholects, those 'low'-language dialects which are taken over by writing and erected into national languages, from other dialects, making the grapholect a dialect of a completely different order of magnitude and effectiveness from the dialects that remain oral. The grapholect which we know as standard English has an active or recuperable vocabulary of perhaps a million and a half words, as compared with the relatively few thousand words available in dialects without written resources (see, for example, Laughlin 1975 on Tzotzil). For this exponential development, the lexicon of a grapholect requires print as well as writing, for dictionaries are print products. (Imagine producing multiple copies of *Webster's Third International Dictionary* or of the *Oxford English Dictionary* by hand.)

13. Writing divides or distances more evidently and effectively as its form becomes more abstract, which is to say more removed from the sound world into the space world of sight. 'Abstract' in fact means removed, distanced, from *abstrahere*, to draw out or to draw away from. The alphabet in its various forms is the most abstract writing form. We have already noted that Tzeng and Wang (1983) have reported—though more work remains to be done here

—how writing and reading Chinese characters involve the right cerebral hemisphere of the brain more than do writing and reading the alphabet, which involve the left hemisphere more. The right hemisphere normally implements totalizing, intuitive, less abstractive or less analytic processes; the left hemisphere is more analytic—and more involved in the alphabet. As has been seen, formal logic, modern science, and ultimately the computer have their historical roots in the fully vocalic alphabet, the most analytic of the writing systems, dissolving all sound as such into spatial equivalents, in principle, if never completely in fact. (The alphabet, it should be recalled, was invented only once: all alphabets in the world—Greek, Roman, Glagolitic, Cyrillic, Arabic, Sanskrit, Korean, etc.—derive in one way or another, directly or indirectly, from the ancient Semitic alphabet, which, however, in contrast to Greek, did not and still does not have letters for vowels.)

14. Perhaps the most momentous of all its diaeretic effects in the deep history of thought is the effect of writing when it separates being from time. This separation has been detailed in a recent major monograph by Eric Havelock (1983), 'The Linguistic Task of the Presocratics, Part One: Ionian Science in Search of an Abstract Vocabulary'. We know that all philosophy depends on writing because all elaborate, linear, so-called 'logical' explanation depends on writing. Oral persons can be wise, as wise as anyone, and they can of course give some explanation for things. But the elaborate, intricate, seemingly endless but exact cause-effect sequences required by what we call philosophy and by extended scientific thinking are unknown among oral peoples, including the early Greeks before their development of the first vocalic alphabet. Havelock's newly seminal work, however, goes beyond showing that elaborate explanatory thinking depends upon writing and the revisionary, back-tracking operations made possible by such a time-obviating mechanism. His new monograph shows more precisely that the development of the content, the subject-matter of metaphysics itself, with its concentration on being as being, depended internally upon the elaboration of writing. Havelock's work is based upon extraordinarily careful analysis of pre-Socratic texts and upon cautious reconstruction of antecedents of the texts. Here I can only attempt to suggest in a quite sweeping, but I believe accurate way what Havelock's point comes to as related to the line of thought I have been pursuing.

Oral speech and thought narrativizes experience and the environment, whereas philosophy, which comes into being slowly after writing, is radically anti-narrative. Plato did not want story-telling poets in his republic. The philosophical enterprise required the coinage of a large number of abstract nouns. Havelock (1983: 20) cites some which around the end of the fifth century BC had become common tender for dealing with the cosmic environment: matter (*hulē*), dimension (*megethos*), space (*chōra*), body (*sōma*), void (*kenon*), motion (*kinēsis* or *phora*), change (*alloiōsis, metabolē*), rest (*stasis*). Besides such nouns, 'the conceptual task also required the elimination of verbs of doing and acting and happening . . . in favor of a syntax which states permanent relationships between conceptual terms systematically' (p. 14). In this new noetic economy, Heraclitus suggests (p. 25) that 'is' (*esti*) should replace the use of all other verbs and even of the past and future of the verb 'to be' (*einai*). Parmenides brings this reorganization of thought to completion: the imagistic, narrativistic Homeric references to the world are replaced 'by the thought world of conceptual science' (pp.28–9). In brief, the Homeric verb *kinein*, which refers not so much to our concept of 'motion' as to the earlier concept of 'commotion' (the disturbance inherent in any kind of real action, not a disembodied abstraction such as *kinēsis*), yields to *einai*, 'to be', which is not commotion at all (p. 38). Becoming becomes being. The mobile oral world has been supplanted by the quiescent text, and Plato's immutable ideas have been provided with their action-free, seemingly timeless chirographic launching pad.

One is struck by similarities between the ancient Greek situation reported by Havelock and that which Luria found among illiterates as compared to literates among the folk he studied in the south-western Soviet Union (reported in Ong 1982: 49–57). Asked, 'What is a tree? Define a tree,' the illiterate peasant replies, 'Why should I? Everyone knows what a tree is.' To learn what a thing *is* one does not use definitions. To grasp an object's essence, one does not talk about the object, but, as has earlier been noted here, one *points* to the object physically or metaphorically. One deals with existing beings as such indexically, not verbally. Words in an oral culture are used typically not to set up static definitions but to discourse actively on the way a thing acts or behaves or operates in the human lifeworld. Words in oral cultures paradigmatically go with action and with things that act. As writing is interiorized, verbalization

migrates from a predominantly action frame to a predominantly 'being' frame: the verb *to be* becomes more urgent than it had ever been in an oral culture. The quest is on to find Aristotle's *to ti ēn einai*, that is, 'what it is to be' or 'what being is'.

In these perspectives metaphysics is seen to be indebted to writing not only for the kinds of protracted analytic explanations with which it and all science works, but also for identifying its own special quarry, 'being' itself, which it has always pursued. Writing in the sense I have tried to explain here separates being from time and *a longe* sets up Heidegger's project of rejoining the two. But Heidegger's *Sein und Zeit* is written in the alphabet in a far-gone print culture, and whether it has fully achieved what it set out to do is in the minds of many open to question.

## VIII

Print and electronics continue with new intensification and radical transformations the diaeretic programme initially set in motion by writing. They separate knower from known more spectacularly than writing does. Between the knower and the known print interposes elaborate mechanical contrivances and operations of a different order of complexity than writing. The computer achieves the ultimate (thus far) in separation of the knower and the known (the subject of discourse): between the two it interposes limitlessly complex structures of mechanically articulated 'bits' of information, each consisting of the ultimate in divisive patterning, the dichotomy or binary division, which translates into 'yes–no' or 'is–isn't'. Putting the simplest statement of, say, a dozen words on to a page in a word processor involves operations inside the machine, totally remote from the human lifeworld, which are thousands, perhaps millions, of times more complex than writing or even letterpress printing, though unimaginably less complex than the activities of the human cerebrum.

The computer shows its separative power not merely in distancing known from knower more drastically than writing or print. It shows its separative drive also within its own history as the digital computer today displaces more and more the analogue computer. By comparison with the digital computer, the analogue computer is holistic (as oral cultures are), whereas the digital computer is essentially analytic or separative.

An analogue computer measures by providing a model or analogue for what it is measuring. Thus a thermometer may be considered an analogue computer: to measure heat, it takes as an analogue for heat the height of mercury in a very slender tube. An analogue computer is holistic in the sense that it is unbroken or 'smooth'. As in the increase of heat there are no sudden jumps, no breaks (in rising from 38° centigrade, heat does not suddenly jump to 39° and then suddenly to 40° but passes through all the innumerable, because non-disjunct, intermediate stages between 38° and 40°), so there are no sudden jumps in the rising or falling of mercury in the tube (it does not rise by jumping abruptly from millimeter to millimeter but passes through all the intermediate stages, innumerable because non-disjunct). The scale on the thermometer breaks up into discrete parts an action which is not discrete. Analogue computers give quick results, but the results can be inaccurate, for such things as variations in transmission of heat through the glass of the thermometer tube can produce less than an exact match between the movement of the mercury and the temperature. Analogue computers are considered accurate if they are within 0.1 per cent of the correct value (Sanders 1983: 109), which is very low accuracy compared to digital operations.

A digital computer, on the other hand, counts in terms of its own built-in units. The abacus is a simple digital computer, counting whatever it is being used for in terms of invariable units structured into the abacus itself. Corresponding units must be imputed to whatever the digital computer is measuring: temperature will be considered as jumping, for example, from 40° to 41° centigrade, or from 40.0° to 40.5° to 41°, or from 40.0° to 40.0001° to 40.0002°, and so on—but, however small the units decided upon, always abruptly from one unit to the next. If the units are made small enough—say billionths of a degree centigrade—the effect is equivalently 'smooth' or totalizing, approximating more and more that of an analogue computer. The only limit to refinement in a digital computer is a matter of how precisely the hardware is designed and of how much work the programmer is willing to put in to divide the field outside the computer into smaller and smaller units. If this work is done assiduously enough, digital computers can be far more accurate than analogue computers. But division of the field always remains their mode of operation, even though, paradoxi-

cally, as they divide the field into smaller and smaller units they seem to be moving in effect to a non-divided field—the bits are too small for any one of them to make any effective difference. Nevertheless, the digital field is never really 'smooth', is always fragmented.

Today the digital computer has largely replaced the analogue, although some analogue computers and mixed-system analogue-and-digital computers are still in operation. There will always be use for analogue operations, it seems, but purely analogue computers appear to be on the way out. From friends in computer programming I have recently learned that, so far as they can find, simple analogue computers are no longer even being manufactured. Division has carried the day, even though it has become so intricate that it appears to be approximating non-division. Extremes meet— but in this case not quite. Separativeness, inherent in writing and print, has been finalized in the computer world.

In the case of the computer we are clearly dealing with physical separation of knower and known. But in the case of writing as well, it is the physical separation, the interposition of the text, created by a technology, that makes possible the psychological separation between the self and the object of its knowledge. Moreover, as is evident in computer programming, new tracks for thought are imposed by the new technologies. And the software of the computer vigorously interposes even another consciousness or other consciousnesses—the programmer or programmers—between the knower and the known.

### XI

As the digital computer can be to a degree, so writing is self-corrective to a degree. It has in itself the cure for the chirographic squint commonly afflicting cultures that have deeply interiorized writing. Because it so radically separates knower from known, writing can distance us from writing itself. Writing has enabled us to identify the orality that was antecedent to it and to see how radically it differs from that orality. Writing has the power to liberate us more and more from the chirographic bias and confusion it creates, though complete liberation remains impossible. For all states of the word— oral, chirographic, typographic, electronic—impose their own con-

fusions, which cannot be radically eliminated but only controlled by reflection.

In the noetic world, separation ultimately brings reconstituted unity. This is true of naming at the oral stage. Calling an object a 'tree', as has been seen, puts the object 'out there', as different from the knower. In place of empathetic identification, the name sets up a relatively clear subject–object relationship. But this very relationship makes for a new kind of intimacy. Now, in certain ways, the knower can deal with the tree better on its own terms, rather than on terms unreflectively imposed by the knower. He or she can better appreciate what the tree is on its own as distinct from the knower—although of course distinctness from the knower is never totally realized. With the use of names, the inarticulate identification of the infant with the surrounding world is replaced by verbally implemented distancing. The new distancing submerges the original empathetic identification in a flood of new awarenesses but does not entirely do away with it. And indeed, as distancing increases beyond those ranges made available by oral naming through the vaster distances opened by writing and print—and now electronics—the original empathetic identification becomes more and more recuperable at the level of conscious reflectivity. That is to say, with writing and its sequels, empathetic identification can be attended to as we are attending to it now, and as oral folk could not attend to it. Of course, the original innocence of the pristine empathetic identification can never be repossessed directly. Civilization entails such discomforts, for that is what they are. (Freud's title should be translated 'Civilization and its Discomforts' (*Unbehagen*), not 'Discontents'.) Human knowledge demands both proximity and distance, and these two are related to one another dialectically. Proximity perceptions feed distancing analyses, and vice versa, creating a more manageable intimacy.

As a time-obviating, context-free mechanism, writing separates the known from the knower more definitely than the original orally grounded manoeuvre of naming does, but it also unites the knower and the known more consciously and more articulately. Writing is a consciousness-raising and humanizing technology. So is print, even more, and, in its own way, so is the computer. But that is another story, which has yet to be told or written or printed or processed in the course of this series.

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# FORMS OF WRITING IN THE ANCIENT MEDITERRANEAN WORLD

## ANNA MORPURGO DAVIES

IN the study of writing everything is problematic. I start by rehearsing some of the things which we do not know before I come to my more specific theme. First we do not know how to define writing. The problem is pressing: in 1980 one of the main authorities on ancient writing, I. J. Gelb, found it necessary to reconsider the definition of writing which he had supported since 1952 (Gelb 1963: 12); among his reasons for reconsidering the problem he listed the findings by Marschack (1972) and Schmandt-Besserat's (1977, 1979) about prehistoric systems of reckoning and perhaps writing which may go back as far as the palaeolithic period. It is difficult to predict whether Gelb's new definition: 'writing in its broadest sense is a recording system or device by means of conventional markings or shapes or color of objects, achieved by the motor action of the hand of an individual and received visually by another' (Gelb 1980: 22) will gain general acceptance. In practical terms, the philologist or linguist finds it often difficult to answer the questions posed by archaeologists or anthropologists: are these scratches or signs a form of writing? Any clear-cut criterion for decision hits against marginal cases. We may agree to suspend judgement and to start any inquiry by including only those forms of writing which are traditionally acknowledged as such; Gelb would label them as full writing or phonography and argue that their distinctive features are a close correlation with oral language, and the sequential order. This instantly leads us to problems of classification. Traditionally, 'natural' writing has been classified into pictographic (the signs are pictorial images of objects or events), logographic (the signs correspond to words), syllabic (the signs correspond to syllables), and alphabetic (the signs correspond to phonetic or phonemic segments).[1] Is this correct? The partition is oddly reminiscent of the nineteenth-century classification of languages into isolating, agglutinative, and inflected, a classification which we partly retain but

# THE WRITTEN WORD

## LITERACY IN TRANSITION

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