Orality and Literacy
The Technologizing of the Word
WALTER J. ONG

London and New York
Introduction

In recent years certain basic differences have been discovered between the ways of managing knowledge and verbalization in primary oral cultures (cultures with no knowledge at all of writing) and in cultures deeply affected by the use of writing. The implications of the new discoveries have been startling. Many of the features we have taken for granted in thought and expression in literature, philosophy and science, and even in oral discourse among literates, are not directly native to human existence as such but have come into being because of the resources which the technology of writing makes available to human consciousness. We have had to revision our understanding of human identity.

The subject of this book is the differences between orality and literacy. Or, rather, since readers of this or any book by definition are acquainted with literate culture from the inside, the subject is, first, thought and its verbal expression in oral culture, which is strange and at times bizarre to us, and, second, literate thought and expression in terms of their emergence from and relation to orality.

The subject of this book is not any ‘school’ of interpretation. There is no ‘school’ of orality and literacy, nothing that would be the equivalent of Formalism or New Criticism or Structuralism or Deconstructionism, although awareness of the interrelationship of orality and literacy can affect what is done in these as
Orality and Literacy

well as various other ‘schools’ or ‘movements’ all through the humanities and social sciences. Knowledge of orality-literacy contrasts and relationships does not normally generate impassioned allegiances to theories but rather encourages reflection on aspects of the human condition far too numerous ever to be fully enumerated. This book will undertake to treat a reasonable number of those aspects. Exhaustive treatment would demand many volumes.

It is useful to approach orality and literacy synchronically, by comparing oral cultures and chirographic (i.e., writing) cultures that coexist at a given period of time. But it is absolutely essential to approach them also diachronically or historically, by comparing successive periods with one another. Human society first formed itself with the aid of oral speech, becoming literate very late in its history, and at first only in certain groups. *Homo sapiens* has been in existence for between 30,000 and 50,000 years. The earliest script dates from only 6000 years ago. Diachronic study of orality and literacy and of the various stages in the evolution from one to the other sets up a frame of reference in which it is possible to understand better not only pristine oral culture and subsequent writing culture, but also the print culture that brings writing to a new peak and the electronic culture which builds on both writing and print. In this diachronic framework, past and present, Homer and television, can illuminate one another.

But the illumination does not come easily. Understanding the relations of orality and literacy and the implications of the relations is not a matter of instant psychohistory or instant phenomenology. It calls for wide, even vast, learning, painstaking thought and careful statement. Not only are the issues deep and complex, but they also engage our own biases. We—the readers of books such as this—are so literate that it is very difficult for us to conceive of an oral universe of communication or thought except as a variant of a literate universe. This book will attempt to overcome our biases in some degree and to open new ways to understanding.

It focuses on the relations between orality and writing. Literacy began with writing but, at a later stage of course, also involves print. This book thus attends somewhat to print as well as to writing. It also makes some passing mention of the electronic processing of the word and of thought, as on radio and television and via satellite. Our understanding of the differences between orality and literacy developed only in the electronic age, not earlier. Contrasts between electronic media and print have sensitized us to the earlier contrast between writing and orality. The electronic age is also an age of ‘secondary orality’, the orality of telephones, radio, and television, which depends on writing and print for its existence.

The shift from orality to literacy and on to electronic processing engages social, economic, political, religious and other structures. These, however, are only indirect concerns of the present book, which treats rather the differences in ‘mentality’ between oral and writing cultures.

Almost all the work thus far contrasting oral cultures and chirographic cultures has contrasted orality with alphabetic writing rather than with other writing systems (cuneiform, Chinese characters, the Japanese syllabary, Mayan script and so on) and has been concerned with the alphabet as used in the west (the alphabet is also at home in the east, as in India, Southeast Asia or Korea). Here discussion will follow the major lines of extant scholarship, although some attention will also be given, at relevant points, to scripts other than the alphabet and to cultures other than just those of the west.

W. J. O.

Saint Louis University
I

The orality of language

The literate mind and the oral past

In the past few decades the scholarly world has newly awakened to the oral character of language and to some of the deeper implications of the contrasts between orality and writing. Anthropologists and sociologists and psychologists have reported on fieldwork in oral societies. Cultural historians have delved more and more into prehistory, that is, human existence before writing made verbalized records possible. Ferdinand de Saussure (1857–1913), the father of modern linguistics, had called attention to the primacy of oral speech, which underpins all verbal communication, as well as to the persistent tendency, even among scholars, to think of writing as the basic form of language. Writing, he noted, has simultaneously ‘usefulness, shortcomings and dangers’ (1959, pp. 23–4). Still he thought of writing as a kind of complement to oral speech, not as a transformer of verbalization (Saussure 1959, pp. 23–4).

Since Saussure, linguistics has developed highly sophisticated studies of phonemics, the way language is nested in sound. Saussure's contemporary, the Englishman Henry Sweet (1845–1912), had early insisted that words are made up not of letters but of functional sound units or phonemes. But, for all their attention to the sounds of speech, modern schools of linguistics until very recently have attended only incidentally, if
at all, to ways in which primary orality, the orality of cultures untouched by literacy, contrasts with literacy (Sampson 1980). Structuralists have analyzed oral tradition in detail, but for the most part without explicitly contrasting it with written compositions (Maranda and Maranda 1971). There is a sizable literature on differences between written and spoken language which compares the written and spoken language of persons who can read and write (Gumperz, Kaltmann and O’Connor 1982 or 1983, bibliography). These are not the differences that the present study is centrally concerned with. The orality centrally treated here is primary orality, that of persons totally unfamiliar with writing.

Recently, however, applied linguistics and sociolinguistics have been comparing more and more the dynamics of primary oral verbalization and those of written verbalization. Jack Goody’s recent book, The Domestication of the Savage Mind (1977), and his earlier collection of his own and others’ work, Literacy in Traditional Societies (1968), provide invaluable descriptions and analyses of changes in mental and social structures incident to the use of writing. Chaytor very early (1945), Ong (1967a, 1967b), McLuhan (1962), Haugen (1966), Chafe (1982), Tannen (1980a) and others provide further linguistic and cultural data and analyses. Foley’s expertly focused survey (1980b) includes an extensive bibliography.

The greatest awareness of the contrast between oral modes of thought and expression and written modes took place not in linguistics, descriptive or cultural, but in literary studies, beginning clearly with the work of Milman Parry (1902–35) on the text of the Iliad and the Odyssey, brought to completion after Parry’s untimely death by Albert B. Lord, and supplemented by later work of Eric A. Havelock and others. Publications in applied linguistics and sociolinguistics dealing with orality-literacy contrasts, theoretically or in fieldwork, regularly cite these and related works (Parry 1971; Lord 1960; Havelock 1969; McLuhan 1962; Okpewho 1979; etc.).

Before taking up Parry’s discoveries in detail, it will be well to set the stage here by asking why the scholarly world had to reawaken to the oral character of language. It would seem inescapably obvious that language is an oral phenomenon. Human beings communicate in countless ways, making use of all their senses, touch, taste, smell, and especially sight, as well as hearing (Ong 1967b, pp. 1–9). Some non-verbal communication is exceedingly rich – gesture, for example. Yet in a deep sense language, articulated sound, is paramount. Not only communication, but thought itself relates in an altogether special way to sound. We have all heard it said that one picture is worth a thousand words. Yet, if this statement is true, why does it have to be a saying? Because a picture is worth a thousand words only under special conditions – which commonly include a context of words in which the picture is set.

Wherever human beings exist they have a language, and in every instance a language that exists basically as spoken and heard, in the world of sound (Siertsema 1955). Despite the richness of gesture, elaborated sign languages are substitutes for speech and dependent on oral speech systems, even when used by the congenitally deaf (Kroeber 1972; Mallery 1972; Stokoe 1972). Indeed, language is so overwhelmingly oral that of all the many thousands of languages – possibly tens of thousands – spoken in the course of human history only around 106 have ever been committed to writing to a degree sufficient to have produced literature, and most have never been written at all. Of the some 3000 languages spoken that exist today only some 78 have a literature (Edmonson 1971, pp. 323, 332). There is as yet no way to calculate how many languages have disappeared or been transmuted into other languages before writing came along. Even now hundreds of languages in active use are never written at all: no one has worked out an effective way to write them. The basic orality of language is permanent.

We are not here concerned with so-called computer ‘languages’, which resemble human languages (English, Sanskrit, Malayalam, Mandarin Chinese, Twi or Shoshone etc.) in some ways but are forever totally unlike human languages in that they do not grow out of the unconscious but directly out of consciousness. Computer language rules (‘grammar’) are stated first and thereafter used. The ‘rules’ of grammar in natural human languages are used first and can be abstracted from usage and stated explicitly in words only with difficulty and never completely.

Writing, commitment of the word to space, enlarges the potentiality of language almost beyond measure, restructures
thought, and in the process converts a certain few dialects into 'grapholects' (Haugen 1966; Hirsh 1977, pp. 43–8). A grapholect is a transdialiectal language formed by deep commitment to writing. Writing gives a grapholect a power far exceeding that of any purely oral dialect. The grapholect known as standard English has accessible for use a recorded vocabulary of at least a million and a half words, of which not only the present meanings but also hundreds of thousands of past meanings are known. A simply oral dialect will commonly have resources of only a few thousand words, and its users will have virtually no knowledge of the real semantic history of any of these words.

But, in all the wonderful worlds that writing opens, the spoken word still resides and lives. Written texts all have to be related somehow, directly or indirectly, to the world of sound, the natural habitat of language, to yield their meanings. 'Reading' a text means converting it to sound, aloud or in the imagination, syllable-by-syllable in slow reading or sketchily in the rapid reading common to high-technology cultures. Writing can never dispense with orality. Adapting a term used for slightly different purposes by Jurij Lotman (1977, pp. 21, 46–67; see also Champagne 1977–8), we can style writing a 'secondary modeling system', dependent on a prior primary system, spoken language. Oral expression can exist and mostly has existed without any writing at all, writing never without orality.

Yet, despite the oral roots of all verbalization, the scientific and literary study of language has for centuries, until quite recent years, shied away from orality. Texts have clamped for attention so peremptorily that oral creations have tended to be regarded generally as variants of written productions or, if not this, as beneath serious scholarly attention. Only recently have we become impatient with our obtuseness here (Finnegan 1977, pp. 1–7).

Language study in all but recent decades has focused on written texts rather than on orality for a readily assignable reason: the relationship of study itself to writing. All thought, including that in primary oral cultures, is to some degree analytic; it breaks its materials into various components. But abstractly sequential, classificatory, explanatory examination of phenomena or of stated truths is impossible without writing and reading. Human beings in primary oral cultures, those untouched by writing in any form, learn a great deal and possess and practice great wisdom, but they do not 'study'.

They learn by apprenticeship — hunting with experienced hunters, for example — by discipleship, which is a kind of apprenticeship, by listening, by repeating what they hear, by mastering proverbs and ways of combining and recombinig them, by assimilating other formulary materials, by participation in a kind of corporate retrospection — not by study in the strict sense.

When study in the strict sense of extended sequential analysis becomes possible with the interiorization of writing, one of the first things that literates often study is language itself and its uses. Speech is inseparable from our consciousness and it has fascinated human beings, elicited serious reflection about itself, from the very early stages of consciousness, long before writing came into existence. Proverbs from all over the world are rich with observations about this overwhelmingly human phenomenon of speech in its native oral form, about its powers, its beauties, its dangers. The same fascination with oral speech continues unabated for centuries after writing comes into use.

In the west among the ancient Greeks the fascination showed in the elaboration of the vast, meticulously worked-out art of rhetoric, the most comprehensive academic subject in all western culture for two thousand years. In its Greek original, techne rhetorike, 'speech art' (commonly abridged to just rhetorike) referred essentially to oral speaking, even though as a reflective, organized 'art' or science — for example, in Aristotle's Art of Rhetoric — rhetoric was and had to be a product of writing. Rheto or rhetoric, basically meant public speaking or oratory, which for centuries even in literate and typographic cultures remained unreflectively pretty much the paradigm of all discourse, including that of writing (Ong 1967b, pp. 58–63; Ong 1971, pp. 27–8). Thus writing from the beginning did not reduce orality but enhanced it, making it possible to organize the 'principles' or constituents of oratory into a scientific 'art', a sequentially ordered body of explanation that showed how and why oratory achieved and could be made to achieve its various specific effects.

But the speeches — or any other oral performances — that were
studied as part of rhetoric could hardly be speeches as these were being orally delivered. After the speech was delivered, nothing of it remained to work over. What you used for 'study' had to be the text of speeches that had been written down – commonly after delivery and often long after (in antiquity it was not common practice for any but disgracefully incompetent orators to speak from a text prepared verbatim in advance – Ong 1967b, pp. 56–8). In this way, even orally composed speeches were studied not as speeches but as written texts.

Moreover, besides transcription of oral performances such as orations, writing eventually produced strictly written compositions, designed for assimilation directly from the written surface. Such written compositions enforced attention to texts even more, for truly written compositions came into being as texts only, even though many of them were commonly listened to rather than silently read, from Livy's histories to Dante's Comedia and beyond (Nelson 1976–7; Bäuml 1980; Goldin 1973; Cormier 1974; Ahern 1982).

Did you say 'oral literature'?

The scholarly focus on texts had ideological consequences. With their attention directed to texts, scholars often went on to assume, often without reflection, that oral verbalization was essentially the same as the written verbalization they normally dealt with, and that oral art forms were to all intents and purposes simply texts, except for the fact that they were not written down. The impression grew that, apart from the oration (governed by written rhetorical rules), oral art forms were essentially unskillful and not worth serious study.

Not all, however, lived by these assumptions. From the mid-sixteenth century on, a sense of the complex relationships of writing and speech grew stronger (Cohen 1977). But the relentless dominance of textuality in the scholarly mind is shown by the fact that to this day no concepts have yet been formed for effectively, let alone gracefully, conceiving of oral art as such without reference, conscious or unconscious, to writing. This is so even though the oral art forms which developed during the tens of thousands of years before writing obviously had no connection with writing at all. We have the term 'literature', which essentially means 'writings' (Latin literatura, from litera, letter of the alphabet), to cover a given body of written materials – English literature, children's literature – but no comparably satisfactory term or concept to refer to a purely oral heritage, such as the traditional oral stories, proverbs, prayers, formulaic expressions (Chadwick 1932–40, passim), or other oral productions of, say, the Lakota Sioux in North America or the Mande in West Africa or of the Homeric Greeks.

As noted above, I style the orality of a culture totally untouched by any knowledge of writing or print, 'primary orality'. It is 'primary' by contrast with the 'secondary orality' of present-day high-technology culture, in which a new orality is sustained by telephone, radio, television, and other electronic devices that depend for their existence and functioning on writing and print. Today primary oral culture in the strict sense hardly exists, since every culture knows of writing and has some experience of its effects. Still, to varying degrees many cultures and subcultures, even in a high-technology ambiance, preserve much of the mind-set of primary orality.

The purely oral tradition or primary orality is not easy to conceive of accurately and meaningfully. Writing makes 'words' appear similar to things because we think of words as the visible marks signaling words to decoders: we can see and touch such inscribed 'words' in texts and books. Written words are residue. Oral tradition has no such residue or deposit. When an often-told oral story is not actually being told, all that exists of it is the potential in certain human beings to tell it. We (those who read texts such as this) are for the most part so resolutely literate that we seldom feel comfortable with a situation in which verbalization is so little thing-like as it is in oral tradition.

As a result – though at a slightly reduced frequency now – scholarship in the past has generated such monstrous concepts as 'oral literature'. This strictly preposcriptive term remains in circulation today even among scholars now more and more acutely aware how embarrassingly it reveals our inability to represent to our own minds a heritage of verbally organized materials except as some variant of writing, even when they have nothing to do with writing at all. The title of the great Milman Parry Collection of Oral Literature at Harvard University monumentalizes the state of awareness of an earlier
generation of scholars rather than that of its recent curators.

One might argue (as does Finnegans 1977, p. 16) that the term 'literature', though devised primarily for works in writing, has simply been extended to include related phenomena such as traditional oral narrative in cultures untouched by writing. Many originally specific terms have been so generalized in this way. But concepts have a way of carrying their etymologies with them forever. The elements out of which a term is originally built usually, and probably always, linger somehow in subsequent meanings, perhaps obscurely but often powerfully and even irreducibly. Writing, moreover, as will be seen later in detail, is a particularly pre-emptive and imperialist activity that tends to assimilate other things to itself even without the aid of etymologies.

Though words are grounded in oral speech, writing tyrannically locks them into a visual field forever. A literate person, asked to think of the word 'nevertheless', will normally (and I strongly suspect always) have some image, at least vague, of the spelled-out word and be quite unable ever to think of the word 'nevertheless' for, let us say, 60 seconds without advertising to any lettering but only to the sound. This is to say, a literate person cannot fully recover a sense of what the word is to purely oral people. In view of this pre-emptiveness of literacy, it appears quite impossible to use the term 'literature' to include oral tradition and performance without subtly but irremediably reducing these somehow to variants of writing.

Thinking of oral tradition or a heritage of oral performance, genres and styles as 'oral literature' is rather like thinking of horses as automobiles without wheels. You can, of course, undertake to do this. Imagine writing a treatise on horses (for people who have never seen a horse) which starts with the concept not of horse but of 'automobile', built on the readers' direct experience of automobiles. It proceeds to discourse on horses by always referring to them as 'wheelless automobiles', explaining to highly automobileized readers who have never seen a horse all the points of difference in an effort to excise all idea of 'automobile' out of the concept 'wheelless automobile' so as to invest the term with a purely equine meaning. Instead of wheels, the wheelless automobiles have enlarged toenails called hooves; instead of headlights or perhaps rear-vision mirrors, eyes; instead of a coat of lacquer, something called hair; instead of gasoline for fuel, hay, and so on. In the end, horses are only what they are not. No matter how accurate and thorough such apophatic description, automobile-driving readers who have never seen a horse and who hear only of 'wheelless automobiles' would be sure to come away with a strange concept of a horse. The same is true of those who deal in terms of 'oral literature', that is, 'oral writing'. You cannot without serious and disabling distortion describe a primary phenomenon by starting with a subsequent secondary phenomenon and paring away the differences. Indeed, starting backwards in this way -- putting the cart before the horse -- you can never become aware of the real differences at all.

Although the term 'preliterate' itself is useful and at times necessary, if used unreflectively it also presents problems which are the same as those presented by the term 'oral literature', if not quite so assertive. 'Preliterate' presents orality -- the 'primary modeling system' -- as an anachronic deviant from the 'secondary modeling system' that followed it.

In concert with the terms 'oral literature' and 'preliterate', we hear mention also of the 'text' of an oral utterance. 'Text', from a root meaning 'to weave', is, in absolute terms, more compatible etymologically with oral utterance than is 'literature', which refers to letters etymologically/literae of the alphabet. Oral discourse has commonly been thought of even in oral milieus as weaving or stitching -- rhapsodein, to 'rhapsodie', basically means in Greek 'to stitch songs together'. But in fact, when literates today use the term 'text' to refer to oral performance, they are thinking of it by analogy with writing. In the literate's vocabulary, the 'text' of a narrative by a person from a primary oral culture represents a back-formation: the horse as an automobile without wheels again.

Given the vast difference between speech and writing, what can be done to devise an alternative for the anachronic and self-contradictory term 'oral literature'? Adapting a proposal made by Northrop Frye for epic poetry in The Anatomy of Criticism (1957, pp. 245–50, 293–303), we might refer to all purely oral art as 'epos', which has the same Proto-Indo-European root, *wekw*, as the Latin word *vox* and its English equivalent 'voice', and thus is grounded firmly in the vocal,
Orality and Literacy

oral. Oral performances would thus be felt as 'voicings', which is what they are. But the more usual meaning of the term epos, (oral) epic poetry (see Bynum 1967), would somewhat interfere with an assigned generic meaning referring to all oral creations. 'Voicings' seems to have too many competing associations, though if anyone thinks the term buoyant enough to launch, I will certainly aid efforts to keep it afloat. But we would still be without a more generic term to include both purely oral art and literature. Here I shall continue a practice common among informed persons and resort, as necessary, to self-explanatory circumlocutions — 'purely oral art forms', 'verbal art forms' (which would include both oral forms and those composed in writing, and everything in between), and the like.

At present the term 'oral literature' is, fortunately, losing ground, but it may well be that any battle to eliminate it totally will never be completely won. For most literates, to think of words as totally dissociated from writing is simply too arduous a task to undertake, even when specialized linguistic or anthropological work may demand it. The words keep coming to you in writing, no matter what you do. Moreover, to dissociate words from writing is psychologically threatening, for literates' sense of control over language is closely tied to the visual transformations of language: without dictionaries, written grammar rules, punctuation, and all the rest of the apparatus that makes words into something you can 'look' up, how can literates live? Literate users of a grapholect such as standard English have access to vocabularies hundreds of times larger than any oral language can manage. In such a linguistic world dictionaries are essential. It is demoralizing to remind oneself that there is no dictionary in the mind, that lexicographical apparatus is a very late accretion to language as language, that all languages have elaborate grammars and have developed their elaborations with no help from writing at all, and that outside of relatively high-technology cultures most users of languages have always got along pretty well without any visual transformations whatsoever of vocal sound.

Oral cultures indeed produce powerful and beautiful verbal performances of high artistic and human worth, which are no longer even possible once writing has taken possession of the psyche. Nevertheless, without writing, human consciousness cannot achieve its fuller potentials, cannot produce other beautiful and powerful creations. In this sense, orality needs to produce and is destined to produce writing. Literacy, as will be seen, is absolutely necessary for the development not only of science but also of history, philosophy, explicative understanding of literature and of any art, and indeed for the explanation of language (including oral speech) itself. There is hardly an oral culture or a predominantly oral culture left in the world today that is not somehow aware of the vast complex of powers forever inaccessible without literacy. This awareness is agony for persons rooted in primary orality, who want literacy passionately but who also know very well that moving into the exciting world of literacy means leaving behind much that is exciting and deeply loved in the earlier oral world. We have to die to continue living.

Fortunately, literacy, though it consumes its own oral antecedents and, unless it is carefully monitored, even destroys their memory, is also infinitely adaptable. It can restore their memory, too. Literacy can be used to reconstruct for ourselves the pristine human consciousness which was not literate at all — at least to reconstruct this consciousness pretty well, though not perfectly (we can never forget enough of our familiar present to reconstitute in our minds any past in its full integrity). Such reconstruction can bring a better understanding of what literacy itself has meant in shaping man's consciousness toward and in high-technology cultures. Such understanding of both orality and literacy is what this book, which is of necessity a literate work and not an oral performance, attempts in some degree to achieve.
4 Writing restructures consciousness

The new world of autonomous discourse

A deeper understanding of pristine or primary orality enables us better to understand the new world of writing, what it truly is, and what functionally literate human beings really are: 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 normally even when it is composing its thoughts in oral form. More than any other single invention, writing has transformed human consciousness.

Writing establishes what has been called 'context-free' language (Hirsch 1977, pp. 21–26) or 'autonomous' discourse (Olson 1980), discourse which cannot be directly questioned or contested as oral speech can be because written discourse has been detached from its author.

Oral cultures know a kind of autonomous discourse in fixed ritual formulas (Olson 1980, pp. 187–94; Chafe 1982), as well as in vatic sayings or prophesies, for which the utterer himself or herself is considered only the channel, not the source. The Delphic oracle was not responsible for her oracular utterances, for they were held to be the voice of the god. Writing, and even more print, has some of this vatic quality. Like the oracle or the prophet, the book relays an utterance from a source, the one who really 'said' or wrote the book. The author might be challenged if only he or she could be reached, but the author cannot be reached in any book. There is no way directly to refute a text. After absolutely total and devastating refutation, it says exactly the same thing as before. This is one reason why 'the book says' is popularly tantamount to 'it is true'. It is also one reason why books have been burnt. A text stating what the whole world knows is false will state falsehood forever, so long as the text exists. Texts are inherently contumacious.

Plato, writing and computers

Most persons are surprised, and many distressed, to learn that essentially the same objections commonly urged today against computers were urged by Plato in the _Phaedrus_ (274–7) and in the _Seventh Letter_ against writing. Writing, Plato has Socrates say in the _Phaedrus_, is inhuman, pretending to establish outside the mind what in reality can be only in the mind. It is a thing, a manufactured product. The same of course is said of computers. Secondly, Plato’s Socrates urges, writing destroys memory. Those who use writing will become forgetful, relying on an external resource for what they lack in internal resources. Writing weakens the mind. Today, parents and others fear that pocket calculators provide an external resource for what ought to be the internal resource of memorized multiplication tables. Calculators weaken the mind, relieve it of the work that keeps it strong. Thirdly, a written text is basically unresponsive. If you ask a person to explain his or her statement, you can get an explanation; if you ask a text, you get back 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'. Fourthly, in keeping with the agonistic mentality of oral cultures, 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 a context of give-and-take between real persons. Writing is passive, out of it, in an unreal, unnatural world. So are computers.

A _fortiori_, print is vulnerable to these same charges. Those
who are disturbed by Plato's misgivings about writing will be even more disturbed to find that print created similar misgivings when it was first introduced. Hieronimo Squarciatico, who in fact promoted the printing of the Latin classics, also argued in 1477 that already 'abundance of books makes men less studious' (quoted in Lowry 1979, pp. 29–31): it destroys memory and enfeebles the mind by relieving it of too much work (the pocket-computer complaint once more), downgrading the wise man and wise woman in favor of the pocket compendium. Of course, others saw print as a welcome leveler: everyone becomes a wise man or woman (Lowry 1979, pp. 31–2).

One weakness in Plato's position was that, to make his objections effective, he put them into writing, just as one weakness in anti-print positions is that their proponents, to make their objections more effective, put the objections into print. The same weakness in anti-computer positions is that, to make them effective, their proponents articulate them in articles or books printed from tapes composed on computer terminals. Writing and print and the computer are all ways of technologizing the word. Once the word is technologized, there is no effective way to criticize what technology has done with it without the aid of the highest technology available. Moreover, the new technology is not merely used to convey the critique: in fact, it brought the critique into existence. Plato's philosophically analytic thought, as has been seen (Havelock 1963), including his critique of writing, was possible only because of the effects that writing was beginning to have on mental processes.

In fact, as Havelock has beautifully shown (1963), Plato's entire epistemology was unwittingly a programmed rejection of the old oral, mobile, warm, personally interactive lifeworld of oral culture (represented by the poets, whom he would not allow in his Republic). The term *idea*, form, is visually based, coming from the same root as the Latin *video*, to see, and such English derivatives as visible, visible, or videotape. Platonic form was form conceived of by analogy with visible form. The Platonic ideas are voiceless, immobile, devoid of all warmth, not interactive but isolated, not part of the human lifeworld at all but utterly above and beyond it. Plato of course was not at all fully aware of the unconscious forces at work in his psyche to produce this reaction, or overreaction, of the literate person to lingering, retardant orality.

Such considerations alert us to the paradoxes that beset the relationships between the original spoken word and all its technological transformations. The reason for the tantalizing involutions here is obviously that intelligence is relentlessly reflexive, so that even the external tools that it uses to implement its workings become 'internalized', that is, part of its own reflexive process.

One of the most startling paradoxes inherent in writing is its close association with death. This association is suggested in Plato's charge that writing is inhuman, thing-like, and that it destroys memory. It is also abundantly evident in countless references to writing (and/or print) traceable in printed dictionaries of quotations, from 2 Corinthians 3:6, 'The letter kills but the spirit gives life' and Horace's reference to his three books of *Odes* as a 'monument' (*Odes* iii.30.1), pressing his own death, on to and beyond Henry Vaughan's assurance to Sir Thomas Bodley that in the Bodleian Library at Oxford 'every book is thy epitaph'. In *Pippa Passes*, Robert Browning calls attention to the still widespread practice of pressing living flowers to death between the pages of printed books, 'faded yellow blossoms/ twixt page and page'. The dead flower, once alive, is the psychic equivalent of the verbal text. The paradox lies in the fact that the deadness of the 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 potentially infinite number of living readers (Ong 1977, pp. 230–71).

**Writing is a technology**

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 (Havelock 1963), 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:
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 the result of high technology. A violin is an instrument, which is to say a tool. An organ is a huge machine, with sources of power - pumps, bellows, electric generators - totally outside its operator. Beethoven’s score for his Fifth Symphony consists of very careful directions to highly trained technicians, specifying exactly how to use their tools. Legato: do not take your finger off one key until you have hit the next. Staccato: hit the key and take your finger off immediately. And so on. As musicologists well know, it is pointless to object to electronic compositions such as Morton Subotnik’s The Wild Bull on the grounds that the sounds come out of a mechanical contrivance. What do you think the sounds of an organ come out of? Or the sounds of a violin or even of a whistle? The fact is that by using a mechanical contrivance, a violinist or an organist can express something poignantly human that cannot be expressed without the mechanical contrivance. To achieve such expression of course the violinist or organist has to have interiorized the technology, made the tool or machine a second nature, a psychological part of himself or herself. This calls for years of ‘practice’, learning how to make the tool do what it can do. Such shaping of a tool to oneself, learning a technological skill, is hardly dehumanizing. The use of a technology can enrich the human psyche, enlarge the human spirit, intensify its interior life. Writing is an even more deeply interiorized technology than instrumental musical performance is. But to understand what it is, which means to understand it in relation to its past, to orality, the fact that it is a technology must be honestly faced.

What is ‘writing’ or ‘script’?

Writing, in the strict sense of the word, the technology which has shaped and powered the intellectual activity of modern man, was a very late development in human history. Homo sapiens has been on earth perhaps some 50,000 years (Leakey and Lewin 1979, pp. 141 and 168). The first script, or true writing, that