WRITING SYSTEMS

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The Importance of Writing

➡ Writing is a cultural technique – unlike speaking, which is a mixture of instinct-driven interactional behaviour and psychophysical reflex

➡ Writing (including calculating) is the most momentous and most important cultural technique of mankind

➡ Writing has for long been the only possible way of transmitting information deliberately and selectively over geographical and temporal distances

What is Writing?

The term *writing* (German: *Schrift*, French: *écriture*, Spanish: *escritura*, Italian: *scrittura*, Russian: *писмо*, Albanian: *shkrim*, Turkish: *yazı*, Farsi: خط etc.) refers to any *system of communication* based on *conventional, permanent, visible signs*

Communication

Writing serves the *transmission of information* and is thereby distinct from *ornaments*

❋ ❁ ✿ ❋ ✿ ❋ ✳ ❋ ✳

System

Writing is *articulate*, made up of *characters (segmentable functional items)*, and thereby distinct from *drawing* and *painting*

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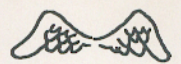
HARE : BARE

CARE : DARE

FARE : MARE
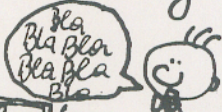
PARE : RARE

TARE : WARE

System

Writing is articulate, made up of *characters* (*segmentable functional elements*) and thereby distinct from *drawing* and *painting* (?)
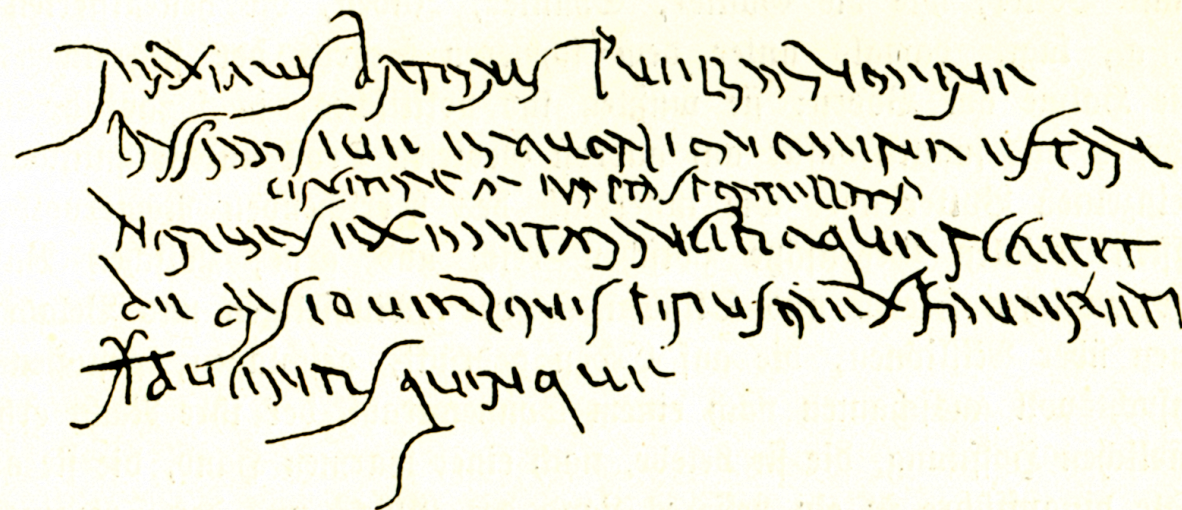
Conventional

In a writing system, the correlation of form and meaning (or function) of the characters is *intersubjective* – writing is thereby distinct from *scribble*
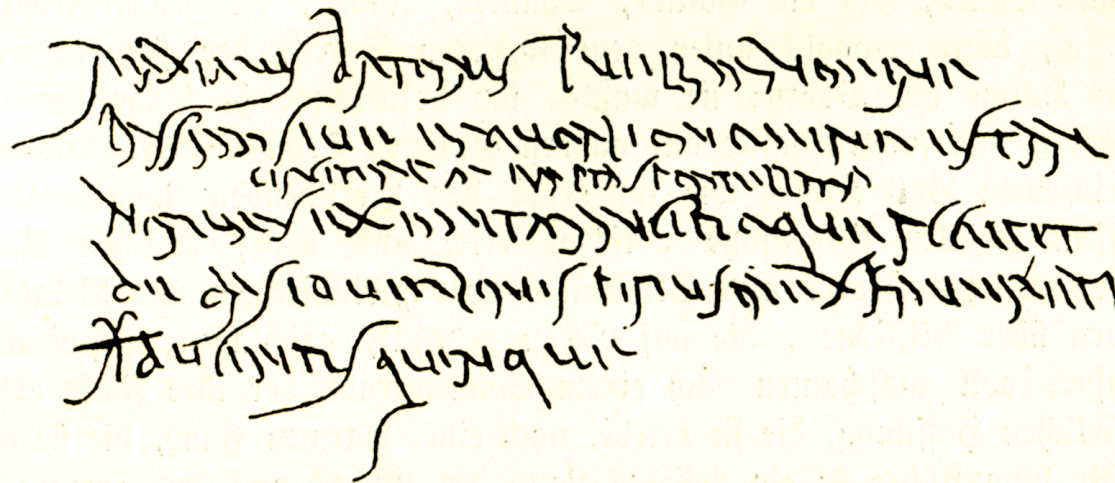
Roman handwriting on a wax tablet of 139 AD

found in 1855 at Verespatak (Transsylvania)

Maximus Batonis puellam nomine / Passiam sive ea quo alio nomine est an / circiter plus minus empta sportellaria / norum sex emit manicipioque accepit / de Dasio Verzonis Pirusta ex Kaviereti * ducentis quinque.

(Maximus Batonis has bought a female slave)

Permanent

The characters of a writing system and their arrangement are *constant* over greater ranges of time – writing is thereby distinct from *gestural* and *mimic* communication ("sign language")

Visible

The characters of a writing system and their arrangement are *optically perceivable* – writing is thereby distinct from *speech*

Sign

Writing is an artifact, its form and content being situated in an interpretational context – writing is thereby distinct from phenomena of the physical world

Delimitation:
Character versus Symbol

Symbols, emblems, logos, badges, insignia etc. can partly fulfill the function of writing …

Delimitation:
Character versus Symbol

... but normally they don't – therefore they can be considered as *substitutes* or *complements* of writing at best.

On the other hand, characters can assume symbolic value, e.g., the *victory sign* made with two fingers:

- characters constitute a *closed class* of signs
- symbols constitute an *open class of signs*

Definition of Symbol

➡ Any perceivable *sign* or *image* (object, event, action ...) that can be interpreted as a substitute for something non-perceivable (a unit of sense, often embedded in a complex of sense-relations: wedding ring, crucifix, crescent…)

➡ In a more restricted sense, any written sign or picture with conventional or evident meaning. Thus symbols play an important role in religion, art, literature, but also in science: physical, chemical, mathematical symbols, symbols in data processing, technology and engineering (e.g., diagrams)

➡ In everyday life, symbols appear as pictograms, traffic signs, product labels and the like

Signs and (some of) their Functions

➡ *Expressive function*: providing information about the state of the bearer or sender of the sign (e.g. national flag, tattoo, piercing, decoration, medal)

➡ *Triggering function*: causing or preventing actions (e.g. traffic signs, advertisements)

➡ *Identificational function*: marking possession or authorship (e.g. pottery marks, cattle marks, library signatures)

➡ *Authentificational function*: confirming the genuineness or validity of something (e.g. stamps, embossments, watermarks in bank notes)

➡ *Mnemonic function*: keeping record of events, transactions etc. (e.g. bills, receipts, chronicles)

➡ *Descriptive function*: providing information about a fact or state of affairs (primary function of writing)

What kinds of linguistic units can be represented
by means of the signs of a writing system
(graphemes) ?

Whole texts ?

So-called *pictorial writing* of prehistoric epochs and *picture stories* of all cultural spheres and ages (up to modern comic strips) represent complex contents but no cohesive text in the linguistic meaning of the term. Pictorial writing *suggests* a *potential text* without formal guidelines.

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Sentences ?

Graphemes representing complete syntactic constructions without being made up of subordinate constituents (*phraseograms*) are conceivable in principle, but do not occur in reality – not even in shorthand (*stenography, tachygraphy*).

Since the number of possible sentences in any language is unlimited, a fully phraseographic writing system could not be managed by human cognitive processing and memory.

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Phrases ?

With regard to the relation *form ⇔ content*, so-called *abbreviations* have a special status. A short string of signs may stand for a whole sentence or phrase, but still this is not an instance of phraseography, since every item of the string represents a word, usually as an *acronym*.

Some examples:

faq for *frequently asked questions*

aka for *also known as*

asap for *as soon as possible*

What kinds of linguistic units can be represented by means of the signs of a writing system (graphemes) ?

Meaning

Single graphemes can convey complex meaning (*statements*, *predicates*, *propositions* and the like) but are not bound to specific formulations in terms of linguistic structure.

A cross † accompanying a personal name can be read as „dead", „deceased", „passed away", „no more alive" and the like.

Signs of writing that do not represent *word forms* or *phrases* but abstract concepts or relations (i.e. *lexical meaning* or *propositional meaning*) are called *ideograms*.

What kinds of linguistic units can be represented by means of the signs of a writing system (graphemes) ?

Meaning

Mathematical signs and symbols of formal logic are usually ideographic: √, ∀, ∑, ∞, %, etc.

The typology of ideograms is based on their *motivation*.

Some examples:

Acrophonic motivation, like ∑ – after the initial sound of the word *sum(ma)*, written with the Greek letter *Sigma*

Iconic motivation, like √ – iconicity is a matter of degree: one could think of a sign that more resembles a "root" than √, but at least there are many other signs that less resemble a "root".... The most iconic type of ideograms are *pictograms* (signs bearing a strong resemblance to the concept they denote). Pictograms are used in many fields of everyday life, especially in multilingual environments (railway stations, airports, etc.), but also in cartography

Arbitrary (*no recognizable motivation*), like : for "division" – on keyboards of calculators likewise arbitrary / and ÷ occur with the same meaning

Ideograms can be *polysemic*, like + meaning "addition" in mathematics, "positive charge" in electrical engineering, "attested in" in philology (accompanying an author's name), etc.

Pictograms: a language-independent system of signs for orientation

1 Jugendlager,
2 Leichtathletik,
2 A Fußball, 2 B Reiten,
2 C Mod. Fünfkampf,
3 Sporthalle, Turnen, 3 A Handball

4 Schwimmhalle, Schwimmen, 5 Boxhalle, Boxen/Judo, 6 Volleyballhalle, Volleyball, 7 Radstadion, Radfahren, 8 Hockeyanlage, Hockey, 9 Ringerhalle, Ringen, 10 Judohalle, Judo

11 Gewichtheberhalle,
12 Fechthalle, Fechten,
12 A Basketballhalle,
13 Flughafen, 14 Hafen,
15 Bundesbahn, 16 U-Bahn

17 S-Bahn, 18 Bus,
19 Straßenbahn,
20 Taxi,
21 Garage, 22 Tankstelle,
23 Autoreparatur

24 Parkplätze,
25 Eingang, 26 Ausgang,
27 Aufzug,
28 Treffpunkt,
29 Polizei, 30 Zoll

31 Fahrbereitschaft,
32 Feuerwehr,
33 Olympisches Dorf,
34 Eröffnungsfeier, 35 Schlußfeier,
36 Teilnehmerin, 37 Teilnehmer

38 Umkleideraum, 38 A Garderobe,
39 Wiegeraum,
40 Dopingkontrolle,
41 Meldestelle, 42 Ergebnisdienst,
43 Luftanschluß

44 Waffenkontrolle,
45 Trainingsstätte,
46 Lunchpakete, 47 Konditionshalle,
48 Kraftraum,
49 Turnhalle, 50 Massage

51 Ruheraum, 52 Segelvermessung,
53 Segelmacher,
54 Segelwäscherei,
55 Segeltrockenraum,
56 Mastkran, 57 Bootskran

58 Bootsanhänger,
59 Bootswerkstatt,
60 Bootsvermessung, 61 Bootswaage,
62 Feierplatz, 63 Barfußgang,
64 Regattabegleitboot

65 Ordner, 66 Offizieller,
67 Ehrengäste,
68 Bogenschießanlage,
69 Zuschauer, 70 Schwerbeschädigte,
71 Rotes Kreuz

72 Arzt, 73 Sanitäter,
74 Erste Hilfe, 75 Apotheke,
76 Med. Bad,
77 Presse,
78 Fernsehen

79 Rundfunk, 80 Film,
81 Schreibraum,
82 Dolmetscher,
83 Konferenz, 84 Kongreß,
84 A Interviewraum

85 Post, 86 Postinformation,
87 Telefon, 87 A Notruf,
88 Briefe,
89 Telegramme,
90 Briefkasten

91 Telex, 92 Telefoto,
93 Sonderstempel,
94 Pakete,
95 Briefmarken, 96 Postausgabe,
97 Rauchen verboten

98 Berühren verboten,
99 Tiere verboten,
100 Feuerlöscher, 101 Elektrizität,
102 Durchgang verboten,
103 Abfall, 104 Information

105 Fundstelle,
106 Kinderbetreuungsstelle,
107 Datensichtstation, 108 Fernsehstation, 109 Toiletten, 110 Toiletten, Damen, 111 Toiletten, Herren

112 Waschraum,
113 Trinkwasser,
114 Bad, 115 Dusche,
116 Sauna, 117 Club,
118 Golf

119 Großseglertreffen,
120 Freilichtmuseum,
121 Restaurant,
122 Bar, 123 Café,
124 Lebensmittel, 125 Küche

126 Obst, 127 Lebensmittelautomat,
128 Trinkautomat,
129 Selbstbedienung,
130 Kellnerbedienung,
131 Kasse, 132 Reinigung

133 Wäscherei, 134 Drogerie,
135 Friseur, 136 Hallenbad,
137 Bademeister,
138 Tischtennisraum,
139 Billardraum

140 Kino, 141 Leseraum,
142 Tanzraum,
143 Fernsehraum, 144 Diskothek,
145 Theater,
146 Andachtsraum

147 Lagerraum,
148 Gepäckaufbewahrung,
149 Trockenraum, 150 Bügelraum,
151 Stromanschluß,
152 Wasseranschluß, 153 Werkstatt

154 Kioske,
155 Programme, 156 Kartenverkauf,
157 Souvenirs, 158 Fotoartikel,
159 Zeitungen, Bücher,
160 Blumen

161 Bücher, 162 Schreibwaren,
163 Tabakwaren,
164 Getränke,
165 Süßwaren,
166 Milchprodukte, 167 Eis

168 Schnellimbiß,
169 Medaillenverkauf,
170 Touristik, 171 Filmentwicklung,
172 Bootsverleih, 173 Biergarten,
174 Regen- und Sonnenschutz

175 Bank, Geldwechsel,
176 Ersttagsbriefe, 177 Schießanlage,
178 Kanuanlage,
179 Haltestelle,
180 Regattaanlage, 181 Hotel
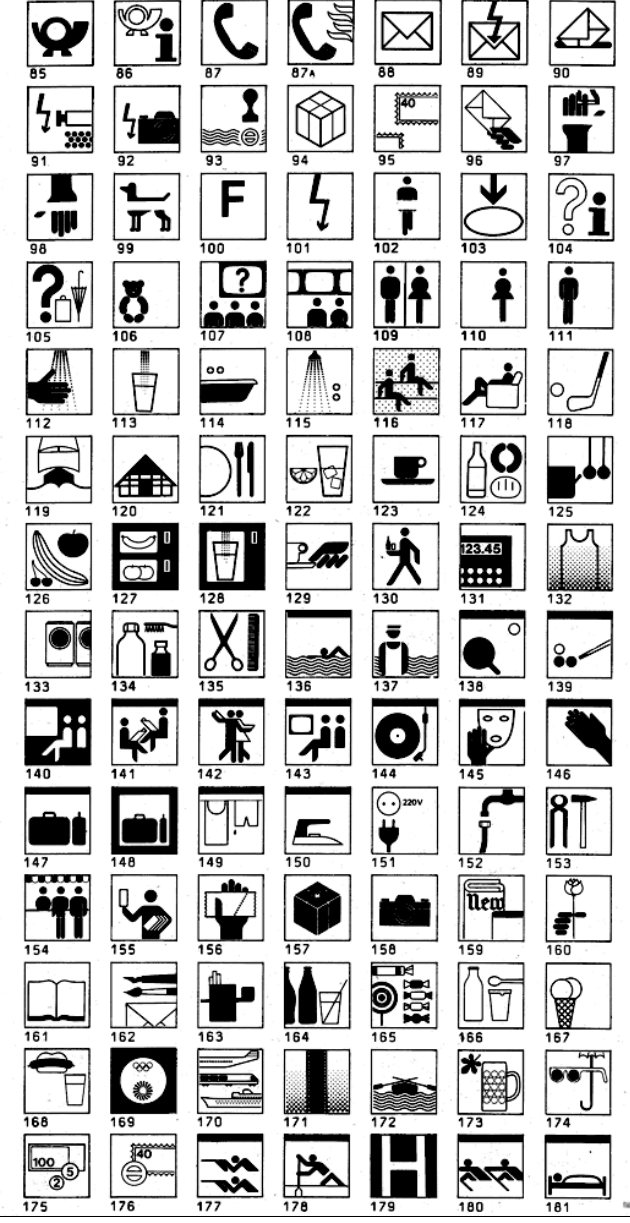
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Words

Lexical items of a language can be represented by means of simplex (non-composite) graphemes (*logograms*).

Logograms are *phonographic*, since they refer to the form of a word (its sound shape, a string of phonemes), not to its content.

Since words are made up of recurrent elements of form (syllables, phonemes), a *logographic* writing system would be highly uneconomic: why use an enormous amount of different signs, if the amount of distinctive sounds is much smaller?

On the other hand: why write highly frequent words sound by sound, if they can be written with a single sign?

Thus for practical reasons in many writing systems ideograms and logograms are used in addition to phonograms, according to the economy of expression.

Notice that in the Chinese writing system, which is often superficially characterised as "pictographic", 90 percent of the signs are so-called composite characters, made up of an ideogram denoting the meaning and a phonogram indicating the pronunciation.

Examples for the *xingsheng* sign type (ideogram-phonogram)

PHONOGRAM [phonetic value] + IDEOGRAM 'semantic value'
= SIGN VALUE

馬 [mǎ] + 虫 'insect' = 螞 [mà] 'grasshopper'

The meaning of the phonogram ('horse') and the pronunciation of the ideogram ([tʃóŋ]) are irrelevant

馬 [mǎ] + 口 'mouth' = 罵 [mà] 'to scold'

The meaning of the phonogram ('horse') and the pronunciation of the ideogram ([kǒw]) are irrelevant

馬 [mǎ] + 石 'stone' = 碼 [mǎ] 'weights'

The meaning of the phonogram ('horse') and the pronunciation of the ideogram ([ʃí]) are irrelevant
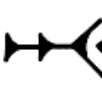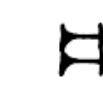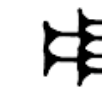
Old Persian Cuneiform Script (525-330 BC)

| a | i | u | ka | ku | xa | ga | gu | ca | ja | ji | ta |

| tu | θa | ça | da | di | du | na | nu | pa | fa | ba | ma |

| mi | mu | ya | ra | ru | la | va | vi | sa | ša | za | ha |

| xšāyaθiya 'king' | dahyāuš 'country' | būmiš 'earth' | baga 'god' | Auramazdā Ahuramazda |

| 1 | 2 | 3 | 10 | 20 | 40 | 100 |

Phonograms (syllabograms), logograms and arithmograms

What kinds of linguistic units can be represented by means of the signs of a writing system (graphemes) ?

Words, Syllables, Phonemes

Due to their function and semiotic value, ideograms are close to symbols, whereas logograms are close to abbreviations and pictograms are close to images.

Creative interaction of ideographic, logographic and phonographic writing can be observed in modern scribal tendencies among users of computers and cellphones, taking advantage of, e.g., the homonymy of numerals and other lexical items: *4U "for you"*, *cul8er "see you later"* and so on.

The history of writing is not a linear *evolutionary process* from pictographic stages to the alphabet, but a *multimodal adaptive process* during which different semiotic techniques have established themselves in favouring functional niches.

TYPOLOGY OF WRITING SYSTEMS

Type	Examples
syllabic	Mycenaean Linear B Japanese Kana
logo-syllabic	Sumerian cuneiform Chinese
logo-consonantal	Egyptian hieroglyphs
consonantal	Phoenician Hebrew Arabic
phonemic	Greek Latin Cyrillic

History of the Alphabet
(mainstream developments only)

Mesopotamian Cuneiform   Egyptian Hieroglyphs

Proto-Sinaitic / Canaanite

Phoenician

Greek   Aramaic

Etruscan

Cyrillic   Latin   Hebrew   Arabic