

Writing Systems

An Introduction to their Linguistic Analysis

FLORIAN COULMAS



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Contents

<i>List of illustrations</i>	xi
<i>List of tables</i>	xiv
<i>Acknowledgements</i>	xvii
<i>A note on fonts</i>	xviii
<i>List of abbreviations and conventions</i>	xix

1	What is writing?	1
2	The basic options: meaning and sound	18
3	Signs of words	38
4	Signs of syllables	62
5	Signs of segments	89
6	Consonants and vowels	109
7	Vowel incorporation	131
8	Analysis and interpretation	151
9	Mixed systems	168
10	History of writing	190
11	Psycholinguistics of writing	210
12	Sociolinguistics of writing	223

**Appendix: Universal Declaration of Human Rights,
article 1**

242

<i>Bibliography</i>	247
<i>Index of names</i>	259
<i>Index of subjects</i>	263

Illustrations

1.1	Chinese character <i>wú</i> ‘nothing’	page 6
1.2	René Magritte 1929, ‘The betrayal of images’	7
1.3	Saussure’s model of the linguistic sign	12
2.1	Carved bones, approximately 35,000 years old	19
2.2	Quipu knots and their numerical values	20
2.3	Winter count of the Dakota	22
2.4	Frege’s <i>Begriffsschrift</i> . Is it writing?	24
2.5	Example of Otto Neurath’s <i>International Picture Language</i>	25
2.6	Hebrew letter <i>mem</i> , מ, as iconic depiction of tongue position according to van Helmont	27
2.7	Iconicity of Han’gūl consonant letters	27
2.8	John Wilkins’ physiological alphabet symbols	29
2.9	‘Visible Speech’, Alexander Melville Bell’s ‘Universal Alphabet’	30
3.1	Archaic Uruk tablet with pictographs	42
3.2	Archaic Uruk tablet containing calculations of rations of beer for a number of persons for consumption on the occasion of a festivity	44
3.3	Sumerian rebus sign of Jemdet Nasr period	46
3.4	Multifunctional Sumerian cuneiform signs	47
3.5	Sumerian example sentence	49
3.6	The Chinese character <i>shù</i> ‘number’ and its graphic composition	53
3.7	Variant forms of Chinese characters	54
3.8	Chinese example sentence	59
4.1	The structure of a simple syllable	63
4.2	The structure of a syllable in a tone language	65
4.3	Cherokee syllables, phonetic and graphic	72
4.4	Consonantal onset of Old Akkadian syllables is lost in Akkadian	77
4.5	Syllable analysis and mora analysis of Japanese <i>hon</i> ‘book’ and the word’s kana notation	80
4.6	<i>Fanqie</i> , the ‘turn and cut’ method of showing the syllabic value of a Chinese character	86

4.7	<i>Fanqie</i> and phonetic analysis of the syllable <i>hóng</i> ‘insect’	87
5.1	The ideal model of phonemic writing	93
5.2	The letter <i>x</i> and some of its phonetic interpretations	95
5.3	Graphic representation of [ə] in English	96
5.4	Complex phoneme–grapheme correspondences	100
5.5	The Africa alphabet	102
5.6	The International Phonetic Alphabet (revised to 1993)	104
6.1	West Semitic languages	112
6.2	Lineage of ancient Semitic scripts	114
6.3	The Hebrew Gezer Calendar, tenth century BCE, in Phoenician script	120
6.4	Ionian Greek inscription of the early sixth century BCE without word boundaries	129
7.1	Scripts descended from Brāhmī	150
8.1	Amharic <i>ləbəš</i> ‘cloak’	154
8.2	Han’gūl calligraphy by Kwon Ji-sam, seventeenth century	158
8.3	A passage from <i>Hunmin Chōng’ŭm haerye</i> explaining the vowel letters	162
8.4	Graphic composition of the syllable <i>kwǒn</i>	163
9.1	François Champollion’s decipherment of royal names	171
9.2	François Champollion’s first list of Egyptian phonetic signs	172
9.3	Logographic hieroglyphs	173
9.4	Polyvalence in Japanese writing	181
9.5	English <a> and its phonemes	186
9.6	English [ʃ] and its graphemes	187
10.0	Egyptian office. Mural relief in the tomb of official Ti in Saqqara (fifth dynasty)	191
10.1	Sandstone sphinx from the Middle Kingdom temple at Serabit el-Khadim with inscriptions in Egyptian hieroglyphs © Copyright The British Museum	194
10.2	Sign system to writing system: changing semiotic relationships	197
10.3	Schematic derivation of the Mongolian alphabet	206
12.1	Standard and dialects: some dialects are closer to the standard than others	228
12.2	Diglossia	231
12.3	Digraphia	234

12.4	Chinese characters, <i>mén</i> ‘gate’ and <i>wú</i> ‘without’, in full and reduced form	237
12.5	The General Rules of Kanandan, promulgated by the Internasionál Union for Kånådån (IUK) Toronto, On., Kånådå	239

Tables

3.1	Graphic development of cuneiform signs	page 45
3.2	Graphic development of four Chinese characters	51
3.3	Major Chinese script styles	51
3.4	<i>Liù shū</i> , ‘the six writings’	52
3.5	Chinese compound characters, formed of semantic determinatives and the phonetic indicator <i>gong</i>	56
3.6	Chinese words of location	58
4.1	Some Manyōgana, Chinese characters used as phonetic symbols to write seventh-century Japanese	68
4.2	The Cherokee syllabary	70
4.3	The Cree syllabary	71
4.4	The Vai syllabary	73
4.5	Parallel development of Sumerian cuneiform sign and Chinese character adapted to other languages	75
4.6	Basic grid of cuneiform ‘Syllabary A’. With permission from P. T. Daniels and W. Bright, <i>The World’s Writing Systems</i> , Oxford University Press, 1996, p. 57.	76
4.7	Basic kana syllabaries	79
4.8	Middle Chinese final consonants are dropped in Old Japanese	80
4.9	Hiragana and katakana for palatalized onset syllables	81
4.10	The Cypriot syllabary	83
4.11	The Linear B syllabary	84
4.12	The standard Yi syllabary of 1980	85
5.1	Latin vowels and diphthongs	92
5.2	Latin consonants	92
5.3	Some ways of spelling /u:/ in English	99
5.4	Commonly used diacritics to enlarge the scope of the Latin alphabet	103
6.1	The Semitic root <i>qbr</i> ‘to bury’, imperative forms	111
6.2	The Aramaic alphabet	115

6.3	Scripts for Hebrew. Adapted from Avrin 1991: 126f.	117
6.4	The Hebrew alphabet	119
6.5	Tiberian pointing in relation to C letter \beth <i>b</i> and \daleth <i>h</i>	121
6.6	Hebrew vowels and their graphic indication	122
6.7	The Arabic alphabet	124
6.8	Greek vocalic reinterpretation of Phoenician consonant letters	128
7.1	Correspondences between Phoenician and Brāhmī signs	133
7.2	Brāhmī primary vowels	134
7.3	Brāhmī secondary vowels	134
7.4	Brāhmī <i>mātrās</i> , diacritic vowel signs on consonant letters <i>k</i> and <i>l</i>	135
7.5	Brāhmī <i>akṣaras</i> , consonants with inherent <i>a</i>	135
7.6	Devanagari plosives	137
7.7	Devanagari sonorants and fricatives	137
7.8	Devanagari vowel signs for Hindi	137
7.9	Devanagari conjunct consonants	138
7.10	Tamil consonant signs	141
7.11	Tamil vowel diacritics	142
7.12	Tamil independent vowel signs	142
7.13	Tamil Grantha letters for Sanskrit sounds	143
7.14	The Tibetan syllabic alphabet	144
7.15	Vowels of modern Tibetan	144
7.16	The Thai syllabic alphabet	146
7.17	Thai vowel diacritics	147
7.18	Thai tone diacritics	147
7.19	First page of K. F. Holle's 'Tabel van oud en nieuw-Indische alphabetten'	149
8.1	The Mangyan syllabic alphabet	153
8.2	The Ethiopic syllabic alphabet	155
8.3	Han'gūl basic and derived consonant letters	160
8.4	Han'gūl tense consonant letters	160
8.5	Combinations of consonants and vowels	164
8.6	Han'gūl letters and their modern interpretations according to the South Korean Ministry of Education	166
9.1	Some common triconsonantal hieroglyphs	174
9.2	Some common biconsonantal hieroglyphs	174
9.3	The uniconsonantal hieroglyphs of the Egyptian 'alphabet'	175
9.4	Hieroglyphic determinatives	176
9.5	Kokuji, Japanese native characters	180

9.6	English consonants	185
9.7	English vowels and diphthongs	185
10.1	Proto-Sinaitic signs. From Sass 1988, Table 4.	195
10.2	The Etruscan and Latin alphabets	202
10.3	The Old Hebrew and Mongolian alphabets	205
10.4	Phoenician and Greek sibilant letters	207

What is writing?

The men who invented and perfected writing were great linguists and it was they who created linguistics. Antoine Meillet

Writing has been with us for several thousand years, and nowadays is more important than ever. Having spread steadily over the centuries from clay tablets to computer chips, it is poised for further dramatic advances. Although hundreds of millions of people are still unable to read and write, humanity relies on writing to an unprecedented extent. It is quite possible that, today, more communication takes place in the written than in the oral mode. There is no objective measure, but if there were any doubts, the Internet explosion has laid to rest the idea that for the human race at large writing is only a ‘minor’ form of communication. It is not risky to call writing the single most consequential technology ever invented. The immensity of written record and the knowledge conserved in libraries, data banks, and multilayered information networks make it difficult to imagine an aspect of modern life unaffected by writing. ‘Access’, the catchword of the knowledge society, means access to written intelligence. Writing not only offers ways of reclaiming the past, but is a critical skill for shaping the future. In Stanley Kubrick’s 1968 motion picture ‘2001: A Space Odyssey’ a computer equipped with a perfect speech recognition programme, which is even able to lipread, threatens to overpower the human crew. This is still science fiction. In contrast, the ability of computers to operate in the written mode, to retrieve, process and organize written language in many ways surpasses unaided human faculties. Mastering the written word in its electronic guise has become essential.

The commanding relevance of writing for our life notwithstanding, it is anything but easy to provide a clear definition of what writing is. Partly this is because of the multiple meanings of English words and partly because of the long history of writing and its great importance. At least six meanings of ‘writing’ can be distinguished: (1) a system of recording language by means of visible or tactile marks; (2) the activity of putting such a system to use; (3) the result of such activity, a text; (4) the particular form of such a result, a script style such as block letter writing; (5) artistic composition; (6) a professional occupation. While in this book

my principal concern is with (1), the relationships with the other meanings are not accidental or unimportant. The various uses of ‘writing’ reveal the many aspects of society and culture touched upon by what cultural anthropologist Jack Goody has aptly called the technology of the mind. It can be studied from a great variety of angles in several different scientific fields. Philologists, historians, educationalists, perceptual and cognitive psychologists, cultural anthropologists, typographers, computer programmers, and linguists all have their own interest in writing based in their disciplines’ specific understanding of how writing works, what functions it serves, and which methods can be applied to its investigation. What is more, of a technology that has evolved over thousands of years it cannot be taken for granted that it has not changed substantially. There is little reason to believe that writing means the same in different linguistic and cultural contexts. Rather, the meaning and validity both of past and contemporary theories of writing are contingent upon the historical and, perhaps, cultural circumstances within which they were conceived. Indeed, properties of writing systems may have an effect on how writing is conceived, and, conversely, conceptions of writing may influence the way certain signs are dealt with. Maya writing is a case in point. Anthropologist Michael Coe (1992) has shown how the refusal to recognize the Maya glyphs as writing long stood in the way of their linguistic decipherment, which, once accomplished, added a new facet to our understanding of the multiformity of writing. Every attempt at a single universal definition of writing runs the risk of being either ad hoc or anachronistic, or informed by cultural bias. To appreciate the difficulty it is useful to review some of the definitions that have been provided by writers who concerned themselves with the issue.

Aristotle

What is probably the most widely quoted definition of writing was given by Aristotle. The second part of his propositional logic, *Peri Hermeneias*, begins with some basic explanations about things, concepts and signs. Before discussing nouns and verbs as parts of sentences that can be true or false, Aristotle discusses how these linguistic entities relate to ideas and to things of the material world. He explains:

Words spoken are symbols of affections or impressions of the soul; written words are symbols of words spoken. And just as letters are not the same for all men, sounds are not the same either, although the affections directly expressed by these indications are the same for everyone, as are the things of which these impressions are images. (1938: 115)

Aristotle's main concern here was not with writing. Rather, his purpose was to alert his readers to the need to clarify the complicated relationships that obtain between things, ideas and words, as a prerequisite of developing logical thinking. He only dealt with writing because words manifested themselves in two different forms: as sounds produced by the human voice and as letters. Explaining the relationship between the two was a matter of systematic rigour and terminological orderliness, but of little importance for the rest of his treatise on proposition. Yet, this brief statement became hugely influential in Western thinking about writing.

Much has been written about it. His pronouncement that spoken words are symbols of affections or impressions of the soul – what we would call concepts or ideas – while written words are symbols of spoken words allows for interpretation. What is a symbol? Aristotle's term is *symbolon* which is usually translated as 'symbol' in English. Other translations of the Greek original have preferred the term 'sign', which is more general in meaning and thus makes it easier to accept that a relationship between nonperceptible entities (impressions of the soul) and perceptible entities (spoken words) should be of the same order as a relationship between perceptible entities of two different sorts (spoken words and written words). A variety of verbs such as *depict*, *designate*, *signify* or *stand for* have been used to give expression to the nature of the relationship between a *symbolon* and that which it symbolizes. The common element of all of them is the implicit assumption that this relationship is characterized by linearity and directionality, rather than being symmetric:

things affection of the soul spoken word written word

This formula can be given a temporal and an ontological interpretation. Things exist. You think about them, then you speak, then you write. The phenomenal world precedes cognition which precedes language which in turn precedes literacy.

The central element of Aristotle's definition is that it determines the function of writing as forming signs for other signs as their referents. Writing is not only preceded by, but also subordinate to, vocal speech. This assumption reflects the literacy practice of Greek antiquity. The notion that letters stand for sounds was firmly established, and that both individuals and societies used speech before writing was evident. Literacy had a place in society, but did not embrace large sections of society yet. It was not a form of life as it is now. Letters had not yet broken free of sounds. It followed that writing, at least Greek writing, was a secondary sign system serving the sole purpose of substituting for or representing the primary sign system, vocal speech. When writing was invented, such a linear representational relationship between speech and writing did not exist, but that was none of Aristotle's concern. Nor did he address the question of whether the relationship

he had identified might change in the course of time as the consequences of literacy made themselves felt in society. His remark that ‘letters are not the same for all men’, although affections of the soul are, and the fact that it was part of a treatise on proposition suggest that he had a general statement in mind, and this is how it was understood by subsequent generations of scholars right to the present time. Writing is secondary to and dependent on speech and, therefore, deserves to be investigated only as a means of analysing speech. This is the gist of Aristotle’s definition of writing, which became axiomatic in the Western tradition.

Liu Hsieh

It has been argued that Aristotle’s definition is a direct result of the nature of the Greek alphabet, which is said to be the first full-blown phonetic writing system humanity developed. Thus, writing systems, rather than being conceptually neutral instruments, are thought to act on the way we think. In this connection an explanation of what writing is and whence it came that emerged within the context of Chinese literary culture is of some interest. It bears resemblance to Aristotle’s, but upon closer inspection also differs in important respects. In his celebrated essay ‘Carving of the Literary Dragon’ writer and philosopher Liu Hsieh (465–522) states:

When the mind is at work, speech is uttered. When speech is uttered, writing is produced.

The Tao inspires writing and writing illuminates the Tao. What in mind is idea when expressed in speech is poetry. Isn’t this what we are doing when dashing off writing to record reality?

Writing originated when drawing of bird trace replaced string knitting.

(1983: 13–17)

This definition shares a number of elements with Aristotle’s. A mind at work is what Aristotle calls ‘affections of the soul’. It produces speech that in turn generates writing. The Tao corresponds to nature, that is, things about which ideas are formed in the mind. However, Liu Hsieh’s statement also contains an element that lacks a counterpart in Aristotle’s definition. Writing is credited with a creative analytic potential: it illuminates the Tao. Moreover, the Tao inspires writing, apparently unmediated by speech. An idea in the mind is expressed in speech, but also in writing that is employed ‘to record reality’. While Aristotle unambiguously places speech between ideas and written words, Liu Hsieh seems to concede the possibility that ideas are expressed poetically in speech or in writing, where the relationship between the two is not necessarily unidirectional. This does

not imply that, unlike the Greek philosopher, the Chinese denied that writing was bound up with language, but from his account of the relationship between ideas, speech and writing it cannot be concluded that he conceived of writing as a mere substitute for speech.

Plato

Liu Hsieh and Aristotle speak of the same four elements: in modern parlance, objects, concepts, vocal signs and graphical signs, but the mapping relations between them suggested by their definitions are not identical. In the West, Aristotle's surrogationalist definition has been the basis of the bulk of scholarly dealings with writing ever since, although it was also recognized early on that writing does more and less than represent speech and can never replace it. More clearly than Aristotle, Plato sensed the unbridgeable chasm between discourse and text, between speech and speaker that writing brings about. He was concerned with the communicative function of writing and saw that it was the tool of artificial intelligence as opposed to empathetic dialogue-generated insight, but he was deeply sceptical of the new technology and the form of knowledge it made possible. In the *Phaedrus* dialogue he lets Socrates say, 'Written words are unnecessary, except to remind him who knows the matter about which they are written' (*Phaedrus* 275d). Writing, he reasoned, was just a memory aid, but could not substitute for speech, which was always bound to a speaker who could be asked for clarification. In contrast, written words were silent, they lacked the immediacy of speech, they were dead. In Plato's day, knowledge and knower were not separated, as is typically the case in fully literate societies.

Zen

Plato's critique of writing has been an undercurrent of Western thinking which, however, has strongly favoured the Aristotelian notion that writing is a representation of oral language. As a tool of enlightenment it has met with similar distrust in the Eastern tradition. For example, consider the common Zen slogan 'written words are useless' (Japanese: *furyū monji*), which protests the distance between message and author/reader and the reliance on objectified knowledge. Enlightenment is practice, consciousness in action, the Way; it cannot be captured in fixed signs. Notice, however, that there is no consistent Zen view on writing, just as there is no such thing in Plato. In both cases, scepticism is coupled with veneration. Plato put his misgivings about writing into writing. It was he who



Figure 1.1 Chinese character wú, 'nothing'

preserved in his writing Socrates' philosophy for posterity. Excluding from his Republic poets who at the time were seen as reciters rather than creators of songs, he did more than anyone to usher in a literate culture grounded in analytic thinking. And much as Zen adherents denied the cognitive value of writing, they practised the art of writing. Calligraphy is one of the most highly valued and sublime arts inspired by Buddhism, *shodō* the Way of writing. Consider, for example, the Chinese character for 'nothing' (Chinese *wú*, Japanese *mu*) in figure 1.1 at which many a Zen master has tried his hand. The overwhelming presence of what means the absence of everything is striking and at least as amazing as René Magritte's painting 'The betrayal of images' (figure 1.2). It is hard to imagine that, in the absence of writing, the thingness of nothing would have become a philosophical problem. *Wú* is not nothing, it just means 'nothing', a relationship much like that between a pipe and a picture of a pipe. The visual nature of the sign does the trick.

It is perhaps not surprising that something that touches the human mind so deeply as does writing should evoke diverse and countervailing responses. There is something inherently contradictory about writing, the paradox of arresting the transitory. In this book I am not concerned with the philosophical aspects of this paradox or the artistic expressions it inspired, but we cannot ignore its consequences for linguistics. It is common practice in linguistics to ignore the paradoxical character of writing down language, of treating as achronic something whose very essence is its existence in real time. At best it is treated lightly as a necessary and legitimate abstraction. However, this proves nothing but the fact that linguistics, notwithstanding its claims to universality, is a Western science thoroughly rooted in the Aristotelian tradition. For the scientific study of language is confronted with this paradox from the very beginning. Before anyone thought of writing them down, words were evanescent, *verba volant*. Recording the ephemeral, providing the fleeting word with a permanent form ready to be inspected and reinspected is the first step of linguistic analysis, a step that, strictly speaking, is as impossible to take as it is impossible to give a straight answer to a *kōan*, an illogical riddle developed



Figure 1.2 René Magritte 1929, 'The betrayal of images'

by Zen masters as a technique to discredit the verbal side of the mind. 'How do you see things so clearly', a Zen master was asked. 'I close my eyes', he answered. This little episode warns of the danger of believing in one's own systems and categories, the categories, that is, that guide the seeing eye. Another *kōan* describes three monks watching a streamer flutter in the breeze. One of them comments, 'The streamer is moving', while the second objects, 'The wind is moving'. The third monk says, 'You are both wrong. It is your mind that is moving.'

To distinguish the categories that are inherent in the object of observation from those that are in the mind is a fundamental problem of linguistics, as of all empirical sciences. Writing suggests fixed categories and stability: words, syllables, letters. This would not be a problem if writing systems were the object of inquiry and analysed in their own right in order to discover the structural relationships between their constitutive elements. However, they are often studied for what they would reveal about the nature of language as well as the mental processes underlying it. The very existence of writing is taken as proof that language can be studied as if it were a stable object consisting of fixed parts. Even though it is recognized as 'only' a representation of speech, its categories are allowed to intrude into linguistic inquiry. In order to avoid confusion, it is of great importance, therefore, clearly to distinguish that which writing represents of language from what it imposes onto it. This is no easy task, as the following definition, which we find in an ancient Egyptian text, indicates.

Egypt

Egyptian hieroglyphs were understood as models of the totality of all things. An ancient Egyptian onomasticon, that is, a list of words ordered for subjects, is described in the introduction as ‘the beginning of the teaching for clearing the mind, for instruction of the ignorant and for learning all things that exist: what Ptah created, what Thoth copied down’ (Gardiner 1947: 1). It was things that were recorded, not words. In his introduction to the lists he edited, Gardiner (1947: III), therefore, remarks:

Their title to be called Vocabularies could be upheld only if the lists could be shown to refer primarily to words, rather than to things, and that was clearly against the intention of the compilers.

That a direct relationship between things and written signs was assumed by the Egyptians is also suggested by a text about creation in which the hieroglyphs play a crucial role.

And the whole multitude of hieroglyphs were created by what was thought in the heart and dictated by the tongue. And thus Ptah was content when he had created all things and all hieroglyphs.

‘All things and all hieroglyphs’, Egyptologist Jan Assmann explains, means the forms of nature and their rendition in writing. The heart envisages the forms, the tongue voices them as words, which, by demiurgical powers, attain a physical existence as things. Things are modelled as inner writing in the heart subsequently to be vocalized by the tongue and transformed into perceptible entities of the phenomenal world. ‘There is a virtual congruency between the corpus of signs and the corpus of things’ (Assmann 1991: 91). According to this view the signs precede the things, they are models rather than images. Creation is an act of articulation in the heart, which finds expression in written signs first and then in speech. Externalized writing is thus more properly viewed as a discovery than an invention.

This account puts Aristotle’s linear order of the elements involved in writing on its head and, therefore, from an Aristotelian point of view, strikes us as bizarre. How is it to be understood? The pictorial clarity of Egyptian hieroglyphs is well known and offers an explanation. Does not the Egyptian understanding of writing differ from the Greek because of the iconic relationship between signs and objects so strikingly evident in Egyptian writing but lacking in Greek? This explanation, once again, implicitly assumes that properties of writing systems have repercussions on conceptions of what writing is. On this ground, the Egyptian idea of writing could be easily cast aside as irrelevant for a theory of writing proper, which consists in the representation of words, rather than things. Disturbingly, however, the Egyptians

are not alone. Similar definitions of writing have been proposed within the Western tradition and about Western, that is, alphabetic writing.

Massias

After alphabetic literacy had shaped Western ideas of writing for more than two and a half millennia, in the nineteenth century, Nicolas de Massias published a book in Paris entitled *The Influence of Writing on Thought and on Language*. At the time, writing attracted much attention among European intellectuals because François Champollion's decipherment of the Rosetta Stone in 1822 had demonstrated to the world that Egyptian hieroglyphs could actually be read and thus constituted writing, though of an utterly different kind than alphabetic writing. Like many of his contemporaries, Massias thought that writing, especially phonetic writing, was closely linked with language. He thought of it not just as a means of representing language or of cultivating it, but as something much more essential, which permits language to fully develop:

Here then is man, able by means of language, thought, spoken and written, to communicate with himself and with his present and absent similars. But these languages resolve themselves into a single one, which is limited, written speech. It is this necessity of writing which gives its name to grammar, osteology and framework of discourse. (Massias 1828: 5)

The first writing, without which man could not speak to himself and which distinguishes him from animals is that which the mind has traced in itself by its own action. (p. 7)

Phonographic writing is favorable to speech; it is speech; it makes up and breaks up the smallest elements of sound; and it sustains all movements and operations of the human spirit. (p. 96, quoted from Aronoff 1992: 72f.)

That writing is equated with speech sounds nebulous, but from the earlier quotes it is obvious that Massias does not speak metaphorically. Writing, for him, is at the heart of every language. Thought and spoken and written language are collapsed into one, written speech. As an ideal code it actively articulates rather than reproduces articulation performed in vocal speech.

In the Egyptian account of writing hieroglyphs are models of things created 'by what is thought in the heart'; in Massias' account language itself, its categories (grammar), structure (osteology) and framework of discourse are traced as writing in the mind. As we will see, the idea that writing is a blueprint for, rather than a representation of, speech is not as bizarre as it seems, although most linguists today would reject it out of hand.

Contemporary views

Although there is plenty of evidence that, in literate cultures, writing intrudes into the linguistic behaviour of people and that without writing many languages would not be what they are, the notion that writing is an active agent of language is unpalatable to many linguists for a number of reasons. One is that in modern linguistics languages are stripped of their historical dimension. Although the obvious fact that languages change in the course of time is acknowledged, the possibility that their nature may be affected by external factors such as writing is strictly denied, allegedly on the grounds that writing could not possibly have exercised any influence on the faculty of language because it is too recent an invention. The oldest records reach back a bit more than ten thousand years at best, while language must have evolved hundreds of thousands of years ago. Diachronic linguistics is essentially unhistorical, because, as a defining capacity of the human race, language is not supposed to change by virtue of a humanly contrived technology. There are no highly or less highly developed languages. This is a primitive of linguistics. Artifacts and technologies, such as writing, for example, are granted the potential to change the environment, but not humanity itself. Since language is conceived as an essential part of human nature, while writing is a mere technology, the effects of writing on language and by implication the complexities of their interrelationship remain largely unexplored.

Scholars in the language sciences who do believe that the invention or discovery of writing does make a difference, both with respect to what language is and how we think about it, are in a minority. Linguistic orthodoxy happily concurs with Ferdinand de Saussure's apodictic statement that made Aristotelian surrogationism a cornerstone of modern linguistics:

Language and writing are two distinct systems of signs; the second exists for the sole purpose of representing the first. The linguistic object is not both the written and the spoken forms of words; the spoken forms alone constitute the object. (Saussure 1959: 23)

Following this prescriptive instruction, most introductory textbooks of linguistics simply exclude the problematic of writing or make do with a cursory review of a number of writing systems in the final chapter. Notice in passing that this is quite different in the Eastern tradition of the scientific study of language. The Encyclopedic Dictionary of Chinese Linguistics (*Zhōngguó yǔyánxué dàcídiǎn* 1991–2), for example, treats writing systems as its first topic at great length. A noble and widely accepted reason for ignoring writing or treating it lightly in the West is that all human languages are thought to be equal in the sense that they are expressions of the same inborn faculty of language. The concepts and theories

of linguistics, therefore, have a universal appeal and should be applicable to all languages. Since the majority of the languages of the world are unwritten, it is only prudent to ignore writing when studying language. However, this argument is not as sound as it seems. For, if all languages are of a kind it follows that if some languages are writable all languages are, and since writing is undeniably not the same as language, it is a legitimate and interesting question how the two relate to each other. Two questions linguists should not sidestep are: ‘What happens when a language is written down, (1) in terms of linguistic description, and (2) in terms of linguistic evolution?’ As a matter of fact, linguists never study any language without recording speech and writing it down. This alone is a compelling reason for studying writing instead of assuming that writing, whose essential properties are so radically different from speech, can be ignored in the research process. Some of the differences are the following.

<i>Speech</i>	<i>Writing</i>
continuous	discrete
bound to utterance time	timeless
contextual	autonomous
evanescent	permanent
audible	visible
produced by voice	produced by hand

Each one of these contrasts warrants careful investigation because it is by no means self-evident how an audible sound continuum produced by the human voice, which can only be perceived at the time of utterance, relates to a discrete sequence of fixed visible marks produced by the human hand, which can be perceived at any time. One way out of the difficulty is to say that all of the above are external contingencies of language, which linguists are not really interested in. Linguistics is concerned with the abstract system of language, not with its physical manifestation through speaking, writing or signing. The unwelcome consequence of this line of thought is that vocal speech, too, would have to be expelled from the realm of linguistics and with it what many consider the heart of the science of language, phonetics and phonology.

Both the medium of sound and the physiological apparatus for modulating sound waves are deemed essential for the evolution of language. The human faculty of language cannot really be divorced from vocal speech. A soundless linguistics, therefore, most mainstream linguists would agree, is not just truncated, but an oxymoron. Relating sound to meaning is the very essence of language. Accordingly, a theory of language – a grammar – must specify rules for mapping semantic structures onto phonetic structures. Since Saussure, grammatical theory has undergone revolutionary changes, but the central concept of relating sound to meaning

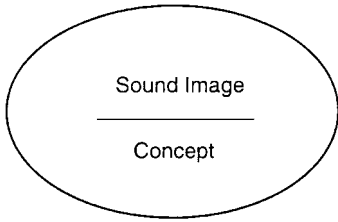


Figure 1.3 Saussure's model of the linguistic sign

in a structured way has remained the same. Saussure's model of the linguistic sign still captures the main point. Sound in language has three aspects, which he distinguishes: physical (sound waves), physiological (audition and phonation) and psychological, that is, sounds as abstract units, which he calls 'sound images' (*images acoustiques*).

The linguistic sign unites a concept and a sound image. The latter is not the material sound, a purely physical thing, but the psychological imprint of the sound, the impression that it makes on our senses. (Saussure 1959: 66)

'Image', 'imprint', 'impression' are the terms he uses to clarify what he means, plainly visual terms that he preferred to, or was not able to exchange for, others less reminiscent of writing. Saussure denounced the 'tyranny of the letter' and degraded writing as a distortion of speech. He may have fallen victim to this tyranny himself in unexpected ways. There has been little discussion about what exactly a sound image is. The cardinal question is what it is an image of, or of *what* sound it is an image. The sound shape of words varies from one speaker to another, and even one and the same speaker is unable to produce an exact copy of an earlier utterance. How then do we recognize sounds as 'the same'? Is there some kind of matrix or ideal sound that Saussure's sound image incorporates? Some scholars think that this is so, Frank Householder, for example. He speaks of a 'proto-written' variety underlying speech arguing that in a literate speech community speakers 'intuitively feel that speech is a rendition of writing, not vice versa' (Householder 1971: 253). In many cases this is undeniable. An ever increasing part of the vocabulary of written languages come into existence in writing. They can be given a phonetic interpretation, which, however, is decidedly secondary. What is more, thanks to the impact of literacy schooling, it is likely that most educated people's conception of language should be influenced by writing. A number of scholars have suggested that linguists are no exception and that 'sound image' and other important terms in linguistics are proof of that. They are derivative of writing.

Writing and linguistics

In 1982 Per Linell published a monograph with the telling title *The Written Language Bias in Linguistics* in which he presented elaborate arguments to the effect that

Our conception of language is deeply influenced by a long tradition of analyzing only written language, and that modern linguistic theory, including psycholinguistics and sociolinguistics, approaches the structure and mechanism of spoken language with a conceptual apparatus, which – upon closer scrutiny – turns out to be more apt for written language in surprisingly many fundamental aspects (Linell 1982: 1).

Ever since Saussure's above-quoted postulate, the primacy of speech is taken for granted in linguistics but belied by actual research and theory formation. Aronoff (1992) points out that, like Saussure, Edward Sapir, Noam Chomsky and Morris Halle appeal to alphabetic writing in developing their phonological theories. Faber (1992: 110) interprets the observation that many speakers cannot divide words into phonological segments 'unless they have received explicit instruction in such segmentation comparable to that involved in teaching an alphabetic writing system' as evidence that historically segmentation ability was a consequence of alphabetic writing, not a prerequisite. Various sounds such as diphthongs and prenasalized consonants, which in alphabetic writing are represented by sequences of letters, cannot realistically be conceived as isolated steady units. Segment-based phonology, Faber concludes, is an outgrowth of alphabetic writing and may not be suited to represent language as a mental system.

Other key concepts of linguistics have been linked to writing in a similar manner. Building on literacy and education research, David Olson (1994) stresses the point that the concept of the word as a distinct unit is a by-product of literacy acquisition. Morphology, the study of words and their parts, is deeply imbued with notions of literate 'word processing', such as 'lexical entry', for example. 'Lexicon' itself is such a term. A lexicon is a list of isolated words, a kind of usage that does not occur naturally in speech. The word is an artificial entity in another sense as well. It is basically the kind of unit that is listed in a dictionary and thus not necessarily the same in all languages. It stands to reason, therefore, that the lexicon as a part of grammar that supposedly we have stored in our heads and that grammarians investigate would not be a research object for grammar if it was not for the written model. The same is probably true of the unit on which syntax is centred, the sentence.

Many researchers who analyse unelicited real-life discourse have observed that in speech the sentence is unimportant and more often than not hard to identify. There is no cognitive, content, or intonation unit in spontaneous speech that

corresponds to a grammatical sentence. At the same time, attempts at an unambiguous, uniform and universal definition of 'sentence' have been inconclusive. The sentence is a unit of written language, and 'a sequence of words between two full stops' is as good a definition as any. Further, sentences are said to have literal meanings. A question we may want to ask, without jest, is whether this also holds of unwritten languages. Is it just the language of writing from which we borrow a descriptive term suitable for the phenomenon, or is it the phenomenon itself that derives from written language? Olson (1994) has argued that the distinction between a speaker's meaning and literal meaning is a by-product of literacy. Static entities like the stock of words, sentences and written texts are alien to the spoken language where meaning is constituted in the act of speaking, bound to situation, speaker, context, the interaction history of speaker and listener, and so on. Take away all that and you get the literal meaning, true to the letter, that is. As Olson demonstrates at length, this terminology is not fortuitous but speaks of the fact that linguistics is grounded in written language. Since linguistics is concerned with 'natural language' while writing is an artifact, this is difficult to openly integrate into linguistic theory, which, as a result, is characterized by scriptism, which has been defined as

the tendency of linguists to base their analyses on writing-induced concepts such as phoneme, word, literal meaning and sentence, while at the same time subscribing to the principle of the primacy of speech for linguistic inquiry.

(Coulmas 1996: 455)

As Olson sees it, linguists are in this respect representative of literate society at large where writing provides the model for speech, rather than the other way around. We pronounce as we spell, we judge our utterances against the yardstick of written sentences and qualify as ellipsis, anacoluthia, reduction, false start and so on those which do not conform to these patterns. The literal meaning of a sentence is basic. Other meanings are taken to be derived from it. To a scholar who, like Olson, looks at language as something to be learned, such a conception, perhaps, comes quite naturally because it is the written form of language that is made the object of instruction, memorization and testing. As an institution, the school instills into the collective mind the primacy of writing. In contrast, those who prefer to look at language as a natural capacity tend to insist on the primacy of speech. These seemingly irreconcilable positions reflect the two sides of language, the acquired and the innate. Since no human being exists as a purely natural creature, both can be dissociated only in theory. This is the deeper meaning of Olson's notion that writing is a model of speech. Acknowledging the cultural and historical nature of humanity, it takes seriously the possibility that an artifact, writing, may act upon one of its most essential natural endowments, language.

In his conception of the relations between speech and writing, Olson has been influenced by Roy Harris (1986), one of the most outspoken critics of Aristotelian surrogationalism. Harris' project is to demonstrate that the development of written signs is independent of spoken language. Accordingly, his notion of writing is extremely comprehensive, encompassing both glottic, or language-based, notation systems and non-glottic systems such as musical and mathematical notations. Any analysis of glottic writing, he argues, should start from here rather than from the allegedly secondary character of writing as a representation of speech, however imperfect. Stressing the continuous nature of speech, he insists that 'there could be no complete isomorphism between any system of visible marks and any system of sounds' (Harris 2000: 189). It is quite unclear, therefore, what it means that written signs represent sounds. The relationship between speech and writing is fundamentally different from, for example, the representation of a city by a city map where an inch represents a mile in a straightforward and well-defined way. Hence it is necessary to rethink the conceptual model that has guided Western thinking about writing for so long. One alternative view is to conceptualize the relationship between speech and writing as one of interpretation. Rather than trying to depict sounds, written signs are given a phonetic interpretation. There is a historical justification for this view in that writing did not evolve as a means to record speech but as a system of communication.

I. J. Gelb, whose *A Study of Writing* was long the most widely cited work on writing, in a first attempt offered a very wide definition of writing as 'a system of human intercommunication by means of conventional visible marks' (1963: 12). Various kinds of visible marks seem to fall under this definition, because it says nothing about whether, how and to what extent language is involved. But Gelb, too, held a surrogationalist view of writing. While acknowledging that in history the representation of speech was not the origin or the initial purpose of writing, he sharpened his definition stating that 'fully developed writing became a device for expressing linguistic elements by means of visible marks' (1963: 13). Gelb's explanation that writing *became* a device for expressing language rather than having been such a device from its inception still seems to leave room for recognizing non-linguistic functions of writing. But since he considered its becoming such a device to be the first step of a goal-directed development it is hard, from his point of view, to see in the non-linguistic functions of writing anything but signs of immaturity. He saw writing evolve from a rather loose connection with language quasi-naturally towards an ever closer relationship, as the units of representation got smaller and fewer. The evolution, Gelb was convinced, could not but lead towards pure sound representation culminating in the Latin alphabet, the most perfect of all writing systems. This quasi-social Darwinist view has been criticized as 'the common Latin alphabet fetishism' (Battestini 1997: 285), because it makes writing

systems that communicate information by other means not mediated through the representation of sounds appear deviant, deficient and underdeveloped.

Combining evolutionism with Aristotelian surrogationalism, Gelb tried to account for the multiformity of the world's writing systems in a uniform and theoretically founded way. However, by committing himself to the superiority of the Latin alphabet he not only opted for a very one-sided criterion for judging progress and the goodness of writing systems, he also made it difficult to appreciate other writing systems for their own merits. Gelb's scholarship was unrivalled in his day, and much of what he contributed to our understanding of scripts, especially of the ancient Near East, is still valid. But his theoretical approach should no longer satisfy the study of writing.

In this book, great importance is attached to Gelb's observation that writing *became* a means of expressing language, but his contention that an inevitable teleological evolution was thus initiated is where we part company. Recording information by graphical means is a basic function of writing that is never narrowed down entirely to the representation of sounds. Writing cannot and should not be reduced to speech. Saussure's above-quoted observation that 'language and writing are two distinct systems of signs' must always be kept in mind, but the second part of his definition, that writing exists for the sole purpose of representing speech, must be rejected, for writing follows its own logic which is not that of speech. From the above discussion about scriptism and the written language bias in linguistics it is clear that there are alternatives to the received opinion that writing is but an imperfect, distorted and hence misleading representation of speech, which deserve to be taken seriously. The relationships between speech and writing are undoubtedly highly complex, but if the medial, bio-mechanical and cognitive differences between them are acknowledged there is no reason to assume a perfect rendition of the former by the latter. If, as I will try to do in the chapters that follow, we free our grasp on writing from the Western preconception that writing should, really, be a faithful representation of speech, then there is little reason to blame writing for whatever discrepancies we discover in the analysis. No writing duplicates speech. Precisely for this reason a thorough understanding of writing is a necessary prerequisite to 'doing' linguistics, to reflect on what we as linguists are doing when we record speech for the purpose of analysis.

As will be demonstrated in the chapters that follow, a wide gap between spoken and written language is very common in the literate cultures of the world, and the fact that there are many functional and structural characteristics of writing that have no counterpart in speech is taken by their members as a matter of course rather than a deficiency of writing. Both historically and conceptually, writing has a certain autonomy. At the same time it would be unreasonable to ignore the importance of writing as a means of linguistic communication. With Harris I, therefore,

avoid normative surrogationalist assumptions, but unlike Harris I reserve the term 'writing' to what he calls 'glottic writing'. Any definition of writing reflects both an understanding of, and a particular interest in, the object of inquiry. Since my concern here is mainly with the linguistic aspects of writing, only systems with an unmistakable linguistic interpretation are considered within the framework of this book. Precisely because writing is targeted here as a means of linguistic communication, due attention must be paid to the differences between the expressive potential of spoken and written language, which make it imperative to dispense with the reductionist assumption that writing does nothing but represent speech. Writing changes the way we think about language and the way we use it. By virtue of the fact that writing is based on an interaction of hand and eye, the writing systems of the world have many characteristics in common. Yet, they also differ in important respects due to their different histories and the diverse structural principles on which they are based. Before going into detailed examinations of individual writing systems, the next chapter gives an overview of the major types of writing systems and a number of attempts at their classification.