

The Journal of Typographic Research
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An annual index of article titles, authors, and book reviews appears at the end of the final Journal number in each volume.

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Some Psycholinguistic Components of Initial Standard Literacy

John Mountford

Literacy is a linguistic term predicated of individuals. It means ability to use language in the medium of writing. Standard literacy is the particular kind of literacy required by educational systems, viz. literacy in a standard language. Initial standard literacy is a more adequate term for what is commonly called the teaching of reading. Five psycholinguistic components are suggested: knowledge of a standard language; knowledge of its standard orthography (distinguished from other kinds of writing-systems); 'technical concepts' of literacy; 'habitudes' of literacy; basic skills of literacy (reading and writing). Literacy is also predicated of societies. The study of it, both as a psycholinguistic phenomenon and as a sociolinguistic phenomenon has been neglected in linguistics generally, just as the concept of literacy has been neglected in educational theory.

Literacy is the ability to use language in the medium of writing. This ability is apparently a universal human potential. The assumption that it is so underlies all modern national education systems.

In the way in which the term "literate" will be used in this paper, a human individual must be either literate or non-literate. On a scale of literacy, "non-literate" indicates zero-literacy, "literate" indicates any degree of literacy above zero (see Fig. 1).

Literacy is essentially a linguistic concept. To be literate a person must have (a) some control of language, and (b) some control of the language medium of writing.

Writing can be classed with speech as a normal medium of language, in contrast to abnormal media such as lip-reading or tactile media. But writing differs from speech in that it is not learnt spontaneously. A human being is born with a capacity for acquiring language spontaneously in the medium of speech. Language cannot, it seems, on general evidence, be acquired spontaneously in the medium of writing; nor can control of language in the medium of speech be extended spontaneously to the medium of writing. We have

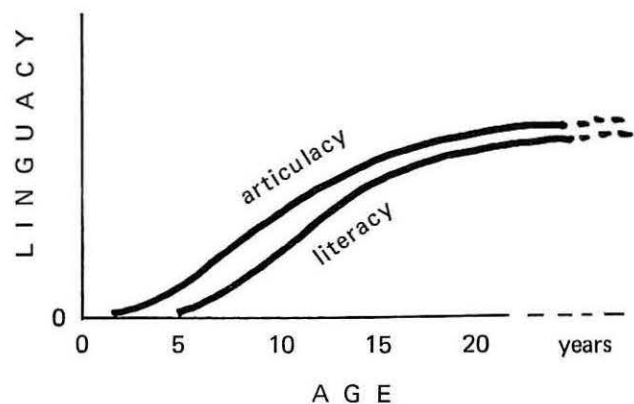


Figure 1. To illustrate "Literacy scale."

to be taught to read. Formal education begins with initiation into literacy.

The situation may be expressed in general terms as follows. A human being is born with a faculty of language which enables him in normal psychological and sociological circumstances to become "linguate"; he is born with a capacity for "linguacy." In normal circumstances initial linguacy takes the form of spontaneously acquired articulacy (ability to use language in the medium of speech); once articulacy has been acquired, then, in circumstances which the world increasingly regards as normal, linguacy may be extended non-spontaneously, by instruction, to literacy (ability to use language in the medium of writing). Abnormally, literacy may be acquired without antecedent articulacy; but we shall confine ourselves to normal literacy.

In normal literacy acquisition, the literacy scale remains at zero until initial mastery in articulacy is attained—the "take-off" point when a baby is said to be able to talk. Literacy then begins, under instruction, to rise from zero towards its own take-off point at which a child is said to be able to read. Instruction does not cease then, but the period of initial literacy learning is over. Both scales, articulacy and literacy, continue to rise in the normal life curve, and presumably tend to flatten in maturity and to decline in old age. The normal literate is a person whose total linguacy is a literate linguacy. This has

important consequences for his use of language in both media, for his concept of language itself, and for the dependent linguistic concepts which he forms. Though we separate articulacy and literacy in analysis, the two are intimately associated aspects of a person's total linguacy.

There are three important differences between articulacy acquisition and literacy acquisition. The first and chief one is that articulacy acquisition is also initial linguacy acquisition; it is the vital once-for-all move from non-linguacy to linguacy, taking place in the medium of speech. Literacy acquisition is only an extension of linguacy. Secondly, articulacy acquisition is spontaneous, literacy acquisition non-spontaneous, as we have said. Thirdly, by definition, articulacy is linguacy exercised in the medium of speech; literacy is linguacy exercised in the medium of writing.

Expressing the situation in such general terms has certain advantages. In the first place, it will be seen that nothing has been said about language in particular. The language or languages in which articulacy and literacy are exercised may be the same or different, and this applies to the initial stages: the language in which literacy is acquired may be a different language from the one in which articulacy was acquired. In fact, in the world today, as in the past, the language of literacy is often not the speaker's first language. But as far as literacy is concerned, it is the medium—writing—which matters, not the language. In this respect, articulacy and literacy are parallel. Second-language learning is not the same as first-language learning. In learning to speak a second language we are not acquiring articulacy over again, but extending our existing articulacy. As literates in our first language of literacy we are not, in learning to read a second language, acquiring literacy over again, but extending our existing literacy. To resort to general terms again, linguacy once acquired in an L1 (first language) can be extended along two dimensions. One dimension is that of "lingualism": we can become bilingual or multilingual, acquiring an indefinite number of L2s. The other dimension is that of language-medium: we can extend our control of language into the medium of writing, and become literate. The two dimensions of extension are independent of each other—though it is worth noting that literates like ourselves think instinctively of a bilingualism which includes bi-literacy.

In the second place, while nothing has been said about languages in particular, nothing has been said about the sociological status of languages in particular either. Literacy is literacy whether it is acquired in a language with a long tradition of literacy or in one with no tradition of literacy, for which the missionary-linguist's texts constitute the whole literature. The native speaker who has learnt to read his language in such circumstances does not have to become literate all over again if he then learns to read a language of wider communication. Literacy is acquired once-for-all, like linguacy itself. Urdu is a minority language in Britain; but that does not make immigrant children who are literate in Urdu non-literates.

In the third place, a point similar to the one just made about language can be made about writing. The presence of language (*langage*) implies the presence of at least one particular manifestation of language, one particular language (*langue*). The presence of writing implies the presence of at least one particular manifestation of writing, one writing-system. The identity of the language or of the writing-system is immaterial. One language is as good as another, one writing-system is as good as another, to establish literacy. But though language (particular) and writing-system are both variables, they are not parallel variables: writing-system (as the term will be used in this paper) is a sub-variable within the variable of particular language. The reason for this is as follows.

Any language may have an indefinite number of writing-systems. English is especially rich in the number of writing-systems designed for it. Besides the standard orthography there exists a multiplicity of ancillary writing-systems, some more or less resembling the orthography, others quite independent of it. These ancillaries can be divided into four functional kinds: shorthands, cryptographies, *systèmes d'apprentissage* (e.g., language-teaching transcriptions), and *systèmes de métier* (used in linguistic analysis). If we add the multiplicity of writing-systems designed by spelling reformers as proposed orthographies, we see that orthography itself is another functional kind of writing-system, making five in all. A tradition of literacy leads to the identification, in people's minds, of languages with their standard orthographies. But not all languages have a single, recognized, standard orthography, and some languages have no orthographies at all (though there may be *systèmes de métier* in existence for

them). The preeminence of standard orthographies is based on sociolinguistic grounds. Orthographies as a species of writing-system are designed to serve the general purposes of literacy, and within a language-community these are best served (usually) by the recognition of a single member of the species as a standard orthography. The other four species or functional kinds are designed to serve specialized ancillary purposes, viz., speed, secrecy, language learning, and language study. This classification by functional kind, it should be noted, is independent of classification by structural type (phonological, non-phonological, etc.).¹

This excursion into the linguistic level of graphology (or the study of writing-systems) was taken in order to make the point that, just as one language is as good as another to establish literacy, so one writing-system is as good as another. If literacy in English is acquired initially in shorthand (attempts were made to teach it that way in the last century), it is still literacy: the biggest step, the extension of the control of language to the medium of writing, has been taken. Obviously, some functional kinds of writing-system are more suitable for literacy acquisition than others, but that does not affect the main point. In the same way, some structural types of writing-system are more suitable for literacy acquisition than others. The standard orthographies in use in the world today are typologically very diverse, varying from non-phonological Chinese character to phonological writing-systems of high phonemicity like the orthography of Finnish. But this does not affect the main point either. If a person learns to control a language *L*, in any writing-system for *L*, whatever its functional kind or structural type, that person is literate in *L*; the literacy may be initial (confined to *L*) or it may be bi-literacy (extended to *L* from literacy in some other language or languages).

In the fourth and final place, the general terms used earlier permitted us to make no distinction (for none was needed) between reading and writing. The two language-media, speech and writing, are used in linguistic communication. The linguacy of the participants in linguistic communication must overlap. They must know at least one language *L* in common. Furthermore, they must have phonological and/or graphological knowledge of *L* in common. In the case of the graphology they must know at least one writing-system for *L* in common. Knowledge includes partial knowledge; as at other linguistic

levels, a person who knows one system also knows other systems which approximate to it.

Knowledge of a writing-system for *L* is exercised both in receiving and in producing *L* in that writing-system, and it is well-known that ability to receive may far outrun ability to produce. Receiving requires knowledge of *L* and a limited knowledge of the writing-system; producing requires this same knowledge plus more detailed knowledge of the writing-system. Knowledge of a writing-system, as with other kinds of linguistic knowledge, does not imply conscious familiarity with the rules of the system. English literates seeing a passage in i.t.a. (a writing-system based on the Initial Teaching Alphabet and designed as a *système d'apprentissage* for the teaching of initial literacy in English) are able to read it at sight, though they are not able to write it accurately without a certain amount of conscious learning. Their ability to read it comes from their knowledge of English and of its standard orthography which i.t.a. closely resembles.

But as far as literacy is concerned *per se*, asymmetry between the skills does not matter. The essential factor in literacy is the exercise of linguacy in the medium of writing; whether it is exercised in both reading and writing or in reading only is immaterial.

Before going on to consider the psycholinguistic components of standard literacy, it will be as well to pause and note some terminological points.

We have used the word "writing" in two senses: as a language-medium in contrast to speech, and as a language-skill in contrast to reading. These two meanings need not cause confusion; but it is important to remember that we can speak of "using writing" or "controlling language in writing" and mean the medium of writing: in exercising either of the skills, reading and writing, we are using writing and controlling language in the medium of writing. A third common meaning of the word "writing" in English is "handwriting" in contrast to print or typewriting. But in this paper we shall not be concerned with the different physical forms which writing, as a language-medium or as a language-skill, can take.²

We have used the word "reading" in the last few paragraphs in a single, precise sense—to designate the receptive skill of language in the medium of writing. In earlier paragraphs it was used occasionally

in the phrase "the teaching of reading" or allied expressions. This is the commonest way of referring, in English, to the teaching of initial standard literacy, which we now go on to consider.

"Initial literacy teaching" is a linguistically more adequate name, than "the teaching of reading," for the process which takes place, with others, at the beginning of formal education, viz., the turning of non-literate children into literate children. "Initial" has a double sense, referring to the beginning of the literacy scale and to the beginning of formal education, to which we shall revert at the end of this paper.

We excluded "abnormal" literacy (that of deaf-mutes, for example) at the outset, in order to restrict our attention to the normal situation in which literacy is acquired after articulacy. We went on to stress that this implied nothing about particular languages or particular writing-systems. But the literacy which underlies education systems is more narrowly determined than that. It is "standard" literacy, and in analyzing standard literacy in the individual, I want to suggest, very tentatively, that there are five aspects of it which may be thought of as psycholinguistic components of standard literacy. Three of them are cognitive, one I am not sure about, and the fifth consists of skills which include physical activity. The list of them might be headed "What the literate (standard literate) knows which the non-literate does not know." The five components are:

- (1) knowledge of a standard language of literacy
- (2) knowledge of its standard orthography
- (3) knowledge of the 'technical concepts' of literacy
- (4) the linguistic "habitudes" of literacy
- (5) the basic skills of literacy: reading and writing.

As the main features of this approach to the concept of literacy have already been described, I will add only brief comments to each of these in turn.

Initiation into a standard language of literacy is the most far-reaching aspect of standard literacy. Continuously expanding control of that standard language, or of a second standard language of wider range, accompanies growth on the educational scale. I will only make two points about this central aspect of literacy. The first is that an education system requires some degree of standardization in a lan-

guage (for the training of primary teachers, production of primers, etc.) if it is to use it for initial literacy teaching. Thus in highly multi-lingual societies in which the policy of using local vernacular languages for initial literacy teaching is adopted, these languages will be standardized to this extent. The second point concerns, by contrast, the highly monolithic situation of English in England—noting how in our teaching of English as a mother tongue, both at the initial literacy stage and at later stages when it is actually called “English teaching,” the notion of “standard language” is often regarded as antagonistic to “creativity” in language. There must be a serious misunderstanding of important linguistic concepts for this belief to be held.

As to the knowledge of the writing-system, I will add to what I have said in the earlier part of this paper two points, one general and one particular. The general one is that the rules for the written representation of morphemes and morpheme-combinations in a language do not exhaust the description of a writing-system. A phonological writing-system is more than a system of spelling. In particular, orthographies are elaborated by the complex punctuation systems, the differentiation resources of upper- and lower-case, italics, etc., the abbreviation devices, reference devices, serialization and sequencing devices, and so on, familiar in European and other orthographies. Literacy-learning in the sense of mastering the resources of a standard orthography can go on for many years after take-off point has been passed on the literacy scale. The second point concerns English spelling and the plight of many English literates long past take-off point whose mastery of English spelling is not adequate for the writing they have to do. It is part of the folk linguistics of English that you either can spell or you can't—with the rider that if you can't, there's nothing you can do about it. This psycholinguistic belief is fairly widespread at all stages in English education, along with even more startling graphological beliefs about the way the spelling system of English standard orthography works, e.g., “totally unsystematic.”

It seems to me that “good” spellers have learnt the rules of this system unconsciously (for they can hardly ever give any account of them, beyond reciting “*i* before *e* except after *c*”), and that these rules can be formulated and taught consciously, so to speak, to “bad

spellers”—a task which is not much undertaken in English education at any level today. In characterizing the knowledge of the idealized English speller, we cannot, of course, go outside English. Historically, however, it seems plausible that knowledge of the spelling of French or Latin orthography had a part in the creation of the folk-linguistic belief just mentioned. Educated bilingualism characteristically includes bi-literacy, and is sometimes almost confined to bi-literacy; and even quite elementary forms of bi-literacy, such as a smattering of Latin, can facilitate mastery of, for example, the spelling rules in English governing the morpheme-boundaries between prefixes and stems. But, leaving aside this historical speculation about the origin of the belief in question, it seems to me that a psycholinguistic approach to this aspect of literacy offers some principled grounds for optimism of a kind absent from the current combination of visual memory and fatalism.

For the third component, the technical concepts of literacy, I will refer you to the excellent article by J. F. Reid, “Learning to Think About Reading” (*Educational Research*, IX [November 1966], 56–62), from which the name “technical concepts” comes. The concepts in question are “letter,” “word,” “figure,” “to read,” “to spell,” and so on; and Reid explores children's acquisition of these concepts in the course of becoming literate in English. Drawing attention to this process of conceptualization was a valuable service in itself.

It is presumably the case that knowledge of the standard technical vocabulary of literacy is not an essential component of literacy; but in standard literacy such knowledge is certainly expected. How important is this overt conceptualization to the process of becoming literate? How much heavier is the load of conceptualization in literacy-acquisition than in articulation-acquisition? Literacy and intellectual development are intimately connected: how big an intellectual achievement is the successful acquisition of literacy itself? One reason for the presence of the technical vocabulary is, of course, that literacy is imparted by instruction. What, then, is the technical equipment of the instructors as regards the technical concepts of literacy? My own impression is that English initial literacy teachers are not equipped with a clear conceptual framework in this respect. The concepts in question are linguistic concepts, and it is for lin-

guistics to provide such a linguistic framework. The concept of "writing" itself, as a language-medium, is one we can only acquire in becoming literate. The non-literate cannot comprehend what it is. This is the fundamental concept which, however unformulated, underlies our acquisition of the dependent concepts such as "alphabet," "letter," "figure," and so on.

Of the linguistic "habitudes" of literacy, as I have called them for lack of a better name, I can only say that they must not be overlooked in considering standard literacy and its acquisition. The expression is meant to cover such things as the following. With literacy we learn to use language solitarily, engaging in linguistic communication with people not present with us and with people not known to us; to use highly drafted language both in reception and in production; and to use the impersonal and elaborated language characteristic of written communication in standard languages.

Finally, as to the basic communication skills of literacy, I do not want to say anything beyond pointing out that standard literacy requires the acquisition of both the receptive and the productive skill, viz., reading and writing. In different social circumstances in the past, and in special situations today, literacy teaching has sometimes been restricted to imparting the one skill only, reading. But the standard literacy required by modern education systems calls for ability in both skills, reading and writing, and the two are usually taught together.

These five psycholinguistic components of literacy are put forward as a tentative venture into an aspect of man's faculty of language which linguistics as a whole has largely ignored. In applied linguistics there are notable exceptions to this stricture; but for its truth overall one has only to see the thin treatment which writing receives in the general textbooks. In the earlier portion of this paper we attempted to show that literacy is a concern of the linguist because writing is a medium of language. The linguistic study of writing, which we have been calling graphology, has still to recover from the heavy Bloomfieldian blows it received earlier in this century. It is a sign of how far general linguistic theory has moved since then that the study of writing is likely to be revived within linguistics not so much for its own sake as a medium of language (though this would be sufficient

reason) as because an understanding of literacy is required both as a psycholinguistic phenomenon and as a sociolinguistic phenomenon. It is literate society which presents the largest challenge to sociolinguistics (certainly under any "applied" label), and we will conclude by considering literacy under this social aspect.

Literacy can be predicated not only of individuals but also of societies. The importance of literacy in societies is attested in a number of ways. Literacy is the feature in man's cultural evolution which distinguishes pre-history from history: minority literacy is a necessary condition of industrialization. The advanced mass societies of today have followed upon the recent phenomenon of mass literacy. A society with "universal" literacy is a society in which every individual is given the opportunity of acquiring literacy early in life. The importance attached to the promotion and maintenance of universal literacy in a society can be measured by the vast proportions reached by national education systems in the advanced countries and by the efforts expended by the backward countries to establish similar education systems. Literacy and education are not the same thing; but there is an intimate connection between them that requires elucidation.

Interest in literacy as a sociological phenomenon is growing—though neither sociolinguistics nor educational theory and history have been to the fore in this growth. The pioneer work has been done by social historians and economic planners and historians. The last group has been moved to study the literacy rates of the early industrialized countries at the time of their economic take-off in the nineteenth century, in order to throw light on the conditions required for economic take-off by the backward countries in the twentieth century. The general conclusion drawn has been that now, as then, roughly 40% adult literacy is required in a population before industrialization can take place.³ In their haste to reach this figure the developing countries engage in two kinds of literacy promotion: the establishment of a primary education system, which is a long-term process designed ultimately to turn all children into literates as early in life as possible, and more temporary measures for turning non-literate adults into literates, sometimes by means of special "literacy campaigns."

A terminological point of some significance arises here. Adult

literacy teaching goes on, on a much smaller scale, in the advanced countries too. In Britain, for example, it is partly remedial, for failures from the education system, and partly initial, for adult immigrants. In developing and developed countries alike, it is only in this area of literacy promotion that, in English, the term "literacy" is used. Adult non-literates are "illiterates"—which is a useful distinction to make at the zero and minimal levels of literacy; and in UNESCO usage, which is educationally unexceptional in this respect, only illiterates are the object of literacy teaching.

This is odd. Literacy is fundamental to the educational process; yet the term "literacy" plays little part in educational theory in the English-speaking world. Of course, the theory and practice of making children literate receives enormous attention, but it does so under the general heading of "reading."

The list of five psycholinguistic components of initial standard literacy which we have put forward in this paper may be very inadequate; but at least it puts the literate's linguistic knowledge first and the perceptual and motor skills last, as an indicator, however crude, of where the emphasis should lie.

1. See J. Mountford, "Writing-system: A Datum in Bibliographical Description" in Conrad H. Rawski (ed.), *Toward a Theory of Librarianship: Papers in Honor of Jesse Hawk Shera* (Cleveland: Press of Case Western Reserve University, forthcoming).
2. For points in this paragraph see an earlier article in *The Journal of Typographic Research*: J. Mountford, "'Writing' and 'Alphabet'," II (July 1968), 221-232.
3. See C. A. Anderson, "Literacy and Schooling on the Development Threshold: Some Historical Cases," Chapter 18 of C. A. Anderson & M. J. Bowman (eds.), *Education and Economic Development* (London: Cass, 1966).

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The Emergence of Gothic Handwriting

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During the mid-eleventh century Caroline script began to undergo significant changes. The growing market for writings, both academic and popular, demanded a small, clear, and highly abbreviated style. The new Gothic script originated out of this need for compression; e.g., the fusing of opposite curves of letters where they were found back to back and the judicious use of abbreviations. The transitional styles of writing are illustrated.

The year 1200 marks the end of a period of some four hundred years during which the predominant script in Europe was the graceful and unambiguous book hand we now call Caroline. This had been introduced a little before 800, in the time of Charlemagne (hence the name), in order to put an end to the medley of scripts, most of them too contorted for easy private or public reading, that had developed out of the late Roman business cursive in the former provinces of the Roman Empire. Devised after some thirty years of experimentation, possibly at Charlemagne's instigation, the pleasant, controlled, and generally unabbreviated Caroline form of writing was in fact based directly on the legible, unligatured minuscule book hand (semiuncial) of the late Roman period (fourth to sixth centuries). By the year 900, this new hand had conquered most of continental Europe.

About 1050, however, the Caroline script began to undergo small but significant changes. For example, instead of employing the graceful curves and the sharply pointed finishing strokes of pure Caroline writing, scribes now developed a tendency to break and to stagger the strokes of a letter. Thus the top parts of m and n, which were straight in Caroline writing, took on a humped look; similarly, the ends of minim strokes (as in i or m or n) began to turn up lazily and to resemble the trunk of an elephant. These marked departures from standard Caroline practice first appeared in Normandy around 1050.