The Art of Writing

Unesco

The Art of Writing

An exhibition
in fifty panels

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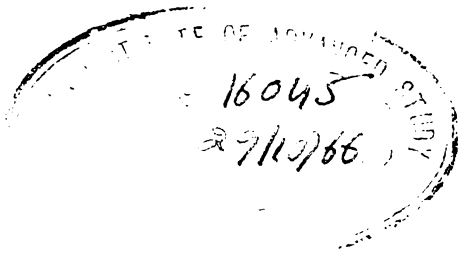

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Preface

We all feel the need for self-expression and communication with others. Writing affords us a means of communicating our thoughts to our contemporaries and passing them on to future generations.

In different parts of the world, from the dawn of history down to the present, men wishing to impart some information or to record an event for posterity have sought to express their thoughts in the form of symbols, in the caves of fifty thousand years ago, on the walls of our modern cities, or on the thousands of millions of sheets of paper turned out by printing presses the world over for men with a thirst for knowledge.

The symbols have changed over the past five thousand years; the images of objects (object symbols) have taken on an increasingly abstract form. The first step was the use of symbols to denote ideas as well as objects; they then came to represent a whole series of sounds (syllabic symbols) and, lastly, three thousand years ago, a single sound.

This was the decisive stage, for it meant that the number of symbols could be drastically reduced to little more than twenty. Our modern writing can be traced back to this brilliant invention of the Phoenicians.

India later discovered a symbol for zero (a method already used by the Mayas) and this invention, passed on to the rest of the world by Arabia, paved the way for mathematics and all the sciences based on that study.

Arabic numerals have become an international means of communication, whereas, once groups of letters were associated in a particular country with particular sounds, they lost their international character and became the vehicle of the language in question.

To begin with, only a few adepts were able to take advantage of this means of communication; nowadays, there are several countries where it is used by the entire population.

This result has been achieved mainly because increasingly effective methods of reproducing the written word have been devised over the past five centuries. This development is closely linked with religious, political and social conditions.

The present exhibition is concerned with the history of writing from its far-off beginnings down to the present day. Needless to say, a set of plates which seeks to convey only a general idea of the gradual changes that have taken place cannot be complete.

The examples of writing illustrated have been chosen not only for their historical interest, but also for their content, for the importance of the message they bring.

The importance of this message also depends on the number and quality of the persons able to receive it.

Now that the dictaphone is beginning to compete with the pen, that record libraries are springing up everywhere to the detriment of ordinary libraries, that radio and television are seeking to take the place of newspapers, does an exhibition on writing offer no more than a retrospective interest? Obviously not. In these days of increasing endeavour to eradicate illiteracy, writing remains what it always has been—one of the most effective means of helping man to emerge from his primitive state.

W. J. Sandberg

Acknowledgements

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Introduction

Whether or not we regard writing as being, like Aesop's tongue, potentially the best or the worst of the things that man commands, it is the basis on which all our culture rests and the guarantee of its survival. And even if, considering how often this achievement of mankind is abused, we felt inclined to share the affliction of the Chinese poet, Wu Wei-yeh, who, in a *Melancholy Song* addressed to his friend, Wu Chi-tse, wrote that the legendary inventor of writing, Ts'ang Chien, wept in the night watches, 'and with good reason'—even if writing served only through the centuries to spread the lies of tyrannies or the follies of the pulp magazines it would still be true, as a redeeming feature, that all civilizations, while devising this means of communication, have sought to make art out of it and have succeeded in doing so.

This is a point which immediately strikes any visitor to this exhibition on *The Art of Writing*. This exhibition has the merit of showing, firstly, that there is a long-standing and, it might almost be said, congenital affinity between the various types of scripts and beauty; secondly, that writing has often been associated with painting (in China), carving (in certain seals), and architecture (in Moslem art); and thirdly, that modern art is tending to reduce a considerable sector of the visual arts to what is called, no doubt incorrectly, *calligraphy*. For all these reasons, this exhibition is a most useful contribution to knowledge and deserves attentive study.

An exhibition on writing, you may say, is bound to be academic and boring, but you will see that it is not so. The organizers, indeed, wished it to be instructive, with its panels arranged in both logical and chronological order, a short note explaining each illustration and a few lines giving a digest of information about each group of exhibits, but they also wanted it to be attractive; and they have so ingeniously reconciled these two requirements that the visitor very soon finds that, if there be a work of art in which what is pleasing is always indissolubly combined with what is useful, it is writing.

From the pebbles found at the Mas d'Azil, whose secret is still hidden from us, to the contemporary 'Linotype', some hundreds of well-chosen pictures, with good and informative commentaries, provide a sort of illustrated history of writing, which also gives us a miniature museum of the beautiful forms invented by scribes, calligraphers or type-founders in Sumer and among the Maya, in Rome and in Baghdad, in China and in India.

Not that all the early pictographs of Sumer were beautiful, or all the original letters of the early Phoenician alphabets completely satisfying to the eye; but, even when they were imperfect, it is impossible not to sense or divine in these figures something which will soon turn into beauty. As early as the third millennium B.C., in the Indus Valley, the Mohenjo-Daro script (which, despite our efforts, we have not yet succeeded in deciphering) matches well with the beauty of animal forms, so that, in its own peculiar perfection, we can already discern certain features akin to the later refinements of Chinese calligraphy—a line harmonizing with the sense of what it signifies and with the tone of the picture with which the text is associated. Considering how wonderful this is, we can readily understand why the Chinese, up to the Tang Dynasty, were to hold calligraphers in greater honour than painters.

Writing may be representational, with the care for detail of those Egyptian hieroglyphs in which a naturalist can easily identify the birds depicted; it may be ideographic, like those Chinese characters in which pictographs, symbols, rational keys or classifiers and phonetic complements are mingled and sometimes combined; it may be syllabic, like the Japanese *kana* scripts; or alphabetic, like the Cyrillic or Roman. It may have been carved deeply into stone or picked out in bas-relief, written with black ink or painted in several colours, as in a fresco or tempera; it may, in the form of the most artless pictographs, be related to the didactic painting of the preaching religions, or it may, as in the consonantal Semitic scripts, come near to pure abstraction; it may lead us finally to stenography or, as in certain quadrangular Kufic characters, to geometrical figures not far removed from certain pictures by Mondrian; it may be impressed in soft clay, like some of the beautiful cuneiform specimens shown here, or lightly traced with a brush on a palm-leaf or rice paper. But in every case, besides conveying a meaning, informing and instructing, writing ever pursues beauty.

It might be feared—and it must, indeed, have been feared—that the technique of printing would end, or at least compromise, this pursuit of beauty. From this point of view, the pictures in this exhibition are reassuring. From the Carolingian hand to *Antiqua*, or roman type, from Gothic minuscule to Bodoni, from *bâtarde* to modern-face type, from the square capital to Baskerville, and from the italic hand to Garamond, the panels show that in every century, and using every form of technique, scribes and type-founders alike have succeeded in satisfying simultaneously the *libido sciendi* and the *libido cupiendi*, our dual need to learn and to admire. Supervielle's description of human lips as *corolles du savoir et de la volupté* ('corollas of knowledge and pleasure') applies, *mutatis mutandis*, to the merits of the scripts spread out before us here. As we look at Gutenberg's Bible (for which, on the basis of the Gothic hand then current, he straightaway produced a typography and a make-up leaving nothing to be desired), we are bound to remember that Chinese bibliophiles consider that the perfection achieved by the first Sung printers has never been surpassed. Being thus assured that mechanization does not inevitably destroy beauty, the visitor begins to wish that this could always be true.

This exhibition also shows that the pursuit of beauty in writing is not confined to any one race or one nation. We are ingeniously shown everything from the handkerchief in which we tie a knot to remind us to do something, to the road-sign which orders or reminds us not to do something, including

both the Tifînagh characters of the Tuareg and the Mongolian script; and, from the famous love-letter of a Yukaghir girl to the writings of ancient Crete, from the carved bones dating from the Shang Dynasty to the typecases of modern Chinese printing-works, everything tells us that men everywhere, whatever the colour of their skins, poor and rich, Christian and pagan, Buddhist and Moslem, polytheistic and monotheistic, have made their contribution to the great work.

It is not well enough known in Europe, for instance, that the 130,000 pages of the *Tripitaka,* or Buddhist canon, were printed in China between 971 and 983; that movable type, made in porcelain, was invented there in the 11th century; that Pelliot discovered an assortment of movable type in the Uighur characters at Tuen Huang (dating from about 1300); and that, by the end of the 14th century, books were being printed in Korea with movable metal type. The third time that type was cast in Korea was in 1434, and it was about 1450 that Gutenberg printed his first books. The Mongol invasions had acquainted us with Chinese printing. Marco Polo was not the only one who described Kublai Khan's paper currency to Europeans.

Everything from magical writings to banknotes, from the 'celestial' characters of those impostors who claimed to follow Taoism to neon advertisements, can produce beautiful forms, as the pictures shown here prove more than amply.

How right the organizers were to show us a few photographs of the festivals held in Bulgaria in honour of St. Cyril and St. Methodius, when banners ornamented with Cyrillic letters are carried in procession. We might also have been reminded of the existence of those 'pagodas of traced characters', on which the Chinese respectfully recorded the remnants of written signs, even if it were but the washed-out shadow of an old ideogram.

When, faced with poverty, injustice, cruelty and tyranny, we are tempted to despair of man, an exhibition such as this may help to give us back some hope. Its demonstration that, for six thousand years past, a partly magical, partly utilitarian instrument like writing has also always produced beauty—and, indeed, a great variety of beauty—is enough to suggest to us that, while speech is, in truth, man's title of nobility and, as such, imposes certain standards on him, writing likewise imposes standards in the same measure. May we keep in mind the lesson, or the lessons, of this exhibition!

Etiemble

An outline of the history of writing

As a factor and a force in the history of mankind, the history of writing, with its economic and aesthetic aspects and its permanent bearing on social life, is extremely complex. This history cannot be followed along a simple chronological line, for it has had many different beginnings, in many different places.

The latest discoveries would suggest that five hundred thousand years ago there may already have been human beings equipped with tools, weapons and utensils which they had either intentionally adapted or made themselves, including stone implements that still survive, and things made of vegetable matter (withes, vessels, etc.) which have perished.

These creatures, coming at the end of a very long, slow process of evolution among hominids without any industry (i.e., without the requisite mental faculties), progressed by very slow stages of which we can learn very little. Only in relatively recent times, probably not more than 40,000 years ago, do we find man, as we know him (in terms of brain-development), not only possessing a fair variety of comparatively well-designed implements but also, at least in the case of certain peoples, capable of incising, modelling and painting representations of living creatures in a way that still gives us aesthetic pleasure. There seems to be no doubt that, even at so early a date, these men linked aesthetic with utilitarian considerations. It is thought that they believed it useful to produce likenesses, in certain conditions, and employ them in some way (the recital of incantations, touching or transfixing) so as to ensure that game would be plentiful and easily captured. Their pleasure probably stemmed from the actual work of creation and of contemplating what they had made by some dim, uncertain light in their caves. Nor was this their sole artistic outlet. Whatever magical value may have been attributed to them, ornamental features were to be found on everyday objects and jewellery was worn by individuals. In all probability men were already making some kind of shelter for themselves, at least out of branches, possibly covered over with hide; in short, there was some rudimentary form of architecture. Surely, also, there was instrumental and vocal music and dancing.

During the period when speech was becoming a perfected instrument, it is probable that material means of replacing speech, which would last for some time, were found. This brings us to the important question of the signs (the term being broadly interpreted) which preceded writing and have survived alongside it for certain purposes. These include all sorts of grooves and splits or slits, ranging from lines traced with the finger in sand to all the various types of notches, including slits made in animals' ears as property marks, and ridged tattooing. They also include objects, such as pebbles or dried dung, set aside for some time to serve as counters for games or for reckoning accounts. Then there are all types of knots, including two knotted branches or a branch bent back on itself to mark a path that has been or is to be taken. Counterparts in our present-day civilization range from coins to road signs. But the best example is to be found in the elements of the various systems of numeration, written in the same way as letters but working very differently. Here it may be said that sheer utility is the first, and art the last, consideration.

On the other hand, art or at least a graphic skill which takes its place, is the basis of all systems of representing speech by visual means. All these have their origin in pictography.

The earliest form of pictography can be seen in the various types of embryo writing, where a fragment of speech is represented in such a way that any person looking at it can grasp the message, although it is not broken up into words, so that there is no actual link with a particular language. Generally speaking, these are 'stories without words', representing situations by pictures or objects by signs. The latter are of different types, with their form and use varying in different societies, all of which, however, have remained a low level of material development, such as hunters', fishers' and simple farming communities in Africa, Northern Asia, America and Oceania. We must consider separately memory-aid pictographs, which do not convey descriptive details but are intended to serve as mnemonics to trained persons for the purposes of recitations. The symbol here is an aid to memory and not, as it has increasingly become, a substitute for the professionally trained memory. So far as the words to be recited themselves form a rhythmical composition intended to be sung, there is an outward link with art. Series of carefully arranged, attractively drawn and coloured pictographs representing songs are to be found among the Cuna Indians of Central America (Panama); a basic feature of these, which is also found in practically all other cases, is stylization, involving selection and simplification in the representation of objects.

Genuine writing, involving the breakdown of sentences into words represented one after the other—a new sign of powers of observation and abstraction—emerges only in societies which are sufficiently advanced to have towns. This presupposes complex, regular trading, particularly for the supply of food to the towns from the country, and, first of all, the development of architecture, as the work of craftsmen and artists. Incidentally, this proves that many material advances were made at the dawn of history and in remoter prehistoric times, without the use of writing. The only instance of an organized State maintaining government without the help of writing is afforded by the Incas of South America, from the 12th to the 16th centuries. They also had no form of wheeled transport. On the other hand, they had devised an elaborate system of knotted cords for calculating and keeping accounts. There have actually been a few isolated examples of writing invented in Africa and America; but they are what might be described as 'splatterings of civilization', since the inventors knew of the existence of European writing. In point of fact, archaeologists have been unable to trace any written documents going

back further than about 4000 B.C. at the very earliest; roughly speaking, then, writing, which is not one of the strict necessities of life, has a history of only about 6,000 years. Even now, it is not yet in universal use, since it may be said that nearly half the population of the world does without it.

As for its use, in an ideal, truly pictographic script, each word would have to be represented by a recognizable special sign, which is the rebus system or, more accurately, the 'straight' rebus system, still employed nowadays for games, with various additional conventions. For instance, a circle with rays would mean 'sun', a drawing of some headgear would represent 'hat', and various animals (e.g. 'cat') would be represented by conventional drawings. Such object-symbols are at the same time word-signs; as the meaning they convey has no relation to the sound of the words, they are used ideographically and may be called ideographs. As regards form, so long as the drawings are realistic, they may be described as hieroglyphs in the broad sense of that term, from the name given by the Greeks to the characters used in ancient Egyptian writing. If these ideographs represent whole words, as single units, the system can be used regardless of the pronunciation of the words, and can therefore be read in different languages. A great number of different drawings would be needed in order to write about a variety of themes.

In the next stage of invention, we find sounds being represented, and writing becomes—at first only to some extent—a phonetic notation. But picture-writing or ideography is still the means used, by adopting a 'transferred rebus' procedure. This presupposes accurate analysis of a given language; for instance, it may be noted that there are short words with homophones (meaning 'with the same sound'), a more precise term than homonym (meaning 'with the same name'), so that a sign can be saved by using, for example, the same one for the words 'sun' and 'son'. Going further, and breaking down words into their constituents, we can split up some words of more than one syllable; for instance, the word 'pantry' could be written by combining conventional symbols for a 'pan' and a 'tree'. This example, of course, is for the English language only and would not hold good for others; the writing here, though still ideographic in form, is inseparably connected with the language concerned and its sounds.

The following examples are taken from an American script. Although it is chronologically incorrect to do so, it is usual to begin with the Central American systems in telling the story of writing. This is warranted by the fact that there and there only, as far as we know, a pictographic or hieroglyphic script developed without any schematization. For this reason, this empirical classification would still hold good even if the present-day efforts to decipher Maya and Aztec documents were to bring to light a mixture of ideographic and phonetic procedures, such as we find in the more ancient writings of the Old World, which will be briefly described later on.

An urban stage of civilization, using writing, had, then, been reached in Central America. The Maya Empire seems to have been in existence by the 4th century C.E., after which it suffered various vicissitudes and had more or less disappeared even before the Spanish conquest in the 16th century. Ruins bear witness to the advanced stage of development reached in Mayan architecture, with its pyramids and monumental stairways. And writing was closely bound up with the architecture, large hieroglyphs being carved on the steps of stairways. Stucco figures and frescoes have also come down to us. Then, again, the Mayas produced codices on paper, painted in colour with figures or characters of varying size, arranged in carefully aligned squares. Many of the figures were stylized and some imaginary, suggesting that all sorts of legends and myths were connected with them. It is said that only the families of priests and great lords knew the Maya script. But the carvings on monuments were there for all to see and must have served for explanations, like the statues and stained-glass windows of our Romanesque and Gothic cathedrals.

We know, moreover, that it was believed, in the Mayan civilization, that the same events periodically recurred, and it must therefore have been thought of real practical value to set down any facts which would help in making forecasts.

The Aztecs, who established themselves in Mexico in the 14th century and whose civilization was influenced by that of the Mayas, must also have built monuments, but little trace of them was left after the Spanish conquest. Fortunately, whereas only three authentic Mayan manuscripts are extant, scores of Aztec manuscripts have been preserved. Some contain religious and others historical and geographical information; place-names recorded in the latter documents have provided examples of transferred rebus-writing. For instance, the town *Coatlan* is represented by a serpent, and below it two teeth complete with their gums, the meaning conveyed being 'the place of serpents'. *Coat* is the word for 'serpent', but to indicate the place, the preposition 'tlan' (in the place of) is represented by the sign *tlanti* (ignoring the ending) meaning 'teeth'. By this phonetic analysis the complete sign indicates the pronunciation as well as the sense.

Because of the mechanics of its system of writing, again, Chinese, which apparently goes back only to the middle of the third millenium B.C., will be dealt with at this stage, before the scripts of which we have the earliest evidence. The Chinese system is close to the ideal form of pictography in that, theoretically, there is one drawing, i.e., one character, for each word, which is itself an invariable monosyllable. This is true, although linguists agree that Chinese was not always a monosyllabic language and though, in many cases, two words are put together to form a kind of compound. The result is that the number of characters runs into thousands. It is necessary to know 3,000 characters in order to read ordinary texts,

while dictionaries for scholars contain over 40,000, or even more characters if rare words are included. These characters, however, are not ideographically linked but are phonetically associated with particular groups of sounds in the spoken language (a consonant followed by a vowel and, in some cases, a final consonant); they are therefore syllabic phonograms. Many of them have come to denote a variety of objects, by a transfer of meaning without any change in the characters themselves. But in order to differentiate their meanings, keys or radicals of varying complexity (consisting of one to seventeen strokes), distinguishing categories of sounds and therefore ideographic in character, were added to these phonograms.

The system described so briefly in the foregoing is thus both ideographic and phonetic. It has survived down to the present day, despite the difficulty of learning how to read and write in this way. The Latin script has recently been used for teaching reading before pupils go on to master the old characters, some of which have also been simplified.

It is a fact that most of these characters are complicated, consisting as they do of several small, straight strokes applied with the tip of a brush. The practice of writing, which was once confined to people of learning in the civil service and the wealthy upper classes (schooling is now practically universal) is instinct with aesthetic feeling. Each small character, occupying an imaginary square, standing at a regular distance from the neighbouring characters in a vertical straight line (punctuation marks can be used to indicate how the words should be grouped), is a miniature work of art. Good calligraphers, whether or not professional scribes, have been held in the same esteem as artists producing drawings and paintings, and writing is often used for decorative purposes.

Ancient Egyptian ruins and documents that have come to light reveal that, even earlier than 3000 B.C., this country had organized administrative units with large cities where writing was in use, in the form of hieroglyphs with elegant little drawings of recognizable objects (though some of the signs probably represented conventional gestures).

Used in monuments, including small stelae with inscriptions carved on them, and paintings on the inner walls of funerary chapels, carved or painted pictures of this sort were still current up to about the beginning of the Christian era. They then gave way to an alphabetic script borrowed from the Greeks for the transcription of Coptic, which is a later development of the Egyptian language, still preserved today for Christian liturgical use. Hieroglyphic writing is set out in neat columns or lines of small rectangles (in theory, squares) filled either by one fairly large symbol or by two or three smaller symbols grouped together. These symbols produced an aesthetic effect and were also regarded as more or less magical by people who, for the most part, were unable to read. Sometimes, in order to avoid representing whole living beings, the symbols for them were left incomplete. Writing was a task entrusted to a large body of scribes who ranked fairly high in their society; the art must also have been known to at least some members of the upper classes.

After a thousand years or so, there developed, alongside the monumental style of writing, a cursive form, for which ink was generally used, and in which the signs lost their pictorial character, being systematically simplified for rapid execution. This is the first instance to be cited where the need for speed in writing counted far more than clarity for the reader. But in this cursive form of writing, which was modified at different periods (the earlier characters being known as hieratic and the later as demotic), the fundamental system remained the same.

It was a complex system, so that once the tradition was lost, it became difficult for scholars accustomed to the alphabetic system to decipher hieroglyphic texts. Most of the symbols were ideographic word-signs which originally denoted objects either by direct representation (straight rebus-writing) or by transfer of ideas, without breaking them up into constituents, in the case of words with similar meanings but different sounds (polyphony) or of words with the same or similar pronunciation but different meanings (polysemantism). With the help of these two procedures, the number of signs could be reduced to a few hundred, thus placing a far less severe strain on the memory for learning the outlines but creating ambiguities for the reader. Accordingly, two additional devices (in the form of signs not intended to be pronounced) were adopted in order to facilitate reading. The first type of sign, derived from the existing ideographic symbols, specified categories of meanings (human beings and their actions, animals, utensils, etc.) and may be likened to the Chinese keys or radicals. The second type was intended to help in the pronunciation of the signs, and consisted of phonograms or phonetic complements representing merely the consonants of short words made up of one or two consonants, in order to indicate the pronunciation, without regard to the sense; the uniconsonantal signs, which were the most common, were the equivalent of the letters to be used at a later stage. These phonograms, which bear witness to the detailed breaking down of words into their components, were used by themselves to show suffixes and prefixes, as the word-signs represented word roots only. This system is therefore a mixture of ideographic and phonetic writing. There must have been early examples of the use of this writing for utilitarian purposes, which, being on perishable materials, have not survived. The oldest documents extant are in the nature of narratives of contemporary events. Documents relating to everyday life, as well as a number of commemorative writings, have come down to us from a later stage. Pictures of several scribes writing at the same time, apparently from dictation, show the beginnings of the practice of producing writings, in several copies, or, in other words, of books. One of the uses of writing to which attention should be drawn is the engraving of characters on scarabs used as seals. This was, in fact, one of the very

earliest uses, to judge by the remains left by various civilizations, such as that of the Indus Valley cities, which were roughly contemporary with the earliest Egyptian kingdoms and where the only objects found bearing writing (in a script which has not yet been deciphered) are seals.

In another part of what, for Europeans, is the Near East, there arose, at practically the same time, a system of writing similar in concept to the Egyptian system but executed in a very different way. Nearly a thousand years separate the pictographic accounts referred to above (dating from c. 3500 B.C.) and the classic cuneiform writing adopted for two languages which played a great part in the religion and literature of this region—Sumerian, whose linguistic affiliations it has not yet been possible to establish, and Accadian (Assyro-Babylonian) or Eastern Semitic.

The original, rather crude drawings, without any artistic grace, gradually evolved into combinations of strokes with a small triangle at one end, looking like nails, and other triangles with two sides extended to produce an arrow-head or wedge shape (hence the term cuneiform writing), executed by pressing the tip of a sharpened reed, lightly or more heavily, into a clay tablet before baking. This material has proved its power of survival.

The many Mesopotamian scribes who, as we know, engaged in very serious studies (including grammatical comparisons between the two languages they used), contrived to develop a real calligraphic art with their angular tools, arranging their texts with great ingenuity, fitting an astonishing amount of minute writing into tiny spaces and skilfully arranging blank spaces.

It is interesting to note that this type of cursive writing on soft material was used by clever stone-carvers on small monuments, particularly stelae (or walls in miniature), found in conjunction with the majestic Mesopotamian architecture and its often colossal sculptures.

As in Egyptian, most of the signs (about five hundred in the case of Old Sumerian) are word-signs derived from former picture-symbols. Many Sumerian words are monosyllabic, with a vowel between two consonants, but others are shorter (vowel, or vowel plus consonant) or longer. In Accadian, triconsonantal roots predominate.

In both Sumerian and Accadian the same signs are used with many different meanings, as the result of a wholesale process of transfer of ideas.

Sound-transfer was used in both languages, either for short words or for parts of long words, but (in contrast to Egyptian) a vowel was always included in the phonogram. As Accadian took over Sumerian characters with their meanings and added others by breaking down Semitic roots, it is specially rich in signs with many different meanings, which can often be differentiated only by their context.

The cuneiform signs were used in much the same way as the Egyptian, word roots being usually represented by means of an ideograph. There are fewer determinatives than in Egyptian, but Accadian has more than Sumerian. Reading is made possible by the use of phonograms or phonetic complements, which are used for both word-endings and word-beginnings, not only for affixes but also for parts of the root, whether or not an affix is added. In any case, reading was always a complicated operation and required a long period of prior study in order to learn the different meanings of any given symbol.

Cuneiform writing, with its use of ideographic and syllabic phonetic signs, spread as a vehicle of civilization south-eastwards to Elam, where an early hieroglyphic system of writing had ceased to develop; in the middle of the third millenium, the Elamites adopted the cuneiform script, making use, in particular, of its phonograms. In the second millenium, a hieroglyphic system and cuneiform writing were both used in the Hittite country to the north-west of Mesopotamia, with a great number of ideographs which have helped in the decipherment of inscriptions by giving a general idea of their content.

The process of impressing nail-like shapes with a stylus was used at least twice for purely phonetic representations, once, in the case of Ugaritic, when the alphabet was just beginning to be devised in the region of Syria and Palestine, and on the second occasion in the case of the early Persian syllabary; but these two scripts were short-lived and alphabetic writing in ink came into universal use.

In the Aegean Islands, Crete and Cyprus, distinctive civilizations developed whose writing also began with a hieroglyphic stage. The use of phonograms apparently started fairly soon, with words being systematically broken up into syllables consisting of a consonant followed by a vowel.

The number of fairly complicated characters in these scripts is much smaller than in the combined ideographic-phonetic systems (Cretan Linear B has eighty and Cypriot fifty-five). No records in languages used before the Hellenic Indo-European invasions have been deciphered. Of the syllabic scripts, scholars have succeeded in reading Greek of c. 1450 to 1200 B.C. in Crete and on the continent at Mycenae, before the Greeks had received the alphabet, and in Cyprus round about 500 B.C. when the Greeks elsewhere had already been using the alphabet for some time.

We do not know exactly how or where the alphabet originated on the Eastern shores of the Mediterranean. Like other scripts, it was probably pictographic in origin. But attempts to establish a relation with certain hieroglyphic records from Phoenicia have failed; nor is there any certainty that it is connected with some inscriptions found in Sinai, possibly dating from c. 1800 to 100 B.C., containing a small number of signs more or less resembling crude drawings. The only definite point is that, in the neighbourhood of the main scripts of the Near Eastern civilizations, and two thousand years after them, the alphabet was invented, and only once,

so far as we know, in the form of a phonetic system of writing, based on the smallest components of words, and consisting therefore of only a very few characters (hardly more than twenty) with simple outlines not representing any object. This ushered in the reign of sound-signs or letters.

This was, in truth, 'a sign of the times', coming as it did at a period when man, in his thinking, had reached a clear appreciation of the international structure of his speech and was able to make use of his understanding of it for practical purposes. This came about in a part of the world where there were small city-states, whose prosperity was apparently maintained by trade with distant lands across the seas or deserts, and in which the citizens probably took a fairly large part in government. From then on, writing, as a skill possessed by many people, was to become a more and more important factor in the progress of intellectual civilization.

The history of the alphabet, from its beginnings to the present day, is complex, involving the consideration of expansion in different directions, as affected by social events; the emergence of national differences in the shapes of characters, related, more or less, to different types of aesthetics; different ways of supplementing the phonetic symbols (in particular, the representation of vowels); and different ways of delimiting words, making the necessary allowance for ideographic considerations.

Paradoxically enough, the first definite case of the use of the alphabet is found on tablets from the Ugarit library (in Northern Phoenicia) bearing cuneiform characters written from left to right; the date is estimated between 1600 and 1200 B.C. and the language used is a form of Western Semitic closely akin to Canaanite and Aramaic. The characters which were to develop into our alphabet made their appearance in Phoenicia and the neighbouring regions in the case of both Canaanite and Aramaic, at least as early as 1000 B.C. (some archaeologists say 1300 B.C. in the case of certain Phoenician monuments). This alphabet had twenty-two letters, all consonants, from which it is concluded that, since there must have been vowels, the latter were merely ignored and the letters in fact represented syllables with vowels not indicated, so that they constitute an intermediate stage between the syllabary and a fully-developed alphabet. The letters vary in size, with some of them extending upwards or downwards above or below the two imaginary parallel lines limiting the body of the small letters. As regards appearance, the first impression is of a cursive script (with the characters separated), adopted for use on the hard material of sarcophagi or funerary stelae at a later stage. In the early inscriptions and in the only one known in Moabite, another Canaanite language, the words are generally separated by dots. The direction of writing is from right to left.

At its beginnings (perhaps c. 1000 B.C.), Aramaic, another Western Semitic language, had almost the same-shaped characters and was also written from right to left.

The adoption of the consonantal Semitic alphabet by the Greeks, possibly about 1000 B.C., either by direct borrowing from the Phoenicians or by some channel of propagation in Asia Minor, had very considerable consequences.

The first was the completion of the alphabetic system by the addition of letters denoting vowels. If they were to represent their language clearly, the Greeks could not do without vowel signs, and they found a simple means of writing vowels by using letters representing Semitic consonants which did not exist in Greek. In this way the phonetic principle was fully applied.

As regards the actual writing (the direction of which, after some hesitation, became established from left to right), the Greeks adopted, for what we call capital letters, a more or less rectangular form, not extending above or below the line, and with much lateral symmetry, thus effecting a definite aesthetic improvement. Later on, for rapid manuscript work, quickly-written small letters came into use.

Writing must have made its appearance in India somewhere about the 5th century B.C., almost certainly by borrowing from the consonantal Semitic alphabet, although, from the beginning, the shapes used for the majority of the letters differed sufficiently to leave the fact of the borrowing not absolutely proved. What is certain is that a system of vowel-notation grew up, differing greatly from that of the Greeks and leading to the formation of a syllabary alphabet. The characters by themselves are read as a consonant followed by the vowel *a*, which is that most commonly occurring; signs (and not letters) following, preceding, above or below the body of the letter denote vowels of different tones, either short or long. Words are not separated within the sentence, but the end of the latter is marked.

There is not just one Indian system of writing, but a variety of different scripts, with different forms of calligraphy (the direction of writing is from left to right).

It is fascinating to follow the vicissitudes of the history of the alphabet in the different parts of the world to which writing has penetrated in varying degrees for diverse uses, with its propagation along trade routes and in the steps of religion, the changes in the form of the signs depending on the materials employed, the differing relations between calligraphy and other arts, and the variations in the extent to which a given alphabet was suited to the spelling of a particular language, etc. In this context, all we can do is to give a very brief outline of what happened.

It was not only the Canaanite and Aramaic branches which derived from the early Semitic prototype; a southern branch is represented mainly by the South Arabian inscriptions, with symmetrical characters (probably influenced by Greek); and the practice of writing alternate lines in different directions, from right to left and from left to right, which is frequently found in large monumental inscriptions, shows the desire to make sure that a reader looking up at the façade could read the inscription continuously. The

Ethiopian writing derived from this branch runs from left to right.

As an offshoot towards the West we have the Libyan-Berber script, not used over a wide area, which also had symmetrical characters, of distinctive appearance, arranged in columns on ancient stelae and read upward, starting from the bottom.

Aramaic writing developed differently, in the Semitic area where the Aramaic language itself gradually ousted Canaanite, Ugaritic, Accadian (and Sumerian), into various distinctive forms read from right to left. One was the 'square Hebrew' which was to last indefinitely and is now employed officially by the State of Israel; others were the Syriac of the little State of Edessa, which still survives as a religious script, and the Palmyrene of another little State, Palmyra, which soon disappeared after providing the first examples of letters joined together; these were more frequent in another small centre on the fringe of Arabia where the Nabataean script was used.

Outside the Semitic area, Aramaic writing was carried northwards into much of Asia, among Iranian, Turkish and Mongolian-speaking peoples.

In the south of the Semitic area itself, the Bedouins of Arabia borrowed their writing from the Nabataeans. With the rise of Islam, this innovation was to have enormous consequences for writing. The Arabic script is a rapid linked form of cursive, especially when omitting the vocal punctuation above or below the characters which is used in the case of the Koran and for teaching purposes. It lent itself to all sorts of calligraphic exercises and refinements, in which some stylization was used, but it was also widely employed for ornamental purposes on both objects and monuments, particularly on the ornamental stucco portions of the latter. Being used by Moslems other than Arabs, it spread through Near and Central Asia, through parts of India and of the Malay archipelago, and in various regions of Africa.

The Indian scripts covered the area in which Indo-Aryan languages are spoken, reaching as far as Nepal, and that in which the Dravidian languages are used to the south; but, following Buddhism (which was not to survive in India itself), they reached Tibet in the north and, in the south-east, part of Indo-China and most of the Malay archipelago. The letters forming these different scripts represent syllables, and the variations between the scripts, unlike the slight differences to be found in Arabic-type alphabets, are such that each one is quite distinct from the other.

The Greek script, which, in its classic form, has remained limited to a small area up to the present day, spread in a variety of ways without outside intervention, undergoing more or less substantial changes at different times in different directions. Eastwards, account must be taken in the early period of certain languages of Asia Minor which have not survived, such as Phrygian. (These languages, however, had possibly, at least in some cases, received the Semitic system of writing at the same time as Greek did, or even before it.) In Christian times, as evangelization proceeded, Greek script was used in Africa for Coptic and for the language of the ancient Nuba; to the north of the Black Sea, for a time, it was used to write the Germanic language of the Goths; and then, so far permanently, in the form known as the Cyrillic alphabet, with its distinctive but very similar characters, for the Slavonic languages, following in the path of the extension of the Eastern Church, except for Greece. Aberrant imitations, in which elements from a different source were incorporated, were used for the Armenian and Georgian languages. Now that the Soviet Union has decided on the uniform use of the Cyrillic alphabet, this is being employed, in some cases replacing Arabic characters, for various Finno-Ugrian, Turkic, Mongolian and other languages.

Westwards, as the result of cultural influences apparently without any particular religious implications, alphabetic writing spread in antiquity, especially in Italy, both among the Etruscans, whose language, of unknown origin, we cannot yet understand and, either through the Etruscans or by some other means, among the Italic speakers of Indo-European languages, and especially the Latins. A northern variety, in the Alps, apparently gave rise to the runes, which were distinctive in form and were used in the Scandinavian countries partly for magical purposes.

The characters of the Latin capital-letter script, like the Greek, were largely symmetrical in shape and very clear. This script was well suited for use on monuments and, in case of need, the characters could be made large enough to read from a distance. For current use and the writing of books, a number of different forms were adopted, which would require a history to themselves; aesthetic requirements came into play to some extent, with the practical need for reconciling speed and legibility.

In the 16th century, mention may be made of the Gothic book-hand, curiously reminiscent of the ogival architectural style, found in the last manuscripts and in various incunabula; contemporary with this was a particularly badly formed cursive which was succeeded by the outstandingly neat, clear form known as the humanistic script, on which our printed characters are still based.

The Latin script spread throughout Europe, first with the Roman administration and later on, with the gradual extension of the Roman Church, as far as the frontiers of the Cyrillic script. Thereafter, with European navigation and colonization, it spread over much of the rest of the world, including the Americas. It is now by far the most widely spread.

Through the system of education instituted by missionaries, the Latin script has been adapted to the needs of the Malagasy language in Madagascar and of Viet-Namese in Indo-China. It has also been adopted by the Indonesian and Philippine Republics for their national languages. In mainland China it has been employed in the case of minorities which had no written language, and is now also being taught to the Chinese (see

above). It has also begun to be used for African and Amerindian languages.

With the addition of certain conventional signs, it is used for the transcription of other alphabets and for phonetic notation.

Throughout its history, the development of writing has been linked up with that of artefacts—the material used as a support, the writing instrument, the liquid used for writing. For a long time it depended on the manual skill of carvers and other copyists. A vitally important turning-point was reached when writings were reproduced in a large number of copies by printing processes, the prerequisite for which was a paper industry. The history of multiple prints began in China in the 2nd century C.E. Wood-engraving was practised in the 6th century. Movable type goes back to the 11th century in China and Korea. In Western Europe, after a limited use of wood-engraving, the manufacture of movable type and presses in the 15th century made possible the enormous development of books and broadsheets, representing a considerable extension of the use of reading, even though education was not yet general. Needless to say, the printing industry required new categories of technicians (for instance, the typewriter and its attendant typists). In the 19th century, we find simultaneously a very great quantity of printed material, including daily newspapers (thanks to the use of constantly improved machines), and general education in countries with a developed industrial civilization.

In the age of electricity, the accelerated progress of industry, in which writing as an intellectual tool has been largely instrumental, has brought into being various alternative means of satisfying the needs for which writing caters, i.e., ease of communication (messages), preservation, transmission and general spread of information, education, propaganda (including advertising) and entertainment. The telephone, the cinema, broadcasting, television and the magnetophone are encroaching on the field of correspondence, newspapers, textbooks, and of books providing entertainment.

The position of writing seems to be unchallenged for some of the uses to which it was first put, earlier than the books—which, from our later standpoint, seems to us to be the very type of the written word. These are all the cases of authentication, in the broad sense of the term: certified communications, contracts, formal commemorations, edicts or judgements, religious texts to be repeated word for word. To these may be added the making of wills (which have not always been holographs), and authoritative records of legislative and judicial deliberations; and, as regards later uses which seem fairly sure to survive, private correspondence, personal records, and notes and jottings as a preliminary stage in the production of literary or teaching works.

To what extent the mechanical recording of speech will also affect these uses, and to what extent writing (by hand or in the form of typescript) will continue to be used for the actual preparation of various forms of recordings, are questions to which the answer still lies in the future.

There have been many vicissitudes in this history which began six thousand years ago. The appearance of the alphabet about 1500 B.C. was a development of vital importance. That of printing in 15th-century Europe marked another turning-point in the expansion of the part played by writing throughout the world. In our day, other great changes are on the way, and we cannot yet say whether they will lead to a final decline of writing, in favour of other inventions for preserving and transmitting words from one generation to another.

M. Cohen

List of panels

Picture credits

Because of the large number of pictures included on panels 6, 12, 15, 16, 21, 22, 26, 43, 47 and 48, it has not been possible to reproduce these panels in the catalogue in their entirety.

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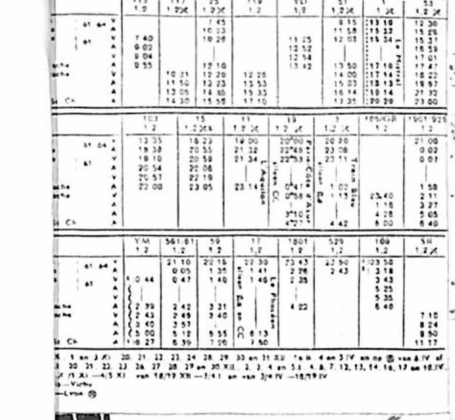
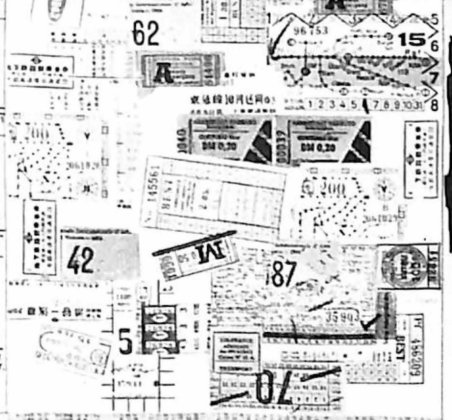
The panels

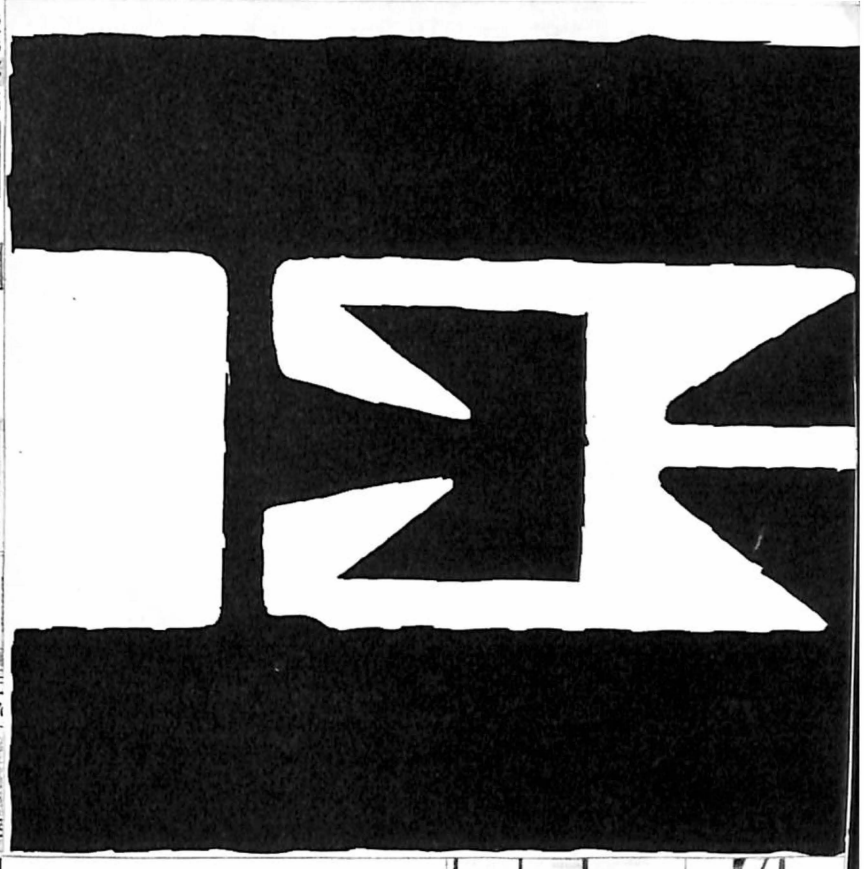
1

The role of writing in daily life

We are surrounded by written material
at home, from the moment we wake up,
in the street,
at work,
during our leisure hours.
It is impossible to imagine a life where no writing existed.
How did we reach this stage?
That is what the exhibition tries to answer.

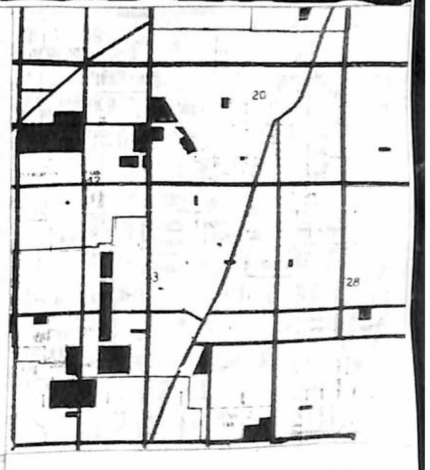


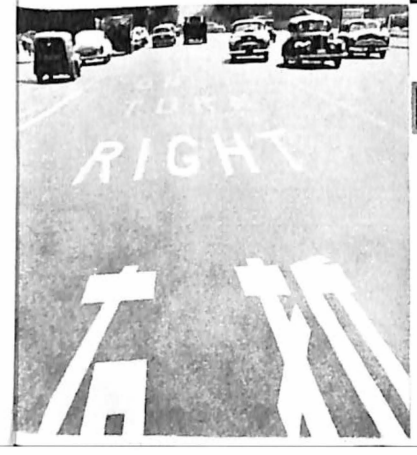


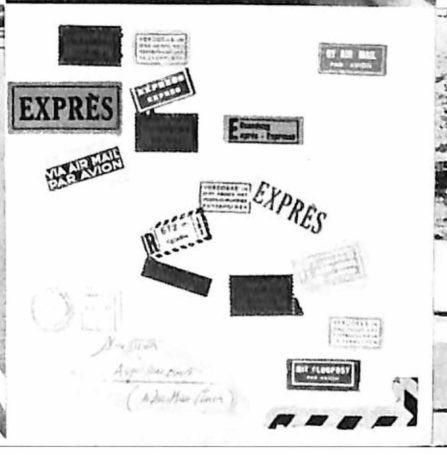


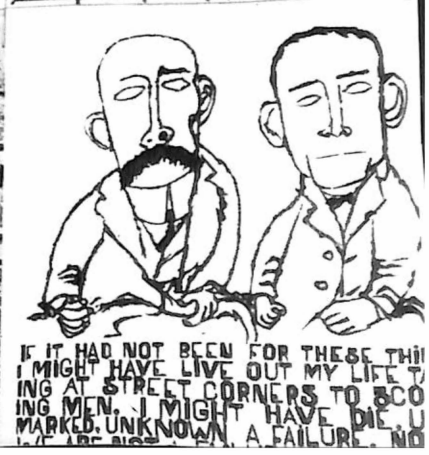
Nachdem sie sich an dem Anblick ersattigt, oder vielmehr, was es uns bei dem Umblick auf so hoher Stelle zu geschehen pflegt, erst mehr verlangend geworden nach einer weiteren, weniger begrenzten Aussicht, retten sie eine strenge breite Flache hinan, wo ihnen die machtige Raume als ein grungekrönter Gipfel entgegenstand, wenig alte Baume tief unten, um seinen Fuß sie rasen hindurch, und so fanden sie sich gerade vor der steilsten, unzugänglichsten Seite. Machtige Felsen standen von Urzeiten her, jedem Wechsel unangetastet, fest, wohlgegründet voran, und so eilernte nichts aufwärts, das dazwischen Herabgestürzte lag in machtigen Platten und Trummern unregelmäßig übereinander und schien dem Kühnsten jeden Angriff zu verbieten. Aber das Streben der Jugend zuzuwagen, dies zu unternehmen, zu ersteigen, zu erobern ist jungen Gliedern ein Gemuß. Die Fürsten benutzte Neigung zu einem Versuch, Honorio war bei der Hand, der fürstliche Oheim, wenn schon bequemer, ließ sichs gefallen und wollte sich doch auch mehr umkränzt zeigen; die Pferde sollten am Fuß unter den Baumen halten, und man wollte bis zu einem gewissen Punkte gelangen, wo ein vorstehender machtiger Fels einen Flachenraum darbot, von wo man eine Aussicht hatte, die zwar schon an den Blick des Vogels überging, aber sich doch noch malerisch genug hintereinander schob. Die Sonne, beinahe auf ihrer höchsten Stelle, verlieh die klarste Beleuchtung, das fürstliche Schloß entwickelte Teiles, Hauptgebäudes, Flügels, Kuppeln und Türmen ersehen.

17







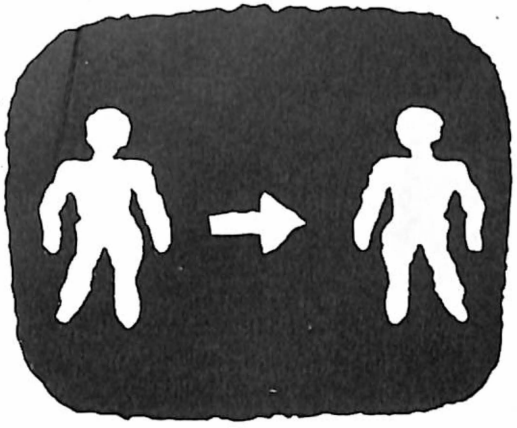


2

Writing — for whom?

a For contemporaries, letters and newspapers.
b For posterity, Egyptian reliefs, wills and testaments.
c For oneself, children's scribbles, diaries and notebooks (Gauguin's records of an exchange of paintings with Van Gogh).

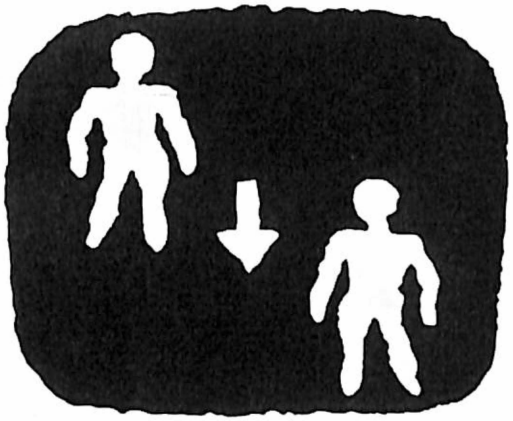
a

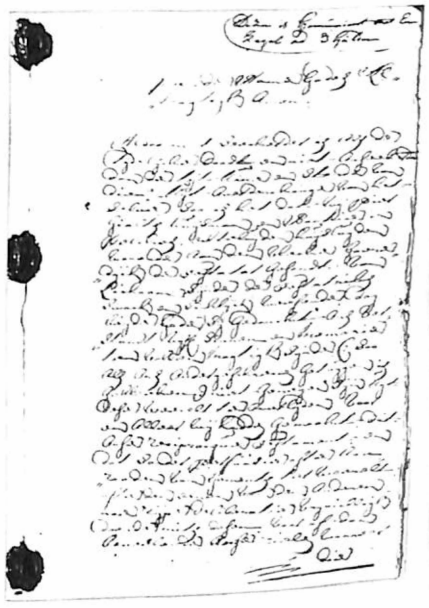



AIR MAIL
EXPRÈS


ДЕНЬ МЕЖДУНАРОДНО
СОЛИДАРНОСТИ ТРУДЯЩИХС
СЕРДЕЧНАЯ БЛАГОДАРНОСТ

b





c


journal

3

Primitive signs

These are examples of the earliest signs, from which a form of writing was able to develop under specific cultural conditions. In the Semitic cultural area the wavy line (a) associated with the Phoenician word for 'water' became the letter 'M', from which the 'M' of the Greek and Latin languages was derived. The earliest signs met the needs of hunting and pastoral peoples: they marked trails, indicated ownership, denoted quantities of individual objects exchanged or supplied, recalled what was absent, aided memory, exorcized spirits. They were not always intended as a means of communication, but often expressed an individual experience and interpretation of the world. Modern artists (h) thus find it possible to draw inspiration from their wealth of forms.

Most of the signs were prompted by the form of the things to which they referred, but some of them were abstract and only understandable by the initiates, and are thus beyond our interpretation today (a, c, g). These signs represent a conventional language belonging to a particular group of people, who hand them down from generation to generation. This gives them a certain stability of form, which is an essential condition for a developed system of writing. The Cretan pictographs shown here (k) are almost contemporaneous with the Spanish rock-inscriptions (a); but they belonged to a highly developed culture and already constitute a script.

a Prehistoric rock-paintings (Spain). Left: abstract forms, with the figure of the moon (2nd century B.C., (Bronze Age). Right: rain-demons, with hands above their heads, seated on the sign for 'water' (wavy lines). Next to them is a human figure with a head and two outstretched arms; in either hand it holds a star, and beneath its feet are the signs for rain-clouds. [From: Kühn, *Die Felsbilder Europas,* Stuttgart, 1952.]

b The urge to scribble. Scene in a Milan street.

c Abstract signs painted on pebbles found near the Mas d'Azil in the south of France. Mesolithic Period. [From: Diringer, *The Alphabet,* New York, 1948.]

d Masked dancer. Painting on stone. Sudan. [Musée de l'Homme, Paris.]

e Dancer wearing an antelope mask. Painting on stone. Sudan. [Musée de l'Homme, Paris.]

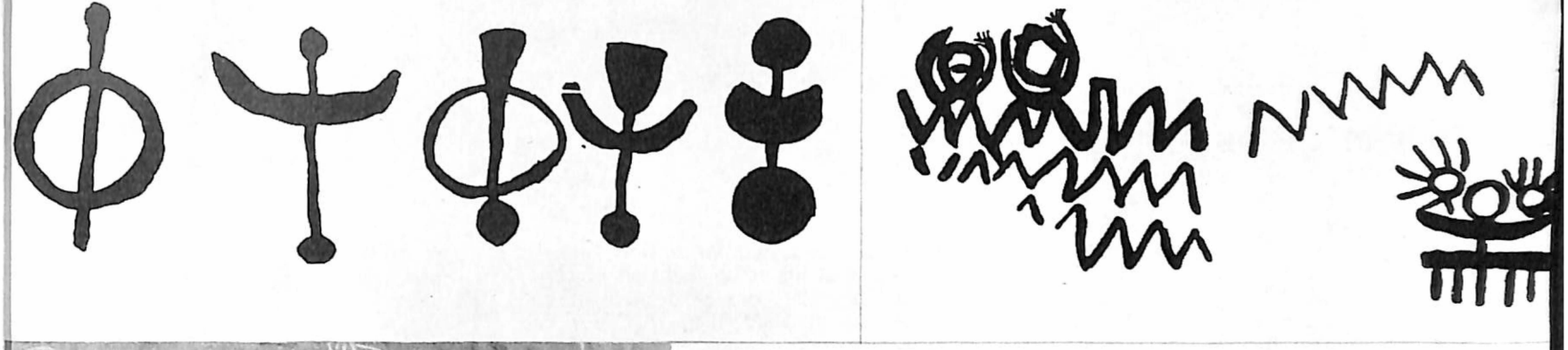
f African cliff paintings, Bandiagara, Nigeria. [Musée de l'Homme, Paris.]

g Rock-carved figures. South America. Meaning unknown. [From: Koch-Grünberg, *Südamerikanische Feldzeichnungen,* Berlin, 1907.]

h Miró, illustration from *A toute épreuve,* by Paul Eluard. [Publisher, G. Cramer, Geneva.]

i Crosses, coats of arms and hunting scenes. Fresco painting on the wall of a church, Genhofen (Allgäu), Germany.

k Pictographs from Crete (seal impressions). 'Action' pictures, representations of objects, and abstract ornamental signs served as the earliest writing symbols. Minoan culture, c. 2000-1900 B.C. [From: Evans, *Scripta Minoa,* Oxford, 1909.]



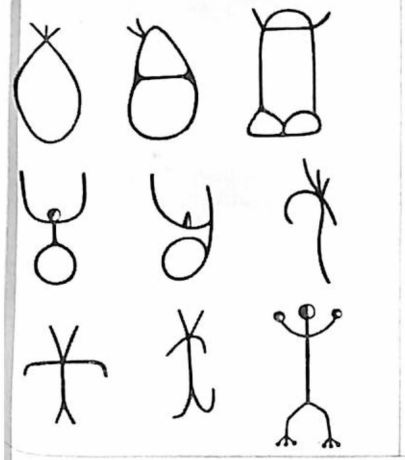
a

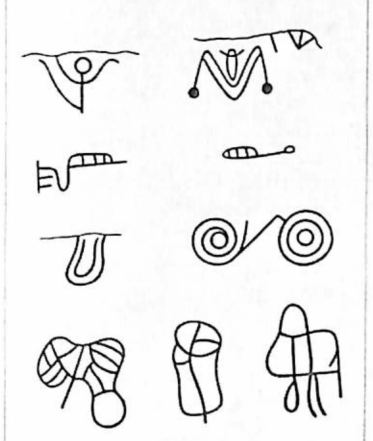
b

d

e

f





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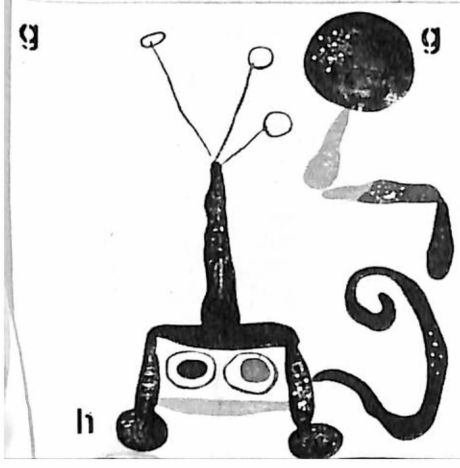

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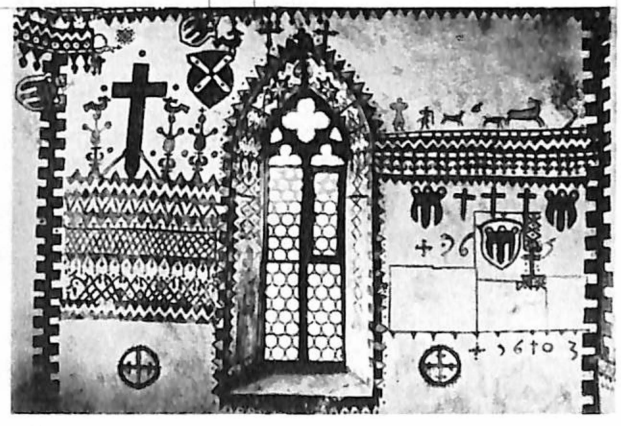

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4

'Talking' pictographs

Pictographs are used chiefly as memory aids in passing on oral traditions. The signs are extremely simplified and end by becoming as abstract as the words of a language. In other words, they do not represent an individual object, such as a particular tree; they stand for the genus 'tree', and the details peculiar to the individual case must be deduced from the context. Thus, the story told in pictures gradually turns into picture writing (pictography), and may reach a stage at which the sign no longer stands for an actual object as in (a) and (c), but for the name of the object, i.e., for a word. For instance, the Aztec inscription (b) already contains signs representing words (the names of the tribes) as well as illustrative scenes, and is thus on the way to a more practical form of writing that can even describe more complex relations. The Aztec inscription still obeys the rules of pictorial composition; whereas in the Cuna Indian writing (f) the only thing that matters is the order of the words in the song indicated. The lines are still written in the primitive manner known as 'boustrophedon', after the way the ploughman drives his plough, first in one direction and then in the other. As the signs develop towards true writing, the figurative elements gradually grow less important. Only slight remains of the pictographic element are to be seen in the table from Easter Island (g), whereas in illiterate communities (h), picture writing survived into the present century.

a Eskimo drawing. A series of scenes recording a hunting party. Bone-carving. [Musée de l'Homme, Paris.]

b Aztec pictograph referring to an important event. From left to right: four Aztec tribes migrating (see footprints), carrying their tribal designation above their heads. They meet eight other tribes at a spot called Tamoanchan ('Place of descent'), which is indicated by a felled tree-trunk and an altar. The tribes take leave of one another; above, on the right, we see the two chieftains, one of whom is weeping (the sign for water is shown below his eye). Above are the names of the eight tribes, and the sign for a starry sky to indicate that the scene is taking place at night. The tribes are celebrating a religious festival (right, below). [Codex Boturini.]

c Bison-hide painted by Hidatsa Indians. Upper half: ten warriors fighting in pairs, the man on the right being the winner in each case. The hand on the muskets nearby indicates that they are war booty. The signs in the lower half may stand either for the number of enemies killed, or for the number of presents. Even the marksmen are so stylized as to appear no longer as individuals but merely as signs. Painted skins like this were used as cloaks and denoted the owner's rank, which depended on his warlike feats. [History Museum, Berne, Department of Ethnography, Schoch Collection.]

d Order issued by the Governor of Tasmania to the illiterate natives.
First row: the desirable state of peace between Europeans and natives;
Second row: the official Peace Treaty;
Third row: if a black man kills a white man he will be hanged;
Fourth row: if a white man kills a black man he will be hanged.

e Nsibidi writing, Southern Nigeria. Origin unknown. Highly conventionalized pictographs, used chiefly by a secret society, but also for magical purposes. Each sign represents a particular concept or association of ideas: (1) This husband and wife love each other dearly and embrace each other gladly (outstretched arms). They are rich, for they have three cushions and a table each on either side of them. (2) Married couple belonging to the Egbo tribe, whose emblem is a feather. (3) This husband and wife have quarrelled. They are turning their backs on each other and there is a cushion between them. (4) Man and wife separated by a river (note canoes). The crosses show that there has already been an exchange of news between them. [From: Talbot, *In the Shadow of the Bush*, London, 1912.]

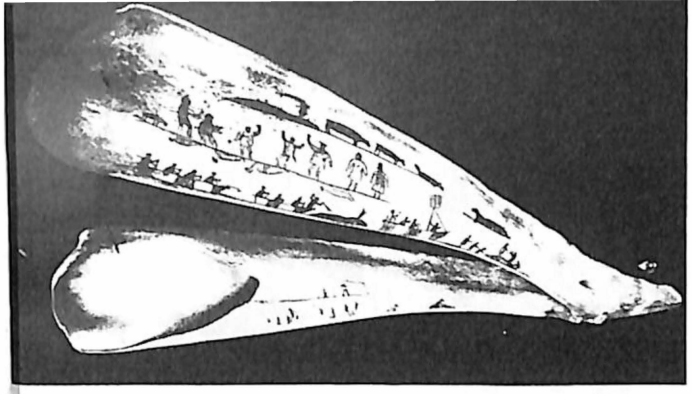
f Picture writing by the Cuna Indians, Panama. Origin unknown. The signs are intended to refresh the memory of the singers of a ritual chant describing the quest for the fugitive soul of a sick man. The lines run alternately from right to left and left to right (the 'boustrophedon' style of writing).

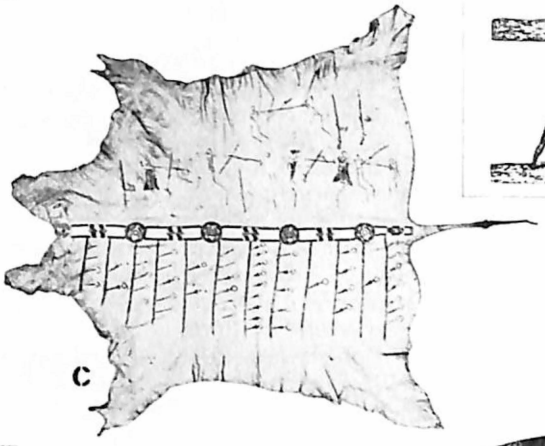
g Wooden tablet bearing an inscription in the undeciphered writing of Easter Island (Pacific). This comprises approximately five hundred signs, some of them representing objects as well as animals and human figures in various positions and engaged in various pursuits. Every second line is upside down, so that the tablet has to be turned in alternate directions while being read. The age of this writing is not known. [Musée de l'Homme, Paris.]

h Letter from a Yukaghir girl (North-East Siberia, beginning 20th century) to her absent lover: 'I am all alone at home. You have left me and gone far away. You love a Russian girl (with full skirt) and you have married her (under one roof with her), but your marriage is not happy (crossed lines between them). You will have children and I shall remain alone and sad (crossed lines). I shall always love you, although there is another man who loves me.' [Musée de l'Homme, Paris.]

i Rogues' symbols. Message written by an arsonist, late 17th century. The fourth house in the direction of the arrow is to be attacked during the night, next time the moon is in its last quarter. Fellow-criminals who happened to pass by and wished to join in the exploit added their 'marks' below (here there are five of them). [From: Gross, *Handbuch für Untersuchungsrichter*, Vol. I, Munich, 1904.]

k A weaver (a) has been arrested (b) for planning to rob a butcher (c) and wounding him during the attempt (d). The weaver was overpowered (e) and forced to confess (f). He had previously killed (h) a horse-coper (g), and begs his friends to say nothing about this as he intends to deny it (i).





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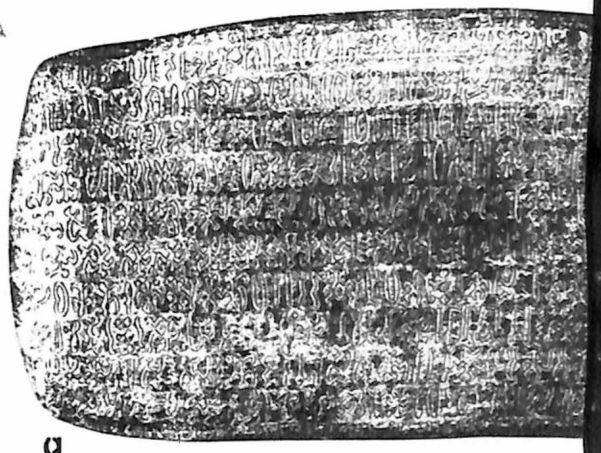

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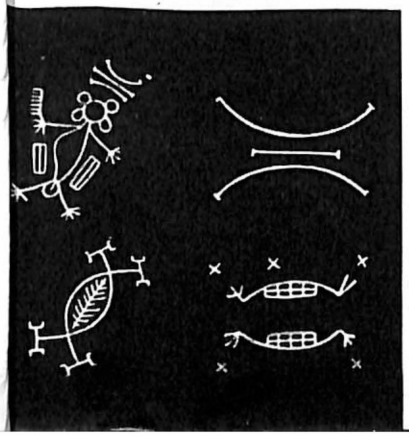

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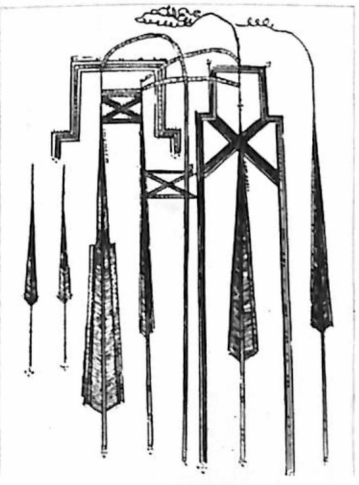

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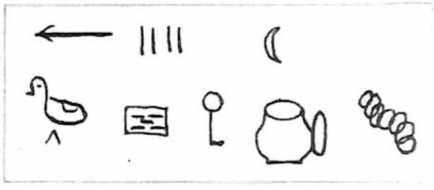

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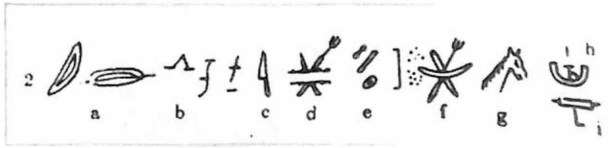

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Marks and symbols

The knot in the handkerchief (a) is the best-known example of the memory-aids that existed previous to and parallel with actual writing. The Incas of Peru built up a complicated system of knots (l, m), as a means of memorizing important data (in particular, numerical). Since this 'concrete writing' made no use of pictures, the recipient could not read it unless he knew beforehand to what category of objects it referred. The notched tally-sticks used by peasant communities in many countries for working purposes (h, i) belong to the same group. They not only by-pass inability to read and write, but also serve as receipts for work done; there can be no cheating if each party to the transaction keeps half of the stick (h).

Some of these notched sticks bear identification marks (i). Independently of the use of writing, trademarks (f), cattle brands, craftsmen's marks (g), coats of arms (c) and signs of many different kinds are employed to indicate ownership or denote origin or the name of the bearer. They are often much easier to remember than the name in its written form, and provide information, in symbolic form, about the bearer's occupation, rank and importance (b, c). Even nowadays, coats of arms or flags may serve for identification in circumstances where speech and writing are useless. In potentially dangerous situations where there is no time to read a detailed notice, a pithy and significant graphic warning is essential (d, e). This is an instance where our highly-developed writing system reveals its limitations.

a An everyday mnemonic device—a knot in the handkerchief.

b Indication of sovereignty—a prince's insignia (Dahomey, Africa). [Musée de l'Homme, Paris.]

c Coats of arms and pennants. The Emperor Henry VII storming the Castel Sant' Angelo in Rome (1312). In the centre is the Emperor's brother, the Elector Balduin, Archbishop of Trêves, who can be identified by the cross on the shield, tunic and horsecloth. His opponent, whose helmet he has just split, belonged to the Orsini family, whose arms included a bear. [Codex Balduini Trevirensis.]

d Warning signs: the narrowing of a road, danger from trains.

e Danger signal—skull and crossbones. [From: Sandberg, 'nu, die kunst und ihre funktion im leben', Hilversum.]

f Marks on houses in Anatolia, Turkey. [From: Gelb, *Von der Keilschrift zum Alphabet*, Stuttgart, 1958.]

g Stonemasons' sign on the basalt blocks of the bridge over the Rhine at Coblenz. Some of them date from the construction of the bridge in 1340-48; the others are on stones put in place during subsequent repairs. Typical tools are often shown, including the hammer, chisel and set-square. Every mason was allotted such a sign by his master on completion of his apprenticeship. It was derived from the 'mother figure' of the lodge to which he was admitted, and wherever he worked he left his mark. [From: Hohmeyer, *Die Haus- und Hofmarken*, Berlin, 1870.]

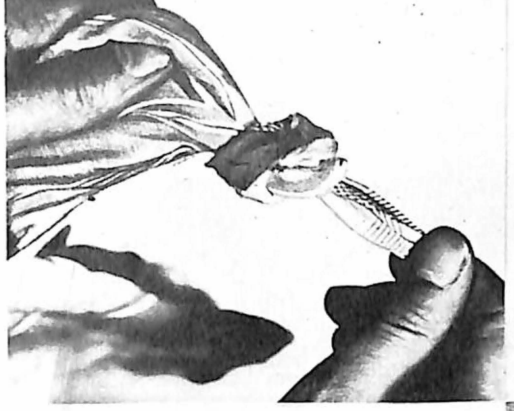
h Notched tally-stick. Used by landowners in Finland in the 19th century. The notches on the left-hand side show the daily work performed by horses, while those on the right show that performed by the farm labourers. [Kansallis Museum, Helsinki.]

i Notched sticks from Finland (simplest type). These recorded goods supplied, etc. The signs near the perforation indicate the house or the name of the person concerned. [Kansallis Museum, Helsinki.]

k Peasant calendar from Styria, Austria. For September 1398. The letters stand for the days of the week and the lines underneath them for the dates. This method is probably derived from the notched stick. [From: Menninger, *Zahlwort und Ziffer*, Göttingen, 1958.]

l Knot writing *(quipus)* from Peru. A main cord with numerous strings hanging from it. The *quipu* was used chiefly to record numbers of cattle, quantities of goods delivered, and so on, but could also carry news of historical events, letters and the like. The colour of the strings, the formation of the knots and their distance from the main cord all helped to convey different meanings. The *quipus* were used in the administration of the Inca Empire. Each locality had its expert officials who made out the lists and sent them to the capital. [Musée de l'Homme, Paris.]

m An Inca receives a financial report in the form of a *quipu*.



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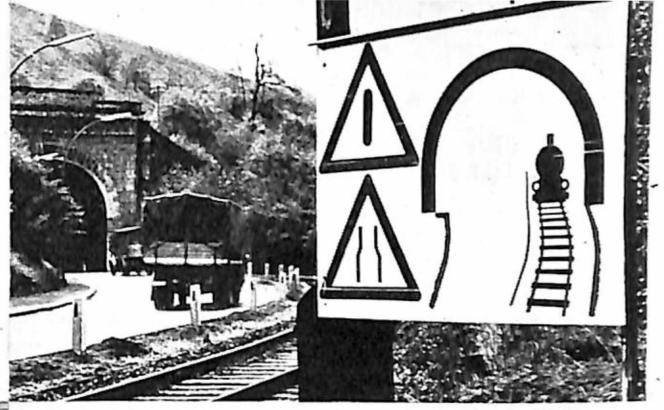

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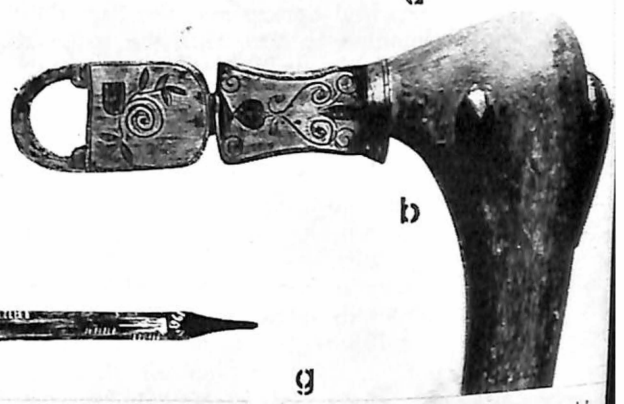

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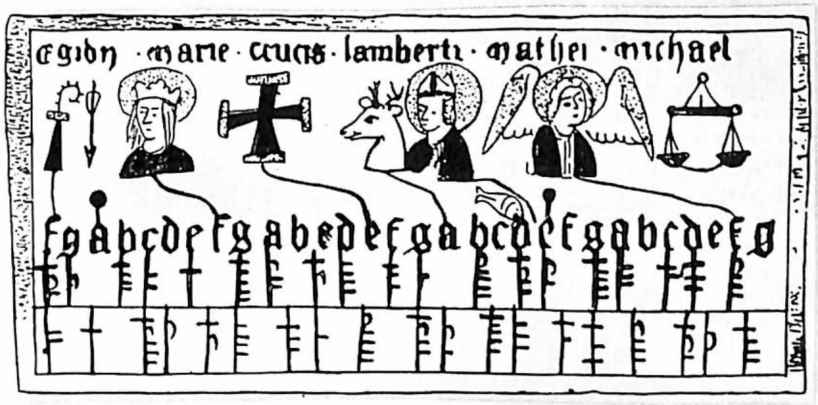

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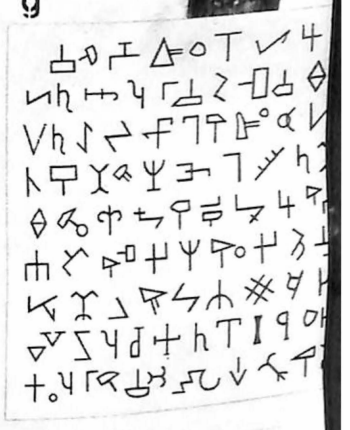

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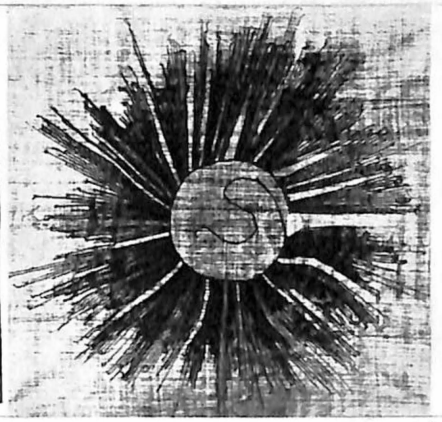

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Early inventors of writing in Sumeria

The Sumerians in Lower Mesopotamia rank with the Egyptians, the Cretans and the Chinese as the earliest inventors of an efficient system of writing. The organization of their city-states, centring on a temple, made it necessary to keep detailed records of deliveries and agreements. The Sumerian script originated to deal with the temple's economic activities. In the earliest stages use was made of pictographs which directly recalled the objects concerned (b, c) and show clearly what categories of objects played a part in this ancient culture (c). The ruler's desire to record and preserve important official acts also begins to crystallize. The so-called 'family' relief of one king of Lagash shows an arrangement of pictures and script which is typical of that archaic period: the human figures are arranged in rows like letters, each inscribed with its name, script and figure forming a unit, yet with the written characters still retaining their illustrative character. The picture and the script reinforce each other (a). The script already relates to words, no longer to individual objects, so that one can tell exactly whether a draught horse or a steed is being referred to.

The original pictographs came to be given phonetic values, no doubt owing to the necessity of rendering names of objects with precision. A word that was difficult to render pictorially would be denoted by the sign for another word with the same or a similar sound—like putting the sign for 'sun' to represent the word 'son'—the rebus method, in short. This made it possible to express any combination of spoken words in writing, but it was still very primitive. Cuneiform writing never advanced beyond the syllabary, which involved the use of at least eighty signs but this was already a big step forward as compared with the hundreds and thousands of signs used in ideograms and word signs (as in Chinese writing). Only one cuneiform script culminated in an alphabet—the Ugaritic script of Ras Shamra (Syria), which dates from the middle of the second millennium B.C.

a White temple, Uruk. About 2800 B.C. The Sumerian script originated in the temples, which were centres of culture.

b Clay tablets from Uruk. Archaic level III. About 3300 B.C. The early pictographic phase is still clearly apparent, but the signs are already arranged in vertical lines, one beneath the other. The notches and holes stand for numbers. This script has not yet been definitely deciphered. [From: Falkenstein, *Archaische Texte aus Uruk*, Berlin, 1936.]

c So-called 'family' relief depicting King Urnanshe of Lagash. Carved limestone plaque dating from about 2400 B.C. Probably hung in a temple as an ex-voto. Above, left, stands the king in a tufted robe, carrying a ceremonial contribution of mortar for building the temple; beside him are his daughter and four sons, whose names are engraved on the stone. Beneath, the king appears again with officials bringing him reports; they too are named. [Louvre, Paris.]

d Early pictographic signs from the clay tablets found at Uruk (b). Fourth millennium B.C. The pictographic origin of these signs is still recognizable, but some of them are already to a great extent conventionalized. Conjectural meaning: 1. head; 2. mouth (sign with hatching); 3. eating; 4. walking; 5. woman; 6. lion; 7. greyhound; 8. stag; 9. mountain goat; 10. ox; 11. wild ox; 12. cow; 13. dog; 14. pig; 15. fox; 16. fish; 17. (species of fish); 18., 19. grain; 20. garden; 21. grain; 22. beer; 23. milk; 24. sky or God; 25. Inanna, a divinity; 26. divinity; 27. hut, stable; 28. plough; 29. ship; 30. arrow, life; 31, 32. divinities.

e Astrological table in Sumerian cuneiform writing. [Musée de l'Homme, Paris.]

f Egg-shaped clay tablet issued by King Eannatum of Lagash. About 2400 B.C.

g (opposite) Sales contract in cuneiform writing from Lagash. About 2400 B.C. [Louvre, Paris.]

h Sumerian cylinder-seals. Top: seal of Ibil-Ishtar. Hunting scene. About 2250 B.C. Below: heroes and animals. About 2750 B.C. Bottom: release of the Sun-god. About 2250 B.C. [British Museum, London.]

Ancient Mediterranean scripts

About 2000 B.C. the highly developed Aegean-Minoan civilization with the island of Crete as its centre, arose in the Eastern Mediterranean, in an area where settlements had already existed for thousands of years. To meet the needs of its flourishing culture, the pictographic script used in the initial phase was soon transformed into a more practical form of writing. The most ancient seals (a) already reveal a strong feeling for design in the way the device is adapted to the oval shape. The Egyptian hieroglyphs, which reached such high artistic standards, may have served as a model for these; but they exist in their own right as the independent invention of the men who peopled the Cretan world and its palaces at Knossos, Phaistos, and elsewhere. Here, too, the pressure of everyday requirements soon reduced the picture-writing of the hieroglyphs to a simplified linear cursive script from which the pictorial element was almost eliminated, so that it became easier to write (e). At the same time, the number of signs needed was greatly reduced in the process of development from a system of word-signs to a syllabary. This rationalization continued in the subsequent history of the linear script, in which the original number of signs—about ninety—was finally cut down to sixty-four.

The Cretan script was carried in course of time to Greece (d) and the Aegean islands, and colonists also took it to Cyprus. One of the earliest evidences of this last is to be seen in (i). Greek is used in the majority of Cypriot inscriptions, but a certain awkwardness in the writing shows that the script was originally devised for a language other than Greek.

The Hittites not only took over cuneiform writing (see panel 7h) from Babylonia, but developed a hieroglyphic syllabic writing of their own which resembled the Cretan script. They used this as a monumental script for official inscriptions on stone. The pictorial quality of their signs was so striking that it impressed even those who were unable to read them. The beauties of Egyptian hieroglyphic writing may have had a stimulating effect on them, also, but their pictographs take quite independent forms (f, g). In this case also, a cursive script was developed before long to meet practical needs (h).

a Hieroglyphic writing, Crete. Middle Minoan period, about 2000-1600 B.C. A tablet bearing seals. There were approximately 150 different signs, probably including a series of phonetic symbols in addition to ideograms. [From: Evans, *Scripta Minoa,* Oxford, 1909.]

b, c Disc-shaped terracotta tablet impressed with pictographic signs, found in the palace of Phaistos in Crete. About 1700 B.C. Front and back. The front and back, each bearing pictographs of human figures, animals and objects, are impressed by means of separate stamps. In all, there are forty-five different symbols, showing no relationship to Cretan pictographs. They somewhat resemble the Hittite hieroglyphs, and until recently had not been deciphered. Professor S. Davis, of Witwatersrand University, South Africa, has now discovered that they represent a votive ceremony conducted by King Nokeul of Phaistos to mark the consecration of his palace (between 1800 and 1700 B.C.). The inscription runs in a spiral, starting from the outer edge. [From: Evans, *Scripta Minoa,* Oxford, 1909.]

d Linear A inscription from Crete. Inscribed with a reed on the inside of a beaker. Developed from the hieroglyphs (a), after about 1600 B.C. Uses approximately ninety signs, which suggests that it is a syllabary. [From: Evans, *Scripta Minoa,* Oxford, 1909.]

e Inscription on a clay tablet found in the palace at Pylos, on the west coast of Greece. The government archives found in this palace comprised more than six hundred tablets, which have not yet been deciphered.

f Inscription in Hittite hieroglyphs, from Carchemish on the upper Euphrates. 9th century B.C. Basalt relief. The lines are arranged in 'boustrophedon' fashion. The signs in each line read from the top downwards, and are turned towards the beginning of the line. An ideographic script with phonetic elements. [British Museum, London.]

g Hittite hieroglyphic inscription from Carchemish. [British Museum, London.]

h Inscription in cursive Hittite hieroglyphics. Letter engraved on lead. It was discovered, rolled up, in the foundations of a house at Assur, and may have been buried in the wall for magic purposes.

i Linear syllabic writing on a fragment of a clay tablet. Found at Enkomi, in Cyprus. Last quarter of the 13th century B.C. [Cyprus Museum, Nicosia.]

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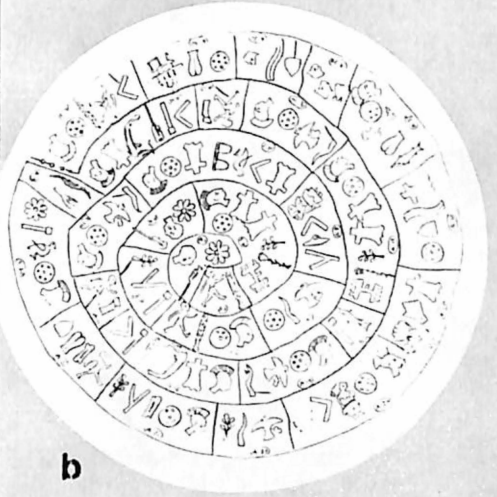

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Egyptian hieroglyphs

Like the Sumerians (see panel 6), the Egyptians invented a system of pictographic writing at a very remote period. The famous *Nar-mer* make-up palette (9a) includes pictorial elements (the defeat of any enemy and, below, the representatives of the cities) together with signs indicating personal names. The different components are not yet arranged in lines for the reader, as would be required for a script and as they already are on the tablets of the annals (9b). Each sign has a phonetic value on the rebus principle, regardless of its original meaning. In its final stage of development, hieroglyphic writing was a syllabic script like the Cretan and Hittite scripts (see panel 8). It was not completely transformed, however, and retained many ideographs, so that a complicated system had to be devised to prevent misreadings.

As the pictographs developed into a script they abandoned any attempt at realism and perspective and were reduced to outlines, frequently incised into the stone. A stereotyped convention resulted which remained virtually unchanged for thousands of years. Nevertheless, the signs preserved a great artistic quality through the fact that they were generally used for monumental purposes, such as dedicatory inscriptions, epitaphs on tombs, royal biographies and official records. For the everyday business of government and trade, which was transacted on papyrus leaves, wooden tablets or potsherds, more adaptable forms of writing were employed—the hieratic and later the demotic scripts (10e and f) — inscribed with a reed pen instead of a chisel. The Egyptians even took the final step by creating an alphabet of twenty-four consonants. However, they did not carry this to its ultimate conclusion by devising a script consisting entirely of separate letters; pictures and hieroglyphs always remained closely associated. There were more than five hundred signs in the final version of the hieroglyphic script, and they could always be selected and combined in such a way that the pictures conveyed part of the message. The paintings in Queen Nefertari's tomb provide conclusive evidence that symbols of the subjects dealt with still recur among the hieroglyphs (e.g., the hawk, the sun-disc, the symbol of life in the god's hand) (9f).

These hieroglyphs, which had been regarded for centuries as mysterious occult symbols, were deciphered by a Frenchman named Champollion in 1822, with the help of inscriptions on the famous Rosetta Stone, engraved in both Greek and Egyptian (10h). Multilingual texts of this kind provide indispensable help in deciphering forgotten scripts and languages.

a Make-up palette of King Nar-mer. Reverse. About 2750 B.C. The king is shown striking down an enemy. On the right, the god Horus, symbolized by the hawk, with whom the king is identified, is leading Lower Egypt into captivity. Lower Egypt is symbolized by the papyrus, which grows there. Above, between two portrayals of the face of the Queen of Heaven, is the King's name. At the bottom are representatives of cities already subdued, with their name-signs. [Staatliche Museen, Berlin.]

b Tablet from the annals of King Horus-Djer, recording his reception of the princes of Upper and Lower Egypt. In the first line, on the left, the king is shown in the shape of Horus, the hawk-god, watching the proceedings, which follow the same direction as the writing, from left to right. An early pictograph stage of hieroglyphic writing. [From: Emery, *Excavations at Saqqara,* 1938.]

c Hieroglyphic symbols. (a) concrete objects: man, child, ox, house; (b) and (c) verbs: to drink, to strike, to fly, to weep, to reap, to write, to chop, to cut; (d) noun-signs used as verbs: eye and see, man and sit, ship and sail, burden and carry; (e) signs for concrete objects used metaphorically to denote abstract concepts: the sun for day, the moon for month, a star for hour, a bee for work. [From: Sothe, *Vom Bilde zum Buchstaben,* Leipzig, 1939.]

d From the annals of King Tutmosis III. New Kingdom. Mid-15th century B.C. [Louvre, Paris.]

e Inscription of the name 'Ramses II'. 20th dynasty, 13th century B.C. [Louvre, Paris.]

f The god Re-Harakthi and the goddess Amentit, with a hieroglyphic inscription. Wall painting from the tomb of Queen Nefertari. 19th dynasty, 13th century B.C. [From: *Egypte,* Paris, 1954.]

g Statue of an Egyptian scribe. [Louvre, Paris.]

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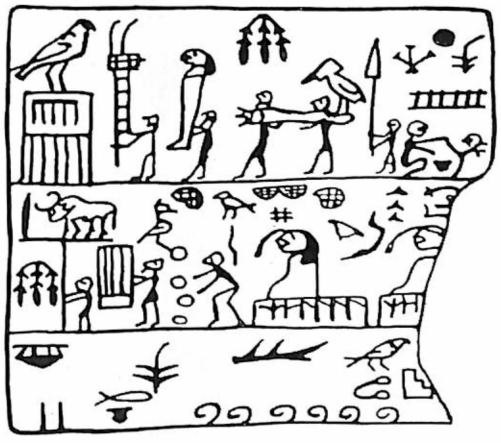

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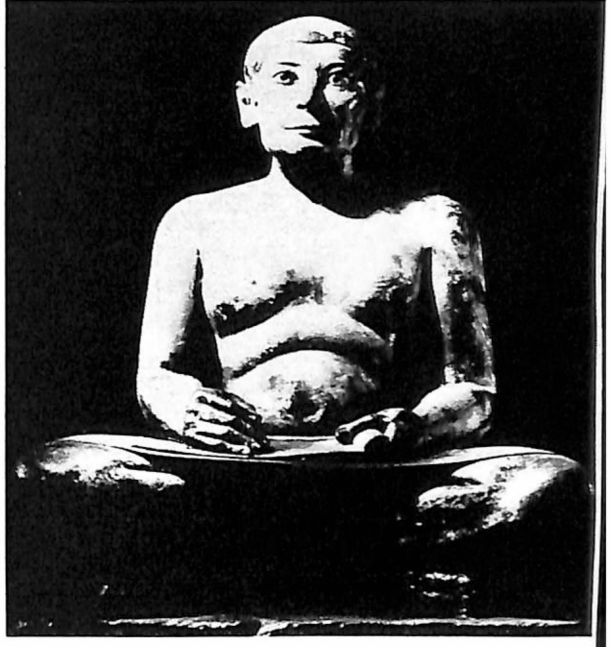

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Egyptian hieroglyphs

a Scribe and village elder making out accounts. Relief from the tomb of Mereruka, near Saqqara. Beginning of the 6th dynasty. About 2400 B.C.

b Wall painting with hieroglyphic inscription from the tomb of Queen Nefertari. The queen is shown presenting two vessels to the goddess Hathor. 19th dynasty, 13th century B.C. [From: *Egypte,* Paris, 1954.]

c Hieroglyphs from the period of the 4th dynasty. Old Kingdom. [Louvre, Paris.]

d Cursive hieroglyphs from a religious text on a potsherd. New Kingdom. [Louvre, Paris.]

e Hieratic writing on a wooden tablet. End of the New Kingdom. [Louvre, Paris.]

f Demotic writing on papyrus. [Louvre, Paris.]

g Examples of the development of hieroglyphic writing to hieratic and thence to demotic. [From: Möller, *Die Buchschrift,* periodical of the Deutscher Verein für Buchwesen und Schrifttum, 1919, No. 7-8.]

h The Rosetta Stone, a basalt slab engraved by priests of King Ptolemy V with an inscription in Greek, demotic and hieroglyphic characters. With the help of this stone, Champollion succeeded in deciphering the hieroglyphic script in 1822. [British Museum, London.]

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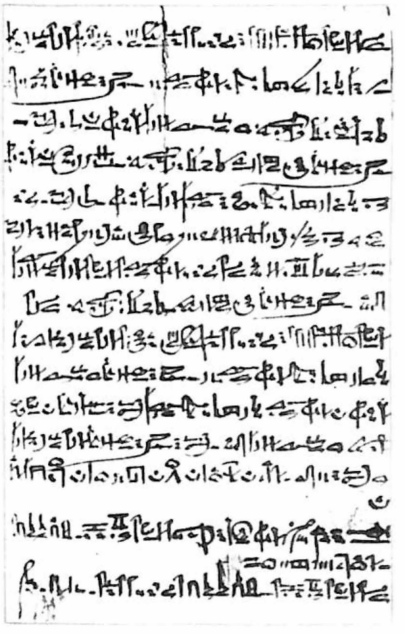


e

f

The Semitic family

One of the most momentous developments in the history of writing took place in the territory of the small Syro-Palestinian States during the second and first millennia B.C. Here, in the most important exchange and transit zone of the ancient world, inhabited by a dynamic and outward-looking population, the requirements of trade and diplomacy led to repeated efforts to find a practical form of writing. The cuneiform or hieroglyphic syllabic scripts, current in the second millennium, with their complicated systems of ideographic and phonetic elements, were obviously no longer adequate. In the Syrian city of Ugarit, a unique example of a cuneiform script has been discovered whose signs represent letters and are therefore much less numerous than in previously known scripts. The trend was towards simplification. More and more attempts were made to produce an alphabetic or, more precisely, a consonantal script, using only twenty to thirty signs instead of about eighty, and therefore much more convenient. The only letters that needed to be written were the consonants, as they are the determining elements in the Semitic languages. At a much later period, diacritical signs were added for the vowels.

The alphabetic scripts of the Phoenician-Palestinian cities are obviously inconceivable without the stimulus of hieroglyphic and cuneiform writing. The tablets from the Sinai peninsula (a) are possible evidence of the transmission of hieroglyphs. The process by which alphabetic scripts originated, however, remains shrouded in mystery.

In the course of their trading visits to many different places, the roving Phoenicians took with them their highly practical script, which is readily adaptable to all languages. It spread not only to Phoenician colonies (f) and their zones of influence (g and i), but, in its Aramaic and Greek versions, grew two mighty branches which finally covered a large part of the world.

a Inscriptions on a small stone tablet from Sinai. Front and back. About 1500 B.C. Front (left): 'Loan to be repaid in the Temple of Baclat at six per cent'. Back (right): 'This is the interest: six'. Found near a temple of the goddess Baclat, and probably originating from the Semites who worked mines on the Sinai peninsula. [From: Grimme, *Altsinaitische Forschungen.*]

b Inscriptions on a potsherd from Samaria. 900-800 B.C. Cursive characters. [From: Driver, *Semitic Writing,* London, 1954.]

c Phoenician inscription on the sarcophagus of King Esmunzari of Sidon. 400 B.C. With an entreaty to leave the tomb untouched, since it contains no treasure and the King stands well with the gods, who would punish any desecrator. [From: *Corpus Inscriptionum Semiticarum,* Paris, 1881.]

d Bas-relief of King Barrakab of Zenjirli with Aramaic inscription. About 750 B.C. A scribe before the King on his throne. [Middle-East Museum, Berlin.]

e Canaanite inscription, found at Siloam near Jerusalem. About 700 B.C. Report on the cutting of a subterranean channel. The tendency to lengthen leftward-sloping strokes should be noted.

f Neo-Punic votive stone, with dedicatory inscription. Carthage.

g Iberian inscription on a piece of pottery. About 400 B.C. The script is probably based on a Phoenician-Punic model; the Iberian peninsula came within the Carthaginian sphere of influence. As with Phoenician, the letters read from right to left. [From: Diringer, *The Alphabet,* New York, 1948.]

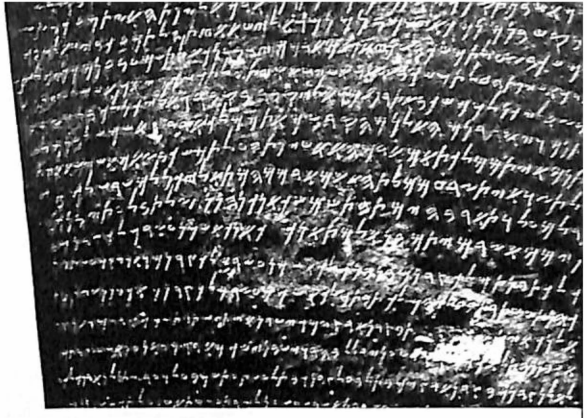
h Sabaean-Himyaritic stone inscription. South-west Arabia. From 300-200 B.C. South Semitic script, with some borrowing from Phoenician forms. Monumental in character. [Louvre, Paris.]

i Letter from a woman of the Touareg tribe (North Africa). The script, known as 'Tifinagh', is still in use today. It was transmitted by the Numidians and is derived from Punic (f). [From: Cohen, *La grande invention de l'écriture et son évolution,* Paris, 1958.]

k Ethiopic script. Derived from Sabaean (h) and brought in by the Arabs. Under Greek influence, however, it is written from left to right. Its present-day forms still resemble those of remotest antiquity. [Bibliothèque Nationale, Paris.]

a

b



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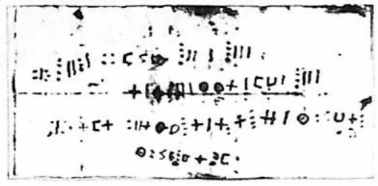

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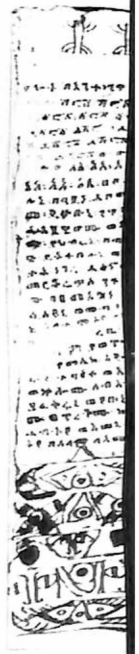

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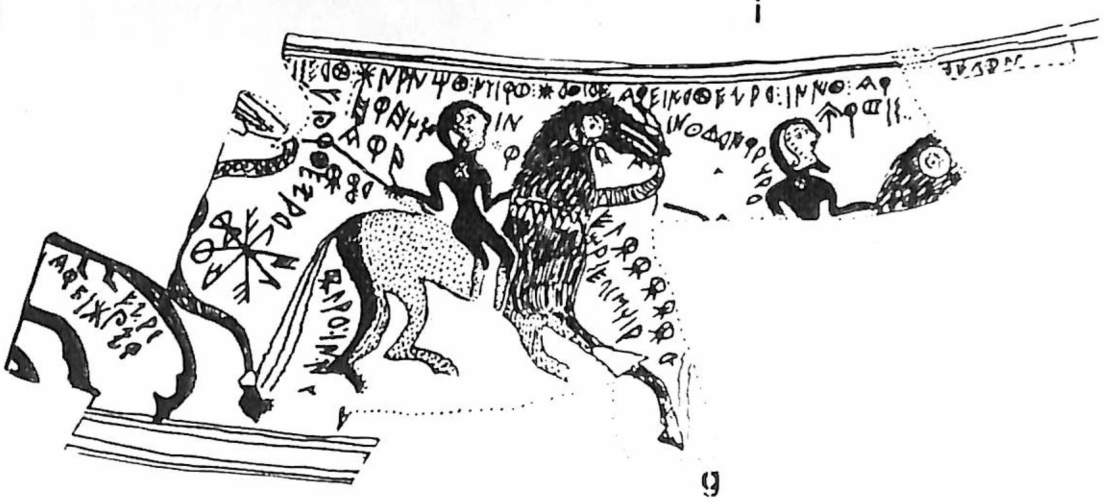


g

Scripts derived from Aramaic

In the 9th and 8th centuries B.C., the many small Aramaean States in northern Syria fell one by one under the domination of the Kingdom of Assyria. The deportation of a large part of the population reduced them to military impotence, but at the same time spread the Aramaic language and script (see panel 11) throughout the whole of Assyria. For more than a thousand years it was the language of trade and commerce from the Mediterranean to India. Even the Jews used it alongside Hebrew: parts of the New Testament were originally written in Aramaic. As far as Central Asia, the Aramaic alphabet formed the basis for numerous national scripts, such as 'square Hebrew' (c), Arabic (e to h), Syriac (d), Persian (from which Armenian originated), Uighur (k), Mongolian (l), and Brahmi, which has itself given birth to numerous variants (panel 15).

Writing and religion became linked to an ever increasing extent: Judaism, Christianity and Islam set forth their doctrines in sacred books (i), which it was forbidden to change by a single iota. The book became a cult object. With their doctrine, religions also disseminated the script in which it was laid down and which often replaced older characters having local currency. Nowadays, for instance, Arabic script is used not only for the Arabic language but for numerous other languages of Muslim peoples, new signs being created where necessary to represent particular phonemes. Through the writing that brings them a great religion, peoples are also brought into cultural contact with a supra-national community, and are stimulated by it in their own creative activities.

a Papyrus fragments with Hebraic script. Found in a cave near the Dead Sea.

b Preserving one of the seven Dead Sea scrolls.

c Leather fragments with Hebraic script. Found in a cave near the Dead Sea. Probably one of the oldest manuscripts of the Bible.

d Manuscript in Syriac script (Jacobite style). Form of Aramaic script developed by Syrian Christians of the first centuries C.E. [Bibliothèque Nationale, Paris.]

e Nabataean inscription from Petra. 1st century C.E. The Nabataeans of Arabia, who formed an independent kingdom from 150 B.C. to 105 C.E., further developed the Aramaic script. Arabic script derives from it. [From: Diringer, *The Alphabet*, New York, 1948.]

f Arabic manuscript in Kufic characters. A severe, monumental script, mainly for epigraphs, but also used for manuscript copies of the Koran. Its name is taken from the Mesopotamian town of Kufa and its school, where it was zealously practised by famous calligraphers. It gradually fell out of use from the 12th century.

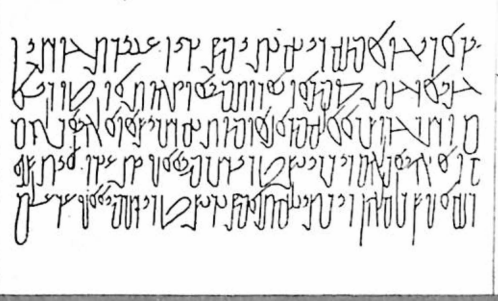
g Arabic sepulchral epigraph in Kufic characters. 445 A.H. (1067 C.E.). [From: Faulmann, *Illustrierte Geschichte der Schrift*, Vienna, 1880.]

h Manuscript of the Koran in Arabic Naskh characters. 1381-89. Appearing at the same time as Kufic script (f), Naskh was strongly influenced by handwriting, and the masterpieces of Arabic calligraphy were written in its various forms. It being a consonantal script, diacritical signs were added for vowels in the form of dots and dashes [Bibliothèque Nationale, Paris.]

i Liturgical manuscript in Armenian script. Script using Greek characters developed from the Persian Pahlavi alphabet, and ultimately from Aramaic, by the missionary Mesrop in the 5th century C.E. The capital letters in the first line take the form of birds and fishes. The left-hand side depicts the writing of the sacred book under God's inspiration. [Bibliothèque Nationale, Paris.]

k Manuscript in Uighur script, 'The Miracles of Mohammed'. 15th century. The two top lines are written in Arabic. The Uighurs were a Turkish poeple of Central Asia. Their writing is an offshoot of the Sogdian script, and ultimately of Aramaic. In the 13th century it was the official script of the Mongol Emperors. [Bibliothèque Nationale, Paris.]

l Manuscript in Mongolian script. With various additions, it is derived from Uighur (k). [Westdeutsche Bibliothek, Marburg].



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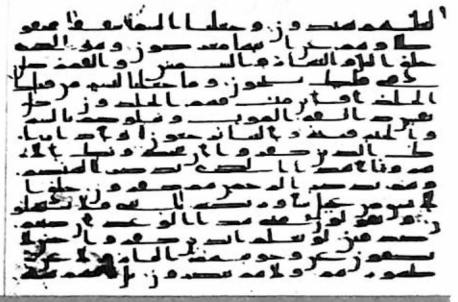


f

قالوا وجدنا آباءنا لها عابدين قال لقد كنتم أنتم

وآباؤكم في ضلال مبين قالوا أجئتنا بالحق أم

أنت من اللاعبين قال بل ربكم رب السموات

والأرض الذي فطرهن وأنا على ذلكم من

الشاهدين وتالله لأكيدن أصنامكم بعد

h

وصول النبي صلى الله عليه وسلم إلى البيت المعمور في موكبه ملائكة كثيرة

k

Hebrew

During the last centuries B.C., the alphabet and writing were regarded by the Jews as something more than a simple system of visible signs for reproducing thought and speech, since God Himself had had recourse to the spoken and written word in making His revelation. And even the earliest mystics regarded the alphabet, the medium of writing, as both the basic element and the coordinating principle in language, itself the instrument for the creation of the world—first as word and then as writing. In the mystical conception, the oral revelation preceded the creation, and, like everything in the world, is represented in the final analysis by a particular succession of consonants and vowels, of letters. The word of God may be susceptible of many interpretations but, once fixed in writing, it is eternally immutable.

The text of the Holy Scriptures and the actual script in which they are written have undergone no change since the first centuries of the Christian era. Even obvious mistakes are not to be corrected. The letters of the square script adopted for the Holy Scriptures retain, on the scrolls of the Pentateuch and the Torah, the form initially fixed for liturgical use, including the deformations. To the Jews, indeed, writing is always sacred, even when employed for lay purposes. The Hebrew script was adhered to even when another language was being written (such as German, Yiddish, Ladino, Arabic, or Judaeo-Persian). As in certain pictures of Chagall, Hebrew letters thus became symbols of Jewishness.

This conservative tendency has always been a determining factor in the evolution of Hebrew writing. The scrolls of the Torah, irrespective of their date and origin, show hardly any difference in the details of the writing and the form of the letters. For non-biblical texts, cursive writing, which derives from square writing done rapidly, was adopted only very gradually. The sacred texts (Bible, Talmud, liturgical texts) have always been written in the traditional square script (d, g). This first gave the rabbinical or masoretic commentatory script e), also called Rashi-writing, culminating in a cursive script proper. Rabbinical script was used mainly for commentaries. The following groups of scripts can be distinguished: Orient: Egypt, Palestine, Syria, Yemen and Babylonia (b, e); Spain: after the expulsion of the Jews from Spain, the script used by the Spanish group spread over the whole Mediterranean basin (g); Italy; Germany: the script used by the German group became current in Central and Eastern Europe (d, k).

Although there was undoubtedly a common Jewish style, environmental influence is usually easily recognizable in Jewish art and in the decoration of books. As far as the script is concerned, however, it is insignificant and even undiscernible. Writing remains closed to foreign influence.

a Letter written on a potsherd (ostraca) from Lachish; ancient Hebrew script dating from the beginning of the 6th century B.C. [H. Torczyner, *Lachish*, I, p. 33.)]

b Dedicatory inscription from the synagogue of Naaran. Palestine, 5th century C.E.

c Letter in the 'square' Hebrew script.

d Biblical writing, from a scroll for liturgical use. Square script, without vowels. Netherlands, 18th century. [Property of Mr. A. M. Goldberg.]

e Autograph of Moses Maimonides. Syriac rabbinical writing, on paper, 12th century. [Ms. British Museum, or. 5519 B. British Museum, London.]

f Letter written by Rabbi Menachem Mendel of Vitebsk. Decidedly cursive script; second half of the 18th century.

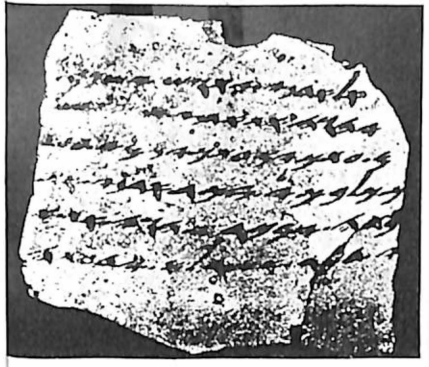
g Leaf from a manuscript of the Bible, on parchment. Probably from Provence, 1301. [Det Kongelige Bibliothek, Copenhagen, Cod. Hebr. II.]

h Scribe at work.

i Darmstadt Hagadah, written by the Rabbi Meir of Heidelberg, Germany; beginning of the 15th century. [Landesbibliothek Darmstadt, Cod. or. 8.]

k Bible, with major and minor Masorah, Germany. Written by Salomon Ha Cohen, 1325. [Bibliothèque Nationale, Paris, Hebrew V.]

l Masorah. Germany. Probably from the 14th century. [Württembergische Landesbibliothek, Stuttgart, Cod. ms. Hebr. 5.]



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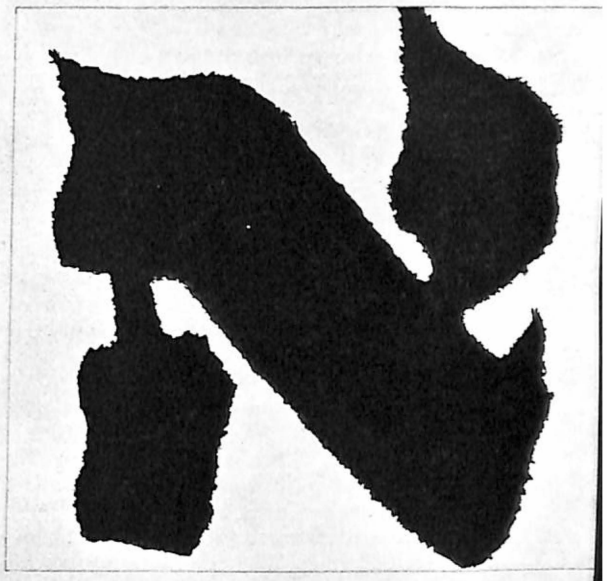
b

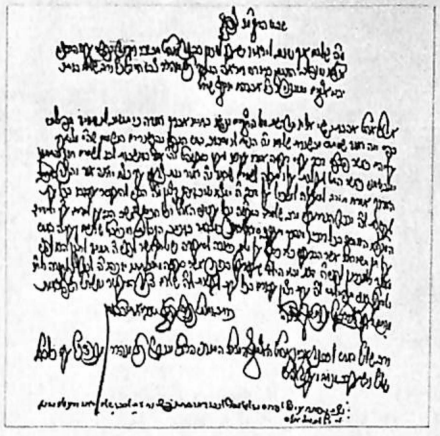


c

בשנה יכפר עליו לדרתיכם קדש קדשים
הוא ליהוה

d

e



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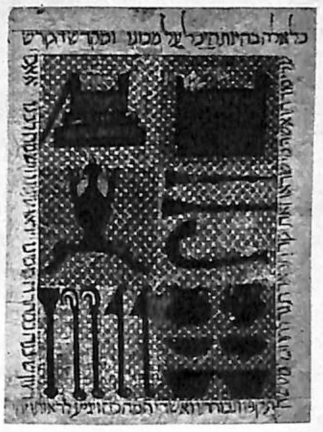

g

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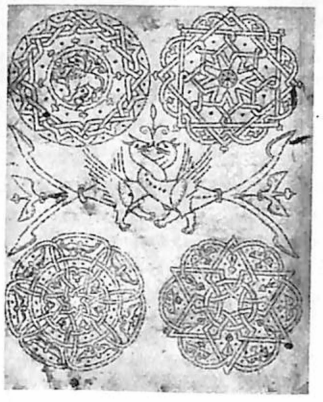
i



k

l

Arabic writing

Islam is the religion of a book: the Koran, the Holy Book of the Mahometans, recording the words of the Prophet. From these words the Arabs drew the strength which enabled them, with unparalleled speed and, in a victorious march that recalls the campaigns of Alexander the Great, to conquer a large part of the contemporary world, bringing to foreign peoples the Koran and with it the Arab language and the Arab script, which to some extent became a world script. Before Islam, the Arabs had used a very simple, artless utility script which, like the writing of the other Semites, went from right to left; it is known to us through examples from the 6th century. Because of the overwhelming importance which the Koran assumed in religion as in life, especially in the case of the Arabs with their religious zeal, the idea spontaneously arose of clothing the Book of Books in a splendid calligraphic garment worthy of its high dignity, as witness the mention of writing in the Book itself, where the 68th Sura is entitled, 'The Pen'. A contributory factor was the prohibition of illustrations which, except in Persia (a) was very strict. Instead, the book was illustrated by the script, which developed into an ornament in its own right. In this way the calligraphers and the schools of writing which were set up at important places were spurred on to new discoveries and forms of writing, not only for the Koran which remained the focus for every type of calligraphic improvement, but also for epigraphic writing and for artistic objects and items of everyday use. Very soon after Islam had come into being, attention was directed towards fostering writing as an art; and one of the most amazing facts in world history of art and culture is the way in which the Arabs, Persians and Turks, in Asia, India and in the Maghreb (North Africa from Tripoli to Spain), from the 7th to the 17th centuries, succeeded in producing an innumerable variety of scripts, with curves and convolutions in a lavish abundance of forms never equalled in any other system of writing. From this magnificent development, two scripts derived: Kufic, a somewhat stiff, angular and ponderous script with many convolutions, probably intended originally for inscriptions but which none the less lent an impressive dignity to parchment manuscripts of the Koran between the 7th and 10th centuries (see: in (a) the inscriptions on the banners; (b) the separate line next to the ornament; (f) line 1; (g) 20th century, perhaps influenced by Western grotesque). Side by side with Kufic there grew up from the early Arabic utility script refered to above the slender, rounded and often graceful Naskh (a and f, third line), the progenitor of many other scripts such as the very regular and beautiful Thülth (d, e: the well-known Throne Verse, Sura 2 of the Koran, v. 256, and f, second line). Maghribi, or the 'western' script, stems directly from Kufic and seems to have come from Kairouan, Tunisia, in the 10th century (b). We can here give only a few examples out of the multitude of scripts existing, but reference must be made to Shikeste (f, seventh line), a very forceful script made up of an almost inextricable tangle of signs, which originated in Herat, in Persia, in the 17th century and recalls the Byzantine minuscule script employed in the 13th and 14th centuries. Mention should also be made of Rihani (f, line 4), the 'sabre-blade' script, so-called because the letters break off with sabre-sharpness. Finally, a calligraphist's splendid individual creation on a ceramic tile is shown in (c).

Arabic script has many national varities:

a 'The Meetings', written in Naskh, Persia, 1237.
b Maghribi script (Western Arabic). The ornamented line is written in Kufic.
c Text from the Koran, on a glazed tile, 1812.
d Monogram of Sultan Abd ul-Medjid. About 1850.
e Text from the Koran, in Thülth (Sülüs), 1925.
f Table showing various Arab scripts used in Turkey until 1928.
g Profession of the Islamic faith, in Kufic (modern era).

a

b

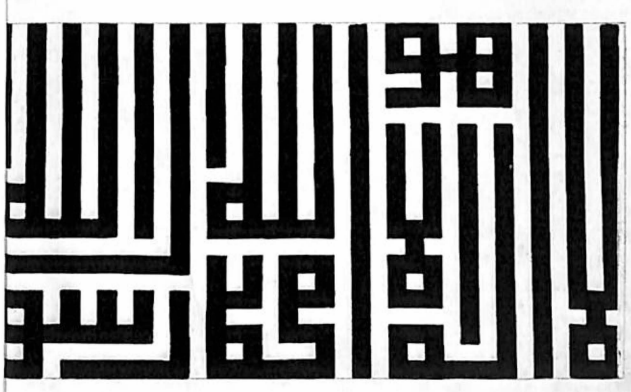
c

d

e


خطوط المتنوعة
كابذكرة الجليل انه
كمبارك وانت خ
على الاصاغر ان يخدم على الا
فان الكتابة من اهم الامور واعظم الة
لام احب البلاد الى الله مساجد
بتقوى الله في السر والعلانية وبقلة الطعام وقلة المنام وق
دوام القيام وترك الشهوات على الدوام ومصاحبة الصاك
الفتح والنجح فقد سمه وتابعه فعاده ونزل

f



g

Scripts of India, Tibet and East Turkestan

A few decades ago, an unknown civilization was suddenly brought to light in the Indus Valley which dated from the third millennium B.C., prior to the Aryan immigration. It has analogies with the primitive civilizations of the Near East, but was of independent formation. The bronze plaques and seals unearthed bear inscriptions which are partly pictographic and partly linear, and are probably a mixture of phonetic and ideographic signs. The representations of local animals (a, b) and mythological scenes (c, d) accompanying the inscriptions already display a degree of graphic simplification indicative of a long tradition. Any connexion with later Indian scripts is extremely doubtful. It is all the more surprising to find an analogy between a number of the characters and those of the writing found on Easter Island, in the Pacific (see panel 4 g). So far, it has not proved possible, by comparing the two, to determine the origin of the script or to decipher it.

Indian scripts proper do not appear until two thousand years later, when there was a highly developed civilization in which the sacred texts of the Vedas had been orally transmitted for centuries. Even after writing had been introduced, the oral tradition was more highly rated than the written. Nevertheless, writing must have been widespread from the 5th century onwards. The Buddhist and Jainist religious leaders did much to propagate it in order to better implant their teachings, and the celebrated King Asoka (272-231 B.C.) had inscriptions from Buddhist sources carved on rock and on columns in public places with the certitude that many would be able to read them (e).

Writing was probably introduced into India about 600 B.C. by traders coming from places where Aramaic writing (see panel 12) was in use. Aramaic was at that time the language of communication in the Near East. The fact that the ancient Indian scripts are written towards the left indicates their Semitic origin. In the motley linguistic world of the Indian sub-continent, two major groups of writing emerged during the course of centuries, one in the north and one in the south, whose alphabets showed innumerable variations yet all originated in Brahmi writing (a) (see genealogical table of phonemes). The ancient Kharoshthi script (f) co-existed with Brahmi but was later supplanted by it.

The fragility of the materials used for writing—birch bark in the north anc palm leaves in the south, the tropical climate, and the devastation caused by wars explain why so few ancient manuscripts have been preserved. The leaves of these ancient manuscripts were perforated and bound by a cord between two boards. Paper was introduced by the Moslems, during the Mogul period.

The influence of Indian civilization and religion made Indian writings known very early to distant peoples. For example Gupta writing, a variation of ancient Brahmi which dates from the 4th century C. E, reappeared in the 6th century in East Turkestan in cursive form (k). Tibetan writing (l, m, n, o,) also derives from an Indian source, probably in a roundabout way via the Turkestan monasteries where the most ancient manuscripts in Tibetan writing, dating from the 8th and 9th centuries, were found. In any case it was during the period of Buddhistic evangelization that the Tibetans adopted it.

In India itself, a script deriving from Gupta became widespread during the 9th century: Nagari (now called Deva-nagari). It is characterized by the long horizontal stroke on top (see the variant, Gujarati, without the upper bar, g). It served in particular for the purpose of recording the immense volume of Sanskrit religious literature. An attempt has recently been made to standardize Deva-nagari.

a, b, c, d
Non-deciphered characters on seal imprints. Among the signs, representations of animals and mythical personages. Indus Valley Civilization, third millennium B.C.

e Sample of ancient Brahmi script. Inscription of King Asoka on a column at Delhi-Topra, about 253-250 B.C.

f The most ancient surviving Indian manuscript. Inscription in Kharoshthi on beech bark. Beginning of the Buddhist text 'Dharmapada' (The way of the law). [Taken from *The Ghandari Dharmapada*, by John Brough, Oxford University Press.]

g Manuscript in Gujarati, 18th century. Variety of Nagari, derived from the Bengali alphabet.

h Nuptial stole from Mysore, 16th century, in Telugu, the script most widespread in Southern India. [Musée Guimet, Paris.]

i Sanskrit manuscript, in Grantha script, which was that generally favoured for writing Sanskrit in Southern India. [Bibliothèque Nationale, Paris.]

k Business text from East Turkestan; Sakas script, a variety of the Gupta script of central Asia. The Gupta script originated in India. [British Museum, London.]

l Woodcut for printing, from Tibet (the inscriptions are cut in reverse). Sacred formulae, with a figure of a winged horse. A type of writing of Indian origin. [Musée Guimet, Paris.]

m Mystic monogram from Tibet. 'Om mani padme hum' in the Indian Lanka script. [Musée Guimet, Paris.]

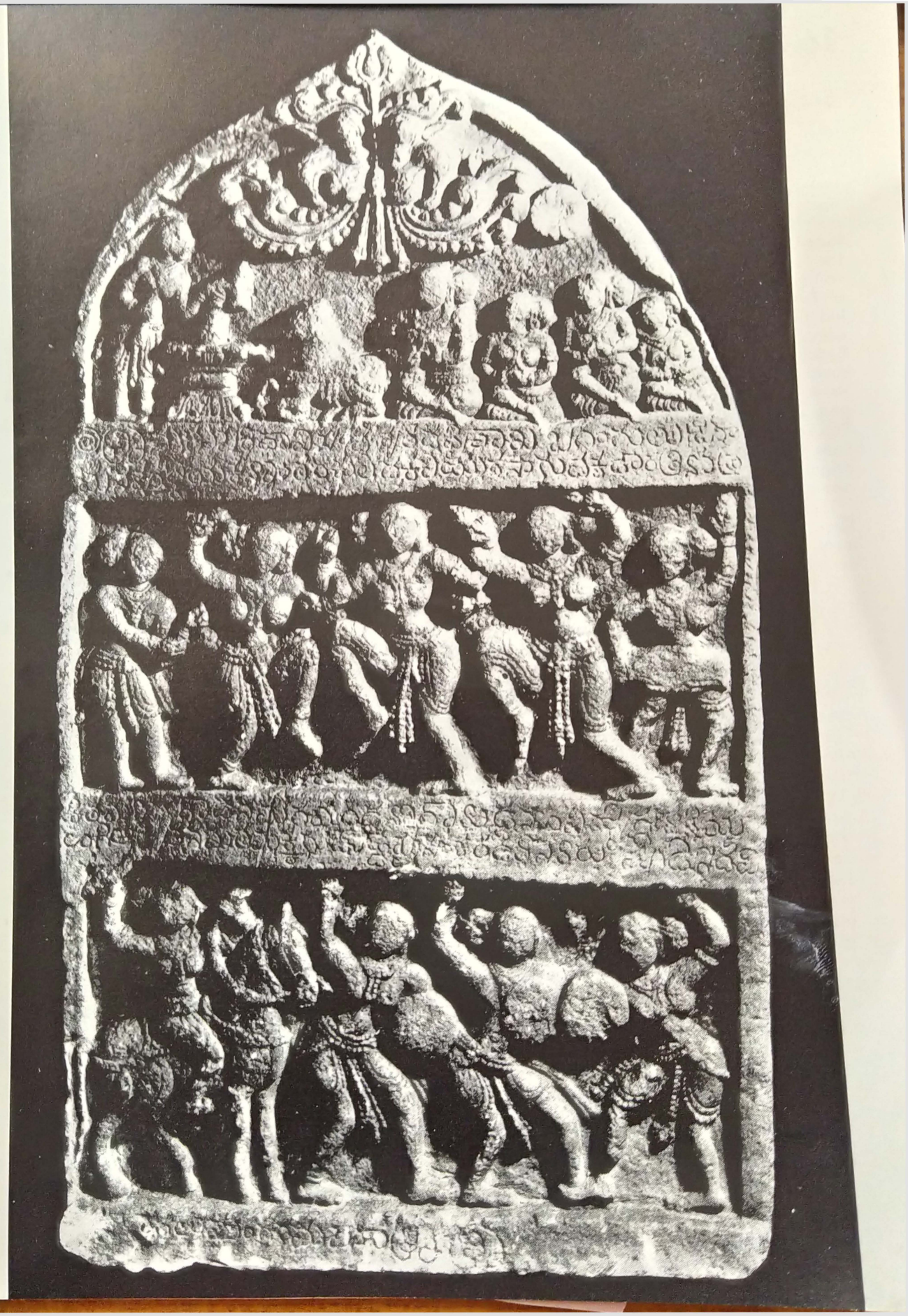
n Tibetan writing. [Westdeutsche Bibliothek, Marburg.]

o Page of a Tibetan book printed in four languages: Chinese, Sanskrit, Tibetan, Mongol. [Musée Guimet, Paris.]

Charts [National Museum, New Delhi]:

1-3 Genealogical table showing the development of the letters a, i, v.

4 Development of writing in Northern India, East Turkestan and Tibet.



h

Scripts of Indo-China and Indonesia

It was towards the beginning of the Christian era that Indian traders introduced their systems of writing into the seaports of Indo-China. With the spread of Buddhism, the Pali script, in which the sacred texts were written, became the basis for the local scripts of Burma, Laos, and Cambodia, whereas in India, where it originated, it disappeared completely, side by side with Buddhism. Buddhism first spread in this area in the south Burmese kingdom of Mon and, from there, moved towards the north, towards Pagan, on the Irrawaddy, carrying with it the Pali script (a, b, c). The scripts of Cambodia, Laos and Thailand, which had a common origin, became clearly differentiated from one another in the course of history (h, i, k).

The elegant Kavi ('poetry') script of old Kavi Javanese (l, m), the most ancient document of which dates from 732 C. E., also derives from Indian writing.

In the Batak alphabet (from central Sumatra) (n), the Kavi signs become angular, possibly because they were written on polished bark. The remotest point at which scripts of the Indonesian type appeared was in the Philippines (o).

a Ancient lapidary inscription in Pyu script. South Burma. [Lithograph provided by Professor Karow, Frankfurt-am-Main.]
Lapidary inscriptions on the pillar of Myazedi, Burma, with inscriptions in four languages. Middle of the 9th century C. E.

b Pyu writing, the most ancient document known in Pali script.

c Burmese writing; the most ancient document known in this type of writing, which also derives from the Pali script.
[Lithographs supplied by Professor Karow, Frankfurt-am-Main.]

d Magic figures in a Thai inscription from Kiang-Mai (North Thailand); to serve as a protection of the city. [Lithograph from Auguste Pavie, *Mission Pavie, Indochine, 1879-1895. Etudes diverses,* Vol. II, Paris, 1898.]

e Burmese manuscript on palm leaves; extract from the Jataka stories. [Musée Guimet, Paris.]

f Manuscript with magic figures and an inscription in the sacred Mul script. Cambodia. [Bibliothèque Nationale, Paris.]

g Manuscript in Thai script; extract; from the Ramakien (Ramayana) epic, Thailand. Left: the demon carries off the princess. Right: the monkeys fight the demon. [Bibliothèque Nationale, Paris.]

h, i, k
Beginning of the story 'Twelve girls' in: (h) Cambodian, (i) Laotian and (k) Thai language and script. [Extract from Auguste Pavie, *Mission Pavie, Indochine, 1879-1895. Etudes diverses,* Vol. I, Paris, 1898.]

l Manuscript in Javanese script; extract from the Ramayana epic. [Musée de l'Homme, Paris.]

m Manuscript in Javanese writing, in the Balinese language, on palm leaves. [Bibliothèque Nationale, Paris.]

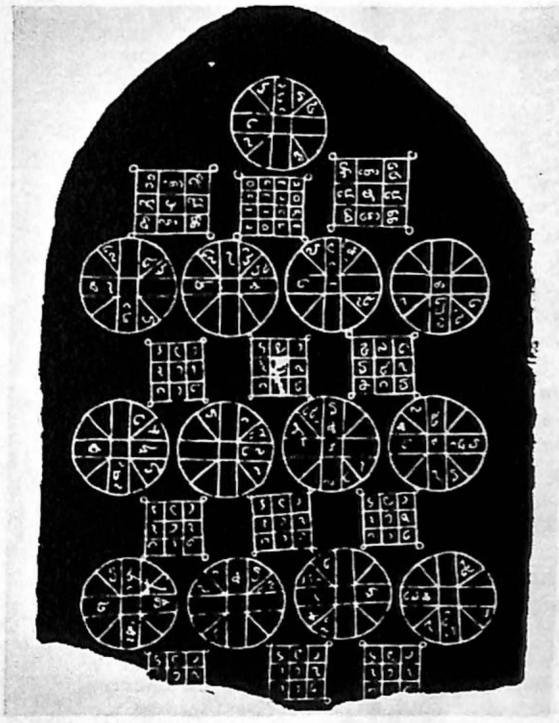
n Inscription on bamboo in Buhil writing, Philippines. [Musée de l'Homme, Paris.]

Charts

1 Development of writing in South India, Ceylon, Indo-China and Indonesia.

b

c



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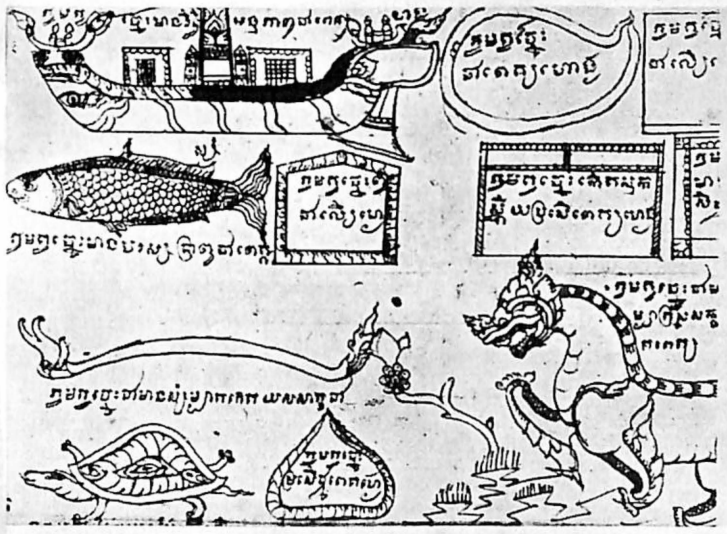

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g

Chinese characters

The significance of the Chinese character *(tzu* 字 *)* for the whole of the culture of the Far East is tremendous. It is more than a simple sign: it represents an entire word, a concept; and by virtue of its content and its form, it has both a philosophical and an artistic value, as a symbol and an image. This is why so much importance is attached in the Far East to writing and to the written word. From time immemorial, manuscript verses have been considered as precious gifts at New Year and on the occasion of family festivals. All sorts of objects—chopsticks, swords, vases and even way-side rocks—are ornamented with inscriptions. It is known that at one time every town and village in China had its 'pagoda of compassion for characters' a building in which scraps of written paper were burnt in order to spare them an ignominious end. As an image, the Chinese character is both ideographic and pictographic but since its development was completed—a very long time ago—it is no longer figurative and only indicates, stylistically, the essential of what it has to express. Was it even originally figurative? It is impossible to say, since no document has yet been found in confirmation. The oldest signs known are those on oracle bones *(chia ku wen* 甲骨文*)*, dating from the Shang or Yin Dynasty (1766-1122 B.C. or, according to the revised chronology, 1523-1028 B.C.).

a Characters written on oracle bones (rubbings) from the Anyang excavations. [From: *The Yin-Shang-Site at Anyang,* Nanking, 1946.]
Animal bones and tortoise-shells were pierced and suspended over a fire until cracks appeared, which were fashioned by soothsayers into signs which they read. Although still more or less realistic, these signs already have an abstract linear construction, partly conditioned by the cracks themselves. The second sign from the bottom on the rubbing (on the right) can be clearly seen to represent the moon: ☽. The regular sign for the word 'moon' 月 *(yüeh)* has on the whole retained the same structure.

b Two verses written in oracle bone characters by Yen-Yü-seng, a contemporary scribe, painter and poet. [From: Chiang Yee, *Chinese Calligraphy,* London, 1938-54.]
On the modern manuscript, the linear design and image is clearly outlined—in particular, the tiger (fifth sign in the third column, from above). Yen Yü-seng was able to use oracle characters as a form of artistic expression without exposing himself to the charge of archaicism since, in the Far East, once a form has been invented, it continues to be available and utilizable even if it has not been used for some time.

c[1] Bronze vase of the Shang Dynasty. [From: Hentze, *Bronzegerät, Kultbauten, Religion im ältesten China der Shang-Zeit,* Antwerp, 1951.]
The later phase of development of Chinese characters can be seen from numerous ancient bronze objects. On this bronze vase, regularly repeated characters are used as ornaments.

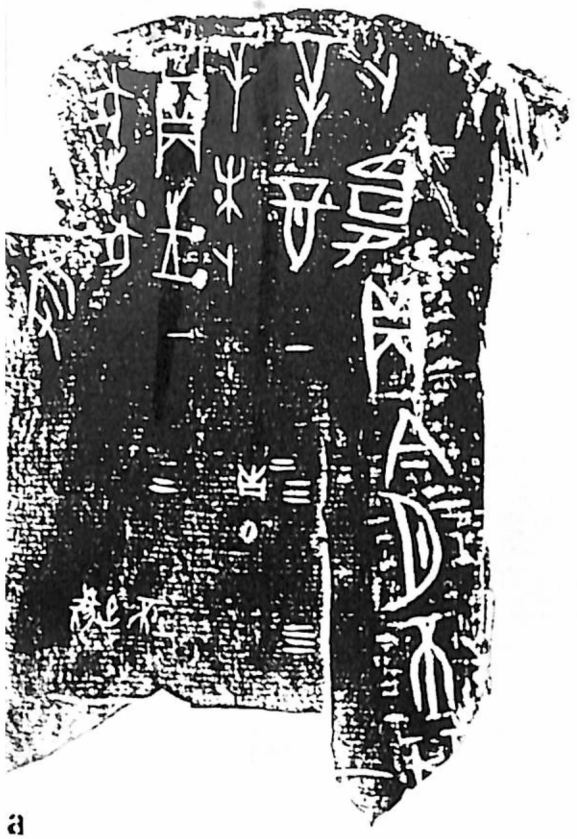
c[2] Bronze bell, Chou Dynasty (1122-255 B.C.). [Musée Guimet, Paris.]
Other bronze objects, and especially swords and bells, bear inscriptions in ancient characters derived from those of oracle bones. These characters are also called *ku-wen* (古文), a name often extended to all forms of writing prior to the seal scripts. The latter were not essentially different from *ku-wen* but rather represent a synthesis of their different variations. Lapidary inscriptions were already known during the Chou Dynasty.

d Rubbing of an inscription on a *p'an vase* belonging to the San family, Chou Dynasty. [From: Chiang Yee, op. cit.]
At this first stage of their development, the relatively simple signs of the oracle bones have already become more complete and graphic through combination and abstraction. The Great Seal script *(t'a chuan* 大篆 *)* developed later on this basis.

e Rubbing of part of a *t'a chuan* inscription on the drum of a column. [From: Chiang Yee, op. cit.]
T'a chuan writing. The lines are already elegant, with aesthetic elaboration, often by means of parallel duplication. These 'stone drum' inscriptions *(shih ku wen* 石鼓文*)*, dating from the Chou Dynasty, are considered to be the most ancient Chinese lapidary inscriptions.
In 221 B.C., the Chou Dynasty, which was based on Confucianism, was finally eliminated by the rulers of the Ch'in Empire. The new sovereign, Ch'in Shih Huang-ti, who ruled despotically and united China, is remembered with his minister, Li Szu, not only for having burned the books of Confucius but also for having devised a simplified form of writing known as Small Seal or *hsiao chuan* (小篆) which, reduced to a system of 3,000 signs, was henceforward to be the script mainly used by schoolboys and students. Li Szu is also credited with the first utilization of a method which combined pictographic with phonetic signs.

f Rubbing of an epigraphic inscription in the I Mountains by Hsu Hsuan, Southern T'ang Dynasty (618-906 C.E.). [From: Chiang Yee, op. cit.]
The *hsiao chuan* characters invented by Minister Li Szu are particularly clearly outlined in this copy. The two styles are not very different, and as far as is consistent with artistic freedom, they often merge.

g Extract from an essay written by Chao Chin Chien, statesman during the Ch'ing Dynasty (1644-1912). [From: Chiang Yee, op. cit.]
The relations between the two forms of seal characters are clearly visible. The seal characters gave rise to the seal,



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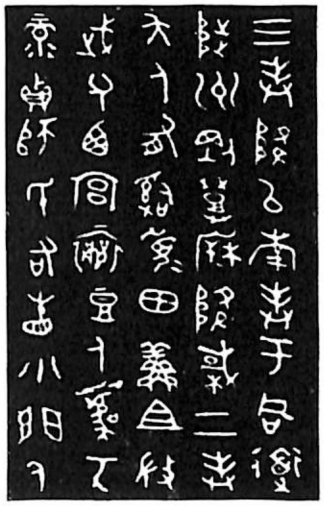
c2



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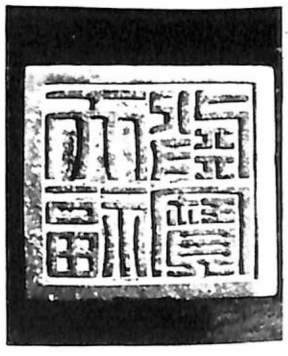

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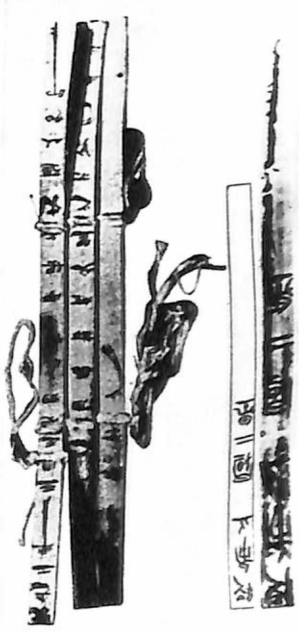


i

Chinese characters

which even nowadays still bears characters of this type and is used for signatures.

h[1] Seal affixed to the famous water-colour 'Li T'ai Po' of Liang K'ai (1140-1210). [From: D. Seckel, *Einführung in die Kunst Ostasiens,* München, 1960.]

h[2] Seal engraved on jade. [Musée Guimet, Paris.]

The highly stylized seal characters are carefully designed to fit into a square, oval or circle, and are angular and separate, or envelop each other, or are arranged vertically. The ancient seal characters are barely discernible.

i Bamboo tablets, covered with writing and bound. [From: *Bokubi,* review devoted to calligraphy, Kyoto.]

Writing material originally consisted of bamboo tablets or boards which could be bound together to form 'books', and of a kind of wooden stylus.

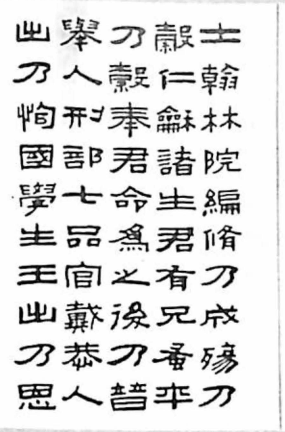
The seal *(chuan)* characters in Chinese writing, with their sinuous ornamentation, were still too difficult for the daily needs of scholars and officials. During the Han Dynasty (206-220 B.C.) which followed the Chou Dynasty, the superintendant of prisons, Ch'eng Miao invented 'official *li shu*' (隸書) writing, allegedly in order to simplify prison administration; according to another version, Ch'eng Miao worked out the *li shu* system while he was himself in prison. The appearance of *li shu* has also been explained by the fact that ignorant slaves and officials over-hastily educated to meet the existing demand had 'corrupted' *hsiao chuan* through their lack of artistic sense. In any case, it is from *li shu* that the basic forms still in common use today derive. These forms resulted from various changes, the first represented by *pa-fen* (八分), which was very close to *li shu* and which probably developed thanks to the invention of the fine brush.

a *Hsu ta fu chieh:* text in *li shu* by Chen Man Sheng, a writer of the Ming Dynasty (1368-1644). [From: Chiang Yee, *Chinese Calligraphy,* London, 1938-54.]

In this sample of *li shu* in the style of the Northern Wei Dynasty (386-535), the trend towards systematizing and highly stylizing the characters can be clearly seen. Their width, in contrast to the rounded seal characters, gives them an angular and somewhat stiff appearance.

There are various theories concerning the origin and mode of combination of the individual signs, which are very rarely formed of a single symbolic image and are generally constituted by two main elements: the radical and the phonetic. Six ways in which compound signs were formed have nevertheless been distinguished: (1) the indicative or self-explanatory, e.g., 'sun' ⊙ > 日; 'man', represented by the spinal column and the hand 𠂇 > 人; (2) the ideographic, for expressing abstract ideas, e.g., 'above' 丄 > 上 or 'below' 丅 > 下; (3) ideographic combination, e.g., 'belief' 信, a character formed by the sign for 'man' 亻 and the sign for 'word' 言; (4) analogy, i.e., representing words having similar pronunciation by similar sounds, e.g., *lai* 𪜀 ('withered cereal') becomes *lai* 來 'to come'; (5) combination of form and pronunciation, of sense and sound—the way in which 60 per cent of all Chinese signs since the Chou Dynasty have been formed, e.g., *wen* 文, which originally meant 'crossing', took on the sense of 'ornament' and then of 'literature', but to distinguish *wen* meaning 'literature', the sign for 'silk thread' 糸 was added to the sign for *wen* meaning 'ornament' 紋; (6) slightly differentiating, in writing- two words having a similar pronunciation and a similar meaning, e.g., *heng,* 亨 ('to prosper') becomes *hsiang* 享 ('to enjoy') merely by adding a stroke.

The three usual forms of Chinese characters derive from *li shu* after passing through intermediary forms. *T'sao shu* 草書 or 'grass' script derives from *chang t'sao shu,* which was the cursive form of *li shu* during the Han Dynasty (206-220 B.C.). *Chang* means 'essay' and *t'sao* means 'grass' but also 'draft', so that *chang t'sao* could also mean 'draft essay'. Like *chang t'sao shu, t'sao shu* (the development of which continued into the Wei Dynasty (220-265), is a fluid, rounded writing in which the signs often run into each other. A second form of cursive, the *hsing shu* or current writing (行書), originated almost at the same time as the 'clerkly hand' *k'ai shu* (楷書). *Hsing shu* was created at the beginning of the Wei Dynasty and *k'ai shu* towards its end. *Hsing shu* is



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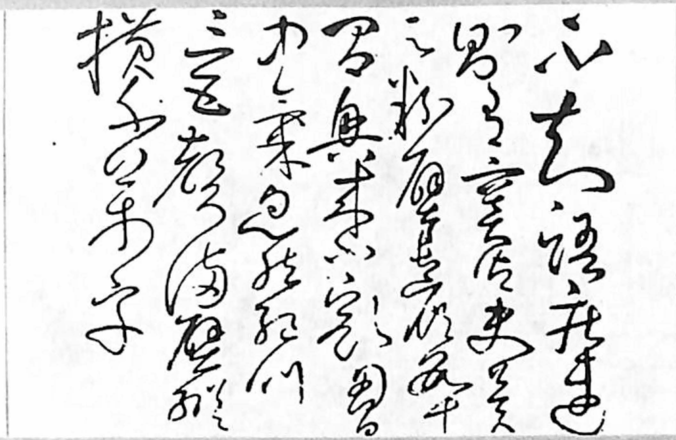

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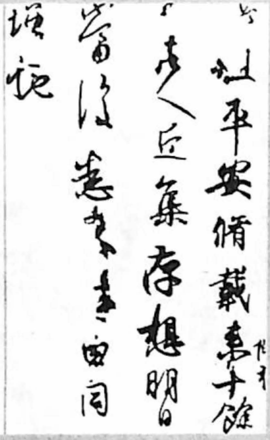

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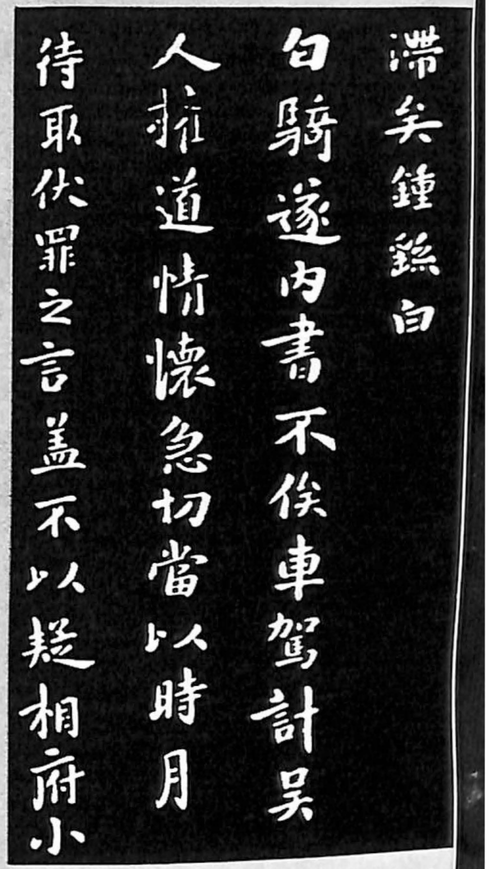
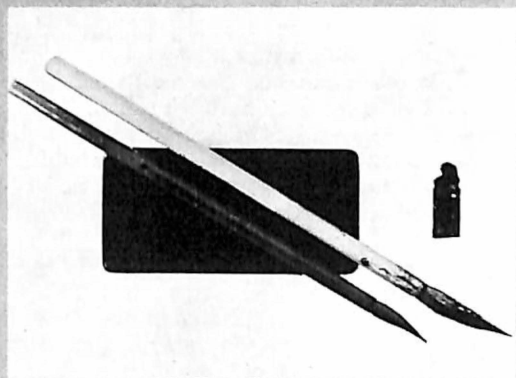

滯矣鍾繇白
白騎遂內書不俟車駕計吳
人推道情懷急切當以時月
待取伏罪之言蓋不以疑相府小

d

e



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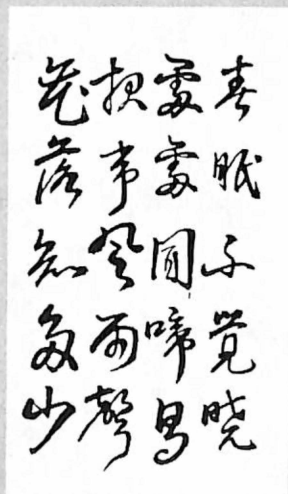

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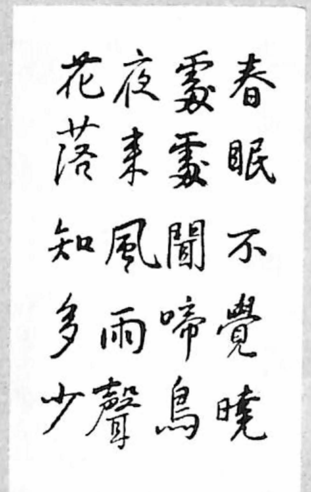
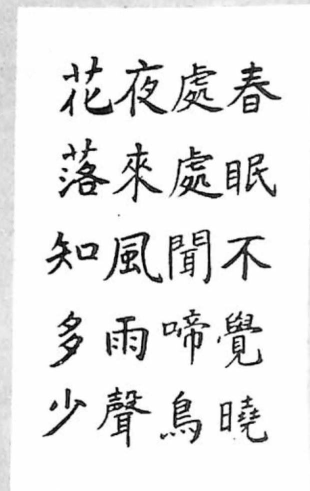

春眠不覺曉
處處聞啼鳥
夜來風雨聲
花落知多少


春眠不覺曉
處處聞啼鳥
夜來風雨聲
花落知多少

h

Chinese characters (cont.)

semi-cursive, and very close to *k'ai shu*. The latter is easier to identify: the number of strokes is clearly visible and the forms are drawn with precision. *Hsing shu* and *k'ai shu* later underwent a common development, so that almost every *k'ai shu sign* has a corresponding *hsing shu* sign. According to other theories, *k'ai shu* developed before *hsing shu*. In any case, the development was rapid. The invention of paper in the 2nd century C. E. greatly facilitated the advancement of writing.

b Extract from an autobiography, by the monk Huai Su, an expert in *t'sao shu*, dating from the T'ang Dynasty (618—906). [From: Chiang Yee, op. cit.]
Huai Su is supposed to have been particularly fond of wine, and to have written *t'sao shu* best when drunk. Reduced to poverty, he soon had no money left for buying paper, and so he planted banana trees around his cottage in order to use their leaves to write on.

c Feng Shu-t'ieh, text by Wang Hsi-chih; manuscript in *hsing shu* written during the 4th century C.E. [From: Chiang Yee, op. cit.]
In contrast to *t'sao shu*, which often links separate signs, the signs here are kept apart, but their structure is fluidly and flexibly rendered.

d Extract from a letter by Chung-Yu, Wei Dynasty, in *k'ai shu*. [From: Chiang Yee, op. cit.]
K'ai shu in its infancy. Each stroke of the characters can be distinguished—a particularly useful feature in official correspondence. This writing provides the basis for present-day type-script.

e Development of the characters for 'sun', 'moon', 'tiger' and 'receive' (right to left). [From: Chiang Yee, op. cit.]
In the course of its development, the sign for 'sun' departs somewhat from the direct symbol: a circle with a point in the centre. In the sign for 'tiger', an animal with head, claws and tail can be clearly recognized, but by linear abstraction this soon becomes a mere skeleton, made still more evident by rotation through an angel of 90°, i.e., by being brought around to the vertical.

f Chi Pai-shih, comtemporary Chinese painter; date and signature on one of his water colours. This figure shows that, in tracing Chinese characters, the brush should be held vertically, and the point delicately applied to the paper. The stroke is then rapidly drawn, light or heavy according to the structure of the character, and the brush is raised after the pressure has been increased or diminished.

g Brush, stone and ink. The most simple instrument for drawing Chinese characters. A little water is placed in the hollow in the stone and the moistened brush is rubbed on a Chinese ink tablet. The brush is composed of a handle made of bamboo or lacquered wood, which holds badger hairs of different thicknesses, flexible or hardened by a stiffener.

h, i, k
Poetry in *k'ai shu, hsing shu* and *t'sao shu* (right to left). The same text written by Dr. Tsung-tung Chang in the characters most currently used today in the Far East. The processes of simplification from the print characters to ordinary cursive is visible.

Influence of Chinese characters

It is very understandable that China's great intellectual feat in elaborating its own form of writing should have had repercussions outside the Chinese linguistic area. A whole series of peoples in the Far East have adopted the Chinese characters in whole or in part, or have drawn upon them in evolving their own script. The most important country which at a very early stage adopted the Chinese characters is Japan; the exact date is unknown, but it was probably during the 4th century C. E. Chinese annals for the period speak of messages from the Emperor of Japan to the Emperor of China written in Chinese. The first known example of Japanese writing, although not conserved in manuscript form, dates from 712 C. E. This is the Kojiki, the oldest Japanese historical work. But the simple adoption of Chinese characters was not sufficient for Japanese, which is a polysyllabic agglutinative language, whereas Chinese is monosyllabic. Japanese required syllabic characters which would indicate grammatical inflexions phonetically. During the 8th century, an attempt was first made to obtain this result using the *manyo gana,* a script in which the Chinese characters are used according to their phonetic values. It derives its name from the *manyo-shu,* the oldest Japanese lyrical collection, in which it is employed. During the 9th century, a form derived from the Chinese 'grass' characters *t'sao shu* (in Japanese sōshu), the *sō-gana,* a phonetic syllabic writing, later called *hiragana,* was used to indicate grammatical inflexion. This form of writing later acquired great importance for specifically Japanese calligraphy.

a Table of syllables in *hiragana,* showing the evolution of three syllabic characters. [From: D. Nagaya, *Nihon Bunganku Daijiten]*
The fifty-one syllables are classified vertically by their a, i, u, e, and o vowels and horizontally by the initial consonants ka, sa, ta, na, ha, ya, ra and wa. The column on the right shows the evolution of the syllables a, o, and ki from the Chinese characters *an* ('peace'), *yü* 'with', 'on', 'at') and *chi* ('how much').

b Table of syllables in *katakana,* with examples of the evolution of three syllabic characters. [From: D. Nagaya, op. cit.]
Katakana was invented during the 9th century as a derivative from the Chinese *k'ai shu,* probably as a sort of priest's shorthand designed to facilitate reading for students. The table is set out in the same way as for *hiragana.* The characters are more angular, and are mainly employed nowadays for foreign words.

c A young Japanese practising *hiragana.* The exercise is carried out on large sheets of paper with a big brush and, no doubt, plenty of enthusiasm. In the schools, the *kana* characters were, and generally still are, learned first. The form of writing which the Japanese language called for was obtained by combining *kana* syllabic characters with Chinese characters (known as *kanji,* in Japanese).

China also had a great influence on the civilization of Korea. After the Chinese had founded the flourishing colony of Lo-Lang (108-313) on the territory of the Korean State of Kokuryo and introduced literature and writing to the Koreans, Chinese became the written language of Korea, with Korean, which differs very considerably from Chinese in grammar and syntax, remaining as a vernacular for communication. An attempt was also made in Korea to use the Chinese characters phonetically, and this led to the invention of the *idu* script, very few traces of which remain. It was not until 1440, at the beginnung of the Yi Dynasty (1392-1910) that *han-gul,* a phonetic alphabet, was devised. In construction, it has nothing in common with Chinese although there are certain similarities in respect of its linear arrangement and in the rhythm of the writing. Later, texts were also written by combining Korean syllables with Chinese characters, more or less along the lines of the Japanese system. The invention of Korean syllabic writing was preceded in 1403 by printing with movable metal types. (Gutenberg was just three years old at the time!)

d Example of ancient printing in Korean characters, with a Chinese glossary. [From: O. Karow, Frankfurt a. M.]
It can be clearly seen that the writing is based on combinations of small rods, a system attributed to King Set-jong; the inventor could not entirely forget the forms of Chinese characters, however, as can be seen particularly by the vertical arrangement of the characters. According to another story, King Set-jong came to his invention by seeing the shadows thrown by window-frames.

e, f, g
Three different forms of Korean writing. [From: O. Karow.]
The small-rod writing soon gave rise to three different forms of script which may be called cursive, semi-cursive and 'clerkly'. In south and south-east China there were and still are ethnic groups whom the Chinese called the 'Southern Barbarians'. They have not yet been thoroughly studied, and are at a rather primitive stage of civilization but have nevertheless evolved their own writing, more or less under the influence of China. The inhabitants include the Miao, related to the Yao, mountain shepherds who form an ancient Mongoloid population that has some European features. The vocabulary of their language, which is called Thai-Chinese, does not seem to have anything in common with Chinese, but the writing has analogies with Chinese cursive.
A larger group is formed by the Lo-lo, together with the Lisu, the Lahu, the Akha and the Mo-so. These are also mountain shepherds who have spread as far as Thailand and the borders of India. It is mainly the scripts of the Lo-lo and the Mo-so which are known.

h[1] Lo-lo text with ideographic symbols. [Bibliothèque Nationale, Paris.]
Originally, Lo-lo symbols were almost

Influence of Chinese characters (cont.)

exclusively ideographic, but they are now used phonetically. Only certain fundamental forms appear to have a—very distant—resemblance to Chinese characters. The Mo-so, who inhabit the area between the Blue River and the Mekong, devised a very original script in which hieroglyphic signs and syllables are combined. The hieroglyphics form two groups: pictograms for designating animals and objects, and ideograms for abstract ideas. The syllabic signs, which are mainly used as phonetics, were derived from Chinese characters, ancient or modern, and from some Tibetan characters or corresponding pictograms.

h^2 Mo-so text in hieroglyphic-ideographic writing with syllabic correspondences. [From: Bacot, *Les Mo-so*, Leiden, 1913.]
This is one of the first texts so glossed. A form of the Chinese character 丄 > 上 ('above') repeatedly appears alongside the almost realistic pictograms. A script considerably closer to the Chinese was that of a people who have since disappeared, the Tanguts, who came from the north and conquered the northwest part of the Chinese province of Szechuan. By skilful politics they made themselves independent of the Chinese Sung Dynasty (960-1279) and founded the Ta-Hsia or Hsi-Hsia (Great Hsia or Western Hsia) Empire (1038-1227, which was destroyed in 1227 by a punitive expedition under Genghis Khan. On the initiative of the Emperor Li Yüan Hao, a national script based on Chinese was devised for the Tangut administrative language in 1038. Genghis Khan destroyed practically everything, and it was not until the 19th century that European experts found the remains of this vanished civilization: some lapidary inscriptions and then, among other things, a rich library which included woodprints, found in a *stupa* at Kara Khoto on the River Etsingol. The grammar and phonetics of the language have not yet been properly elucidated.

i Tangut text, Hsi-Hsia Empire. [From: O. Karow.]
The characters, although composed of separate strokes, can hardly be regarded as Chinese; the frequent repetition of small series of strokes is particularly striking.
In north-east Mongolia, the K'itans or Khitans have been known since the 5th century. In 907 they founded their own dynasty and, after conquering certain parts of northern China, adopted the Chinese name of Liao in 937. Between 1114 and 1125, this State was almost entirely destroyed by the Nüchen or Kin; the remainder were conquered by the Mongols in 1218. An occupying power and ruling dynasty in northern China, they soon adopted the Chinese civilization but, utilizing or drawing upon Chinese elements, they devised their own writing, known mainly by funerary inscriptions.

k K'itan or Liao text. [From: O. Karow.]
This text has not yet been deciphered. Despite the resemblance to Chinese writing, it cannot be read as Chinese. It is probably not purely ideographic and includes syllabic characters.
The Nüchen or Kin, a Tungus people, founded their own dynasty in 1115. They subsequently conquered the K'itans of northern China and then the Chinese Sung Dynasty (Northern Sung) in 1126, and established their supremacy in the area. In 1233 they were destroyed by Ogdai, the successor of Genghis Khan. Their power was mainly political and their culture was considerably influenced by Chinese techniques; nevertheless, a Nüchen writing did come into being.

l Nüchen text, from a petition. [From: W. Grube.] Still more clearly than the others, this text shows Chinese elements and even some purely Chinese characters. It cannot, however, be read as Chinese, as the elements are used with syllabic value.

あ	か	さ	た	な	は	ま	や	ら	わ	ん
き	き	し	ち	に	ひ	み		り	ゐ	
お	く	す	つ	ぬ	ふ	む	ゆ	る	う	
え	け	せ	て	ね	へ	め		れ	ゑ	
お	こ	そ	と	の	ほ	も	よ	ろ	を	

a

ア	カ	サ	タ	ナ	ハ	マ	ヤ	ラ	ワ	ン
キ	キ	シ	チ	ニ	ヒ	ミ		リ	ヰ	
オ	ク	ス	ツ	ヌ	フ	ム	ユ	ル	ウ	
ア	ケ	セ	テ	ネ	ヘ	メ	エ	レ	ヱ	
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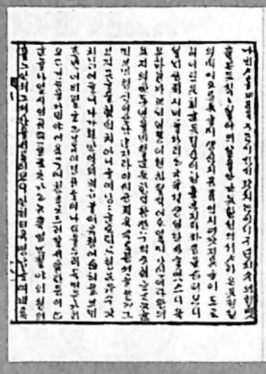

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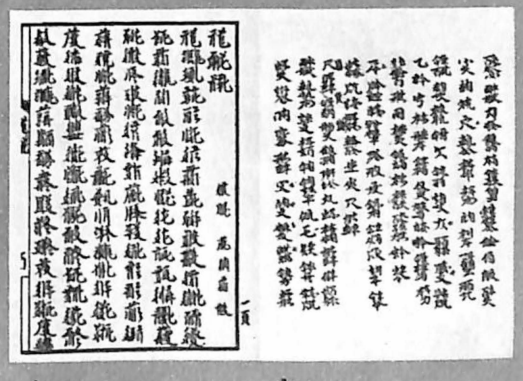

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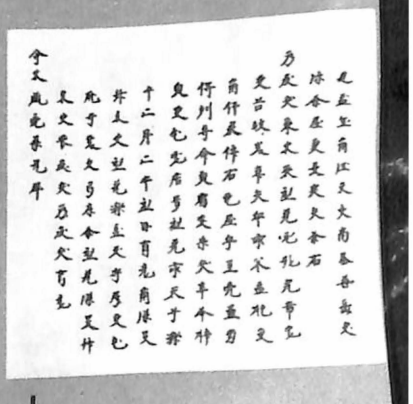


l

Chinese calligraphy

Once Chinese characters had acquired their full individuality, i.e., at the latest with *ta chuan,* the Great Seal writing, they were considered and used as elements of artistic creation. Texts and individual characters were drawn as works of art whose meaning harmonized with the form. A favourite practice was to write texts, poetry, and particularly dedications, on paintings. The forms of the characters and the lines of the painting combine naturally and often pass into one another. Once invented, all forms of writing could be used at any time. The old masters were admired, their works were studied and drawn upon without being imitated. A significant branch of painting with Chinese ink—particularly important for the manner in which illustration and writing combine—is Zen painting, which originated in connexion with Zen philosophy.

a The Zen priest Tan-hsia, by Yin-T'o-Lo; drawing in Chinese ink. About 1300, with an epigraph by Ch'u Shih. The characters are often independent of the drawing and it is not unusual to find they are by another hand. They are, however, associated as an additional figurative motif to the design even when the latter is practically realistic in execution. [From: R. Hempel, *Zenga,* München, 1960.]

b 'The main hall of the Temple of Fang Chang': mounted specimen of calligraphy by Chang Ch'i-ch'ih. The characters are here solemn and severe, in keeping with the gravity of the subject. From the early 13th century (Southern Sung Dynasty). [From: *Bokubi,* review devoted to calligraphy, Kyoto.]

c Autobiographical note by the celebrated *t'sao* master Huai-su. The characters are full of dynamic and personal expression, free of conventions. Written at the end of the 8th century (T'ang Dynasty). The association is still more striking when the drawing is in a free, practically abstract style. [From: *Bokubi,* review devoted to calligraphy, Kyoto.]

d Waterfall at Lu-Shan by Yü-Chien. The dark masses of the rounded mountains contrast with the lightness of the characters, which act as a kind of photographic screen. [From: *Bokubi,* review devoted to calligraphy, Kyoto.]

As the following examples show, images can combine with characters in many ways.

e A page from Tseng Yen-tung. Combination of text and figurative drawing. The characters form a space into which the figure seems to cram itself, and the virile strokes of the figure have something calligraphic about them. Written under the Ch'ing Dynasty (1664-1912). [From: Chiang Yee, *Chinese Calligraphy,* London, 1938-54.]

f Calligraphy by Yüeh-Chiang Ch'eng-Yin, mounted on a scroll. The *k'ai shu* characters, flexible but strong, contrast harmoniously with the purple and gold-shot silk of the scroll. Such calligraphic works were hung up in a room in the same way as paintings of landscapes or flowers.

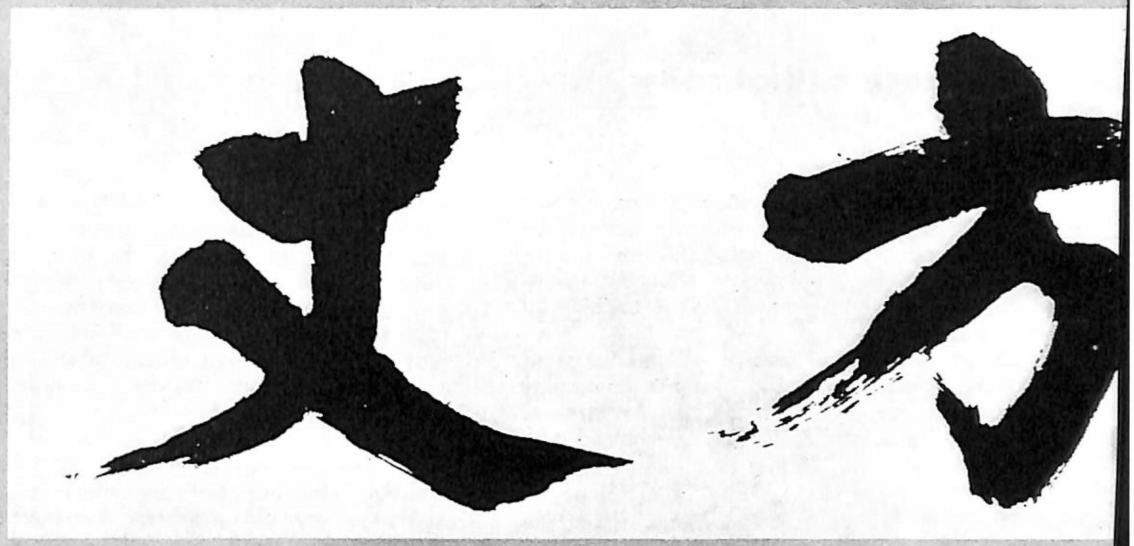
g Poem by Yang Fa (rubbing). Written in a charming mixture of *li shu* and *ku wen* characters. [From: Chiang Yee, op. cit.]

h Poem by Hsing T'ung, mounted on a scroll. Written in the 16th century (Ming Dynasty). Fluid *t'sao shu* characters give rhythmic form by means of oblique brush strokes fairly regularly distributed.

i Bamboo, by Hsiang Cheng Mo. Painting and calligraphy from the 17th century. The natural forms of the bamboo seem to be continued by the evocative lines of the *t'sao shu* characters.

Writing and drawing can be associated in very many ways. They are nearly always developed together so as to form a whole —not so much because the characters are figurative as because, in East Asia, drawing is akin to writing and writing is already an artistic form in itself.

a



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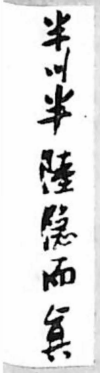

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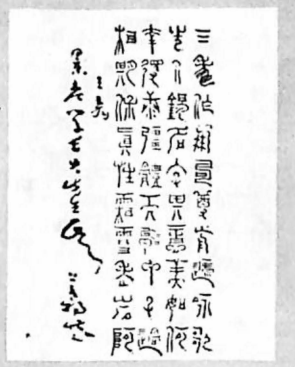

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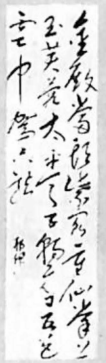


h

i

Japanese calligraphy

In Japan, as in China, calligraphy developed very rapidly. It was naturally influenced by Chinese forms, but soon found its own form and style, particularly after the invention of syllabic characters and especially of *so-gana*.

In Japan also, of course, all the forms of writing remain available and are commonly used, but the specifically Japanese form of calligraphy is cursive *(sōsho,* associated with *sō-gana).* As in China, the *kakemono,* or scroll for hanging, and the *makimono,* or roll book or picture to be held in the hands, were both popular. Many of the *makimonos* are several metres long, and present the great works of Japanese literature abundantly illustrated by designs which are often closely combined with the text to provide a unified image. That a great school of Zen painting also developed is easily understandable in a country where Zen philosophy took such a hold. In Japanese homes —even modern ones whose internal arrangement has had such an influence on modern interior decoration in the West—there is often a niche called the *tokonoma,* where a *kakemono,* illustrative of the art of calligraphy (*sho* in Japanese), is suspended. Again, characters are often written on sliding doors, on the tea service and on many other objects. And because Japan is a country which has been able, despite intensive industrial development and post-war chaos, to revive its traditions and live again, it has also been possible to give new life to the art of *sho,* Japanese calligraphy. The modern masters of *sho* draw upon the works of the 17th century, enriching them from contemporary experience.

a Illustrated sutra; describing the life of Buddha. 8th century. In this illustration, the Chinese characters relating the Sutra of 'past and present karma' form a pedestal, as it were, to the episode represented. [From: *Japan—Ancient Buddhist Paintings,* Paris, Unesco, 1959 (Unesco World Art Series).]

b Story of Prince Genji (Genji-Monogatari). Here the text forms a perfect union with the illustrations beneath. The flowing Japanese *sōsho* characters become images and the delicate forms of the landscape become signs, but both remain recognizable even when they merge to form vibrant surfaces. This story of Prince Genji was written by an unknown master in the 12th century. [From: Moriya, *Japanische Malerei,* Wiesbaden.]

c The character for 'death', written by the great Zen philosopher Hakuin (1685-1768). Hakuin, who has a great influence on contemporary calligraphers, often wrote the sign for 'death'. Here he accompanies it with an inscription: 'He who has penetrated this is beyond danger.' The association of character and image is closer in Zen painting than in any other. [From: *Bokubi,* review devoted to calligraphy, Kyoto.]

d Rice pestle by Torei (1721-92). Painting in Chinese ink. Here the object, which has become a character, almost forms a single unit with the surrounding characters. [From: R. Hempel, *Zenga,* München, 1960.]

e Monk engaged in meditation, by Sengai (1750-1837). Painting in Chinese ink. The body is rendered by a calligraphic stroke. The surprising heaviness of the brushwork is deliberate, and is occasionally characteristic of the style of Zen painting. [From: R. Hempel, op. cit.]

f Branch of a plum tree, and nightingale, by Hakuin (1685-1768). Painting in Chinese ink. The characteristic gnarled appearance of the plum tree branch reappears in the style of the characters of the inscription on this sheet, painted by one of the principal masters of this style. Image and characters are smoothly combined. [From: R. Hempel, op. cit.]

g 'The Way contains all things': religious dictum by Muso Soseki. This work of *sho* art, written at the beginning of the 13th century, is a good example of the elegant and fluid writing that was also expertly practised in Japan. [From: *Bokubi.*]

h *Makimono* (roll-picture) by Sotatsu, with an inscription by Koetsu, 17th century. Two masters have combined to produce this work. The slender characters used for the 13th-century selection of poems by Shin-Kokin-shu emphasize the grace of the animals. From: *L'art japonais à travers les siècles,* Paris, 1958.]

i Text by Gakutei. This text, written at the beginning of the 19th century, is a good example of the combination of *kaisho* (clerkly hand) and *sōsho* characters. Contemporary masters are free to use all kinds of possibilities and styles, including the most free and relaxed; but despite all their freedom, they do not forget the fundamental form, *kanji.* [Musée Guimet, Paris.]

k 'Return to the original *kan',* by Morita Shiryu, written in 1961: concentrated lightnes [Exhibition 'Sense and Symbol', Darmstadt, 1962.]
or, using the ancient characters on Chinese bronzes,

l Variation on an inscription by Nishikawa Yasushi, written in 1961 [Exhibition 'Sense and Symbol'].
The living spirit of old China.
or

m 'The Hero', by Inoue Yuichi, written in 1961: the discipline of *kaisho* (clerkly hand) in a modern, independent form, of almost monumental power.
Writing in East Asia is an action of extraordinary importance and calligraphy is considered the supreme art. It is nevertheless open to anyone who has learned the characters. Hence in China, as in Japan, *sho* or calligraphy is taught from school age onwards. Many masters of *sho* live by teaching, and that certainly demands more than the hour a week devoted to it in the West. In Japan, these teachers have formed associations, and various periodicals are devoted entirely to their art. The *sho* associations organize at least two exhibitions a year, and the exhibits are hotly discussed. [Exhibition 'Sense and Symbol'.]

C

The scripts of East Asia in everyday use

In the Far East, where literature, philosophy and calligraphy have attained so high a level, printing was also invented very early: in China in 590, in the form of printing from wood blocks. Movable type in clay and wood appeared around 1050, under the Sung Dynasty (960-1227); movable metal type was introduced into China, towards the end of the Ming Dynasty (1368-1644), having been invented by the Koreans (1390). Japan adopted the Chinese block printing method in the 8th century.

a Chinese printer's case. This case differs little from an alphabetical character case; the characters used for titles can be seen.

b Chinese book. Bound in the old-fashioned way used for block printing. The characters can be almost more striking than pictures; hence advertising in East Asia still relies mainly on the use of characters.

c Restaurant signs in a street in Tokyo. The characters are transformed into images: the passers-by no longer read them, it is sufficient to grasp what they represent. [From: D. Keen, *Living Japan,* London.]

d Street in Fusan, Korea. Advertisement banners inscribed in Korean, exactly similar to those found in many other East Asian cities. Block printing in colour is flourishing in Japan, where it used to be regarded as a popular art of little standing, but it had a great influence in the West. It, too, combines image and character.

e Portrait of the poet Hitomaru, School of Hishikawa Moronobu, 17th-18th centuries. The poet is drawn, even to the face, with characters from one of his celebrated poems. [From: Collection Strauss-Negbauer, Berlin, 1928.]

f Portrait of an actor, by Tomigawa Fusanobu, 18th century. The portrait is framed by characters which follow the outline and thus combine with it. [From: Collection Strauss-Negbauer, Berlin, 1928.]

g Modern seal by Ikui Shikawa. The ancient signs are still used. In modern book-printing, the technique of binding alone has been borrowed from the West. [From: *Bokubi,* review devoted to calligraphy, Kyoto.]

h Modern printing of a classical work I. *Hiragana* used in combination with *kanji* as a guide in reading the latter in particularly difficult texts, as in this edition of the celebrated old tale *Takeforitori-Monogatari,* the Tale of the Bamboo-Gatherer. [Verlag Iwanami, Tokyo.]

i Classical work II. *Kanji, hiragana* and *katakana* used horizontally, in combination, in association with Latin characters, in a reference work on newspaper Japanese [*Asahi-Shimbun,* Tokyo.]

The designing of modern book covers has greatly developed in Japan in recent years, and has produced some interesting and very original results which depend mainly on the use of characters.

k Modern book cover I, with the title in *kanji* and *kana*. The title is freely drawn but legible: *Ima-nonungyō* (Modern puppets). [Verlag Nihon Keizai, Shimbunsha, Tokyo.]

l Modern book cover II, with inscription in *kanji* only. The rigid and uncompromising forms of the *kanji* script stand out on an elegant background, and the Arabic figures harmonize well with them. This is the cover of a modern music review issued by the *Ongaku no tomo sha* (Friends of Music Society, Tokyo).

d

Pictograph writing in the Mexican cultural region

Of the many civilizations which arose and declined successively or simultaneously in ancient Mexico, only the Aztec civilization evokes a clear picture in our minds. Like the Incas of Peru, the Aztecs come at the end of a long cultural development which abruptly ended in the fatal clash of two antagonistic worlds. The historic memory of these 'barbarians'—the last to arrive in the fertile upland valley of Mexico—goes back only a few centuries.

The theocratic civilizations of the classical era and the creations of the pre-classical peoples who preceded the arrival of the Europeans are lost in the mists of pre-history. Only the grandiose ruins of such religious centres as Teotihuacan and Monte Alban have survived the destruction by war and relentless nature. The Aztecs believed that these pyramids were the legacy of one of the four worlds which had preceded their own; and it was not until the archaeologists of the present century began their excavations that the past eventually came to light. Scientists have assembled their finds, as it were, stone by stone, to reconstruct the mighty mosaic of the old 'New World', giving to nameless and script-less peoples the names of excavation sites or of present-day provinces. Large parts of the mosaic are still missing and perhaps always will be.

The basis of the advanced civilizations of Central America was the cultivation of maize. Second in importance among man's foodstuffs, maize enabled peoples who had hitherto lived by hunting and food-gathering to give up the nomadic way of life. According to the most recent research, the decisive change took place between 5000 and 3500 B.C. It became man's concern to burn down and clear forests and to fix the time of sowing. The invisible and seemingly capricious forces of nature were transformed into abstract entities, agrarian divinities demanding rites and sacrifices at fixed dates. From this need to 'feed the gods' stems the calendar and its symbols, created by an *élite* which supplanted the *shamans* and the medicine men with their magical signs.

The oldest monuments with inscriptions—the so-called *danzantes* (dancers)—date from the 7th century B.C. and were cut by a still unknown people. In style, the Monte Alban I images recall the Olmec civilization—also called the La Venta civilization—of the Gulf Coast. From this sub-tropical region comes the inscription with the oldest date so far deciphered, corresponding to 31 B.C. by our calendar. The people who left these monuments have disappeared, but their achievements remain. The calendar, script and certain religious concepts survived among other peoples, who constantly sought to improve on what they had taken over. With the calendar as with writing, the greatest improvements were made by the Maya Indians (see panel opposite). The Mexican peoples (Zapotecs, Totomacs, Toltecs, Mixtecs and, finally, Aztecs) never succeeded in getting away completely from natural models in their writing.

The oldest stone monuments generally portray sequences of mythical or semi-mythical images. These are the immediate ancestors or possibly even the contemporaries of pictographic writings which have long disappeared.

The Mixtec civilization has left us the finest documents, folding books which take us back almost without a break to the 7th century and contain the family trees of the rulers. The traditional myths of this mountain people, endowed alike for the arts as for war, go back still further and tell us of semi-divine ancestors who emerged from a cave near Apoala—or from a tree, according to another text—and begot the Mixtec people.

The Aztecs—these *parvenus,* as H. D. Disselhoff so aptly calls them—adopted the form and technique of the Mixtec pictograph. When they first came to the central plateau they were no more than a small tribal group, poor and barely tolerated. But they proved to be like new wine in old bottles, and in less than two centuries they succeeded, partly by diplomacy and partly by force, in making almost all the peoples of Mexico their tributaries. And thus, for the first time in the history of ancient Mexico, writing was used in the service of economics, as it had been in the Old World since 3000 B.C. With the Aztecs, all that remained of the Mixtec pictograms, religious compositions with their shimmering colours and sensitive and strongly outlined forms, was in most cases a crude paraphrase.

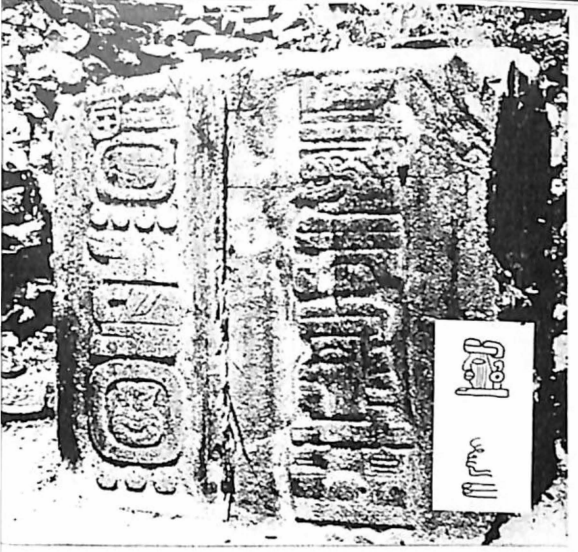
a, c
Monte Alban steles, with the oldest inscriptions (about 500 B.C.); probably calendar reckonings.

b, d
Steles from the classical period (500-1000 C. E.). Pyramid temples in the background.

e Genealogy represented by footprints: 'Four crocodiles', son of 'Eight stags—tiger claw', and 'Thirteen snakes—flower snake'. (Note the number of spheres.)

f Chief 'Nine houses' goes to war and takes prisoners.

g Indian illustrated manuscript (about 1500 C. E.). The conquistador Cortes is received with presents. Legends in Aztec, written in Latin script.



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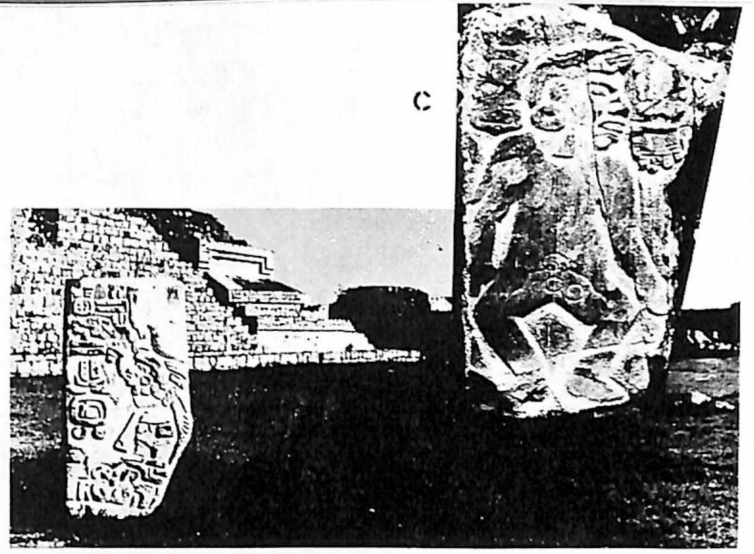

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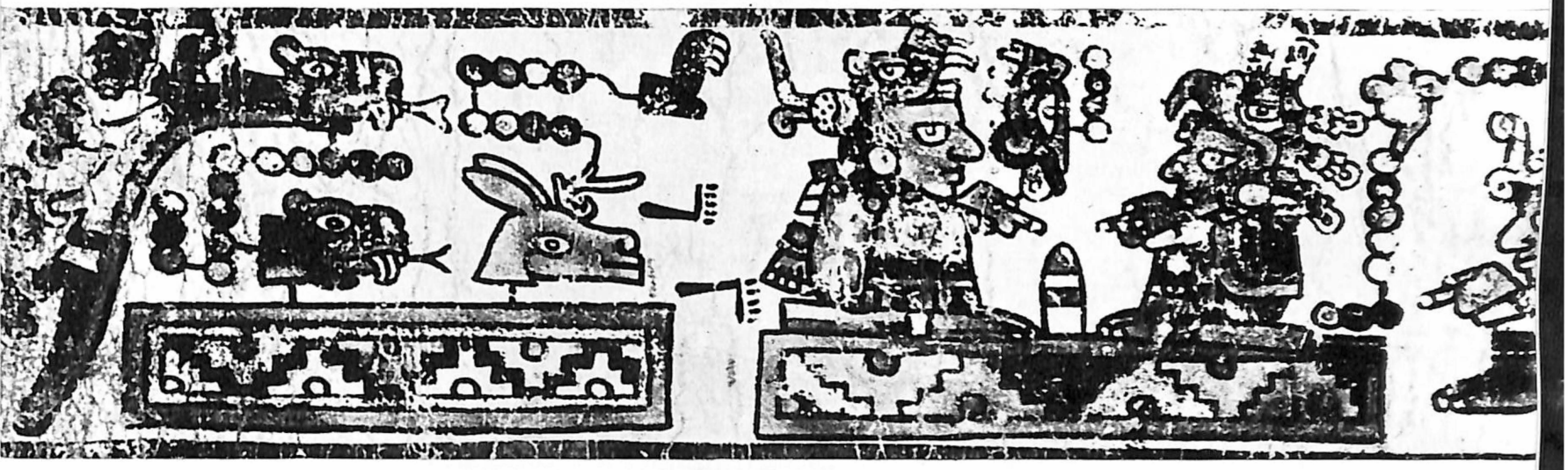

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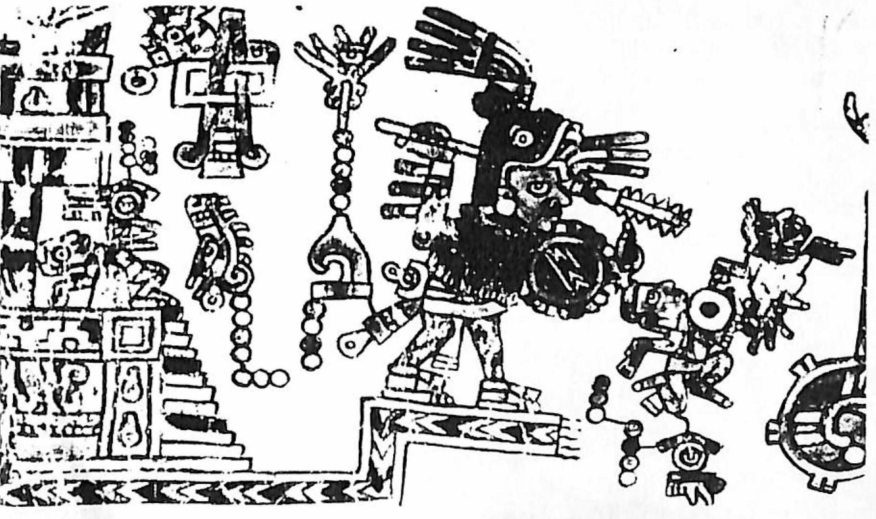

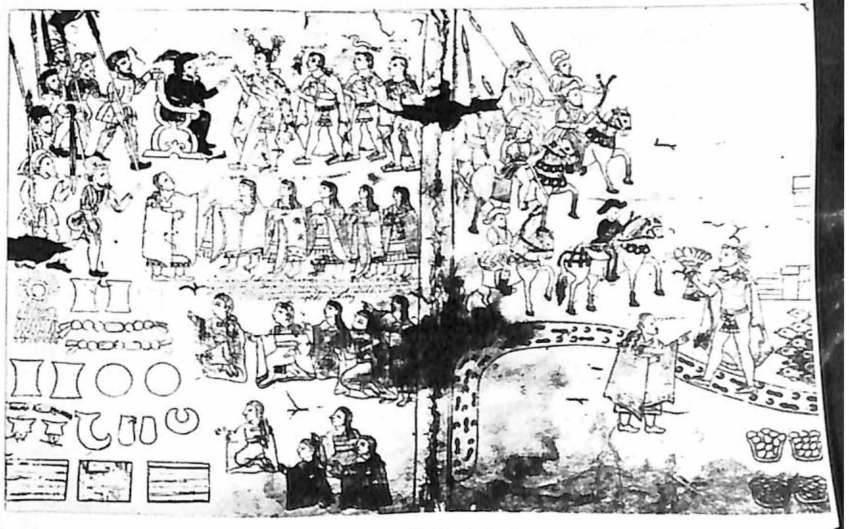

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Maya writing

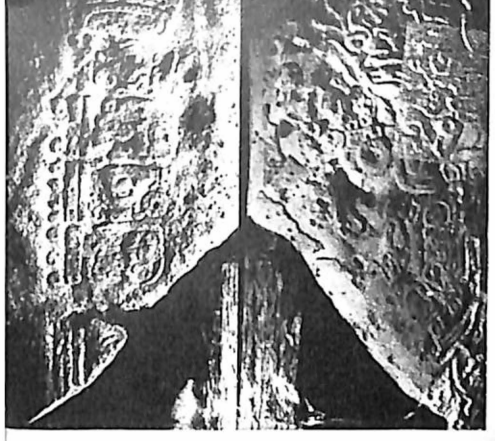
Almost two million Maya Indians still live in Mexico (Yucatan, Chiapas), in Guatemala and in the western parts of Honduras and El Salvador. Their ancestors were the representatives of the most flourishing of the great civilizations of the New World; but, for centuries, the religious cities of the classical era (292-909 C. E.) remained abandoned in the uninhabited and impenetrable forests of Petén and Chiapas, buried under the devouring vegetation of the tropical jungle.

Architecture, sculpture and writing were entirely in the service of the theocratic régime of the priestly princes, of the religion they had elaborated and of their calendar, which surpassed even our own in accuracy and regulated all the actions of everyday life.

'These people use certain signs or letters in recording their ancient history and their doctrines in books. With the help of these letters, accompanied by drawings and figures, they understand history and get others to learn and understand it. We have found great numbers of these books and, since they contained nothing that did not bear the mark of superstition and of the deceits of the devil, we burned them all, to the great regret and affliction of these people.' Recalled to Spain, this is what Bishop Diego de Landa wrote in 1556 to justify his abuse of power, in his *Relación de las Cosas de Yucatan*. The men of the Old World, brought up in the shadow of cathedrals and under the menace of a fanatical Inquisition, could scarcely measure the immensity of the havoc caused by these *auto-da-fés* of books and by the destructive zeal of pious missionaries. Only three of the many Maya books survived the devastation of a tropical climate and the fires of the Inquisition, and reached Europe. The Dresden Codex is the most outstanding, both as a document and as a work of art. Its hieroglyphics reckon the revolutions of the planet Venus, which played a vital role in the old American religion as both the morning and the evening star. A simple multiplication will show the importance of the revolution of Venus in the solar calendar: eight solar years (365 x 8 = 2,920) correspond exactly to five Venus years (584 x 5 = 2,920). These remarkable mathematicians and astronomers had thus found a way of verifying their solar calendar every eight years. In addition to these two calendars, there were lunar calendars inscribed on steles and a day-reckoning *(tzolkin)* for farmers, corresponding to a cycle of 260 days. The calendar hieroglyphics, representing about one-third of the known characters, were deciphered a few decades ago, and can be found engraved on temples and staircases, on the steles which served to measure time, and on ritual vessels. This old and learned civilization which, independently of the Indians of India, had used the abstract figure zero and was able to calculate and note dates no matter how far off in time, has thus left us a faultless chronology from 292 to 909 C.E. Of this civilization, we know when it existed, but not the why or wherefore, or who its representatives were. We know no historic figure of the period; we do not know the old names of the abandoned towns; we do not even know what names the Mayas gave themselves.

Almost 1000 steles, bearing inscriptions carved with flint or obsidian knives and dated by means of hieroglyphics, show priests officiating. The pictograms and inscriptions on stairways and wall panels speak to us, but we do not understand them—at least, not yet. For us, the most eloquent civilization of ancient America remains one of the most silent. All that is left for us to do is to marvel at its artistic and scientific achievements. What remains are the pictorial elements of its writing, which are never empty images but which, combined with other signs, form a complete work of art. Three young Soviet mathematicians recently announced that they had deciphered the Maya writing with the help of an electronic computer; in forty hours, the electronic 'brain' found the solution which so many experts had dreamed about and would have required several thousand years of work by the entire population of the earth. But decipherment is still not enough. As the Soviet expert Sobolev declared: 'The archaeologists and historians must now try to restore to this deciphered language its original soul'.

a Date hieroglyphics. Front and back of a stele at Tikal, Guatemala, bearing the oldest known Maya date: '8. 12. 14. 8. 15' (6 July 292 C.E.).
b Honduras stele, 782 C.E.
c Two full-figure initials heading a series of glyphs and symbolizing periods of time (672 C.E.).
d The god of death and the god of the young maize. Detail from the Dresden Codex (12th century), enlarged five times.
e Marker stone, with ball-player (580 C.E.).
f Bowl painted in colours, with the figure
g Counting in units from 0 to 19; points and strokes also used:
. = 1, ... = 3, — = 5, ≡ = 17
h Glyphs indicating dates, on stucco.
i Door-frame, with a recumbent figure and dates.
k Left: burden of the woman—God of War. Right: burden of the woman—fire.



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Material and media

We know that the men to whom a historical error assigned the collective name of 'Indians' spoke languages which formed 123 different families. It was towards the end of the last Ice Age, 15,000 to 25,000 years ago, that a small group of immigrants crossed over from Asia to the New World via the Bering Straits. These tiny communities, living by hunting and food collecting, developed into tribes and peoples, only a few of whom attained a high level of culture. Under the influence of climatic and geographical conditions, three great centres of civilization formed: (a) in what is now Mexico, culminating in the Aztec civilization; (b) a little further south, the civilization of the Mayas; and (c) in the central part of the Andes, the civilization which culminated in the powerful empire of the Incas. This last-mentioned civilization was highly developed socially but knew nothing of writing; all its records were kept in the heads of the *quipu camayocs* or 'guardians of the knotted cords', and was orally transmitted from generation to generation. These coloured cords *(quipus)* and the knots they bore served as memory aids for government officials. Lacking any texts to explain them, they represent no more to us than lifeless objects, like a handkerchief knot which no longer reminds us of anything.

The Mayas and the Mexican peoples—Olmecs, Zapotecs, Toltecs, Mixtecs and, finally, Aztecs—knew about writing. Their oldest inscriptions are cut in rock, engraved on stone, imprinted on clay or painted on frescoes. From later times, we have folding books, several metres long and made of deerskin parchment or the Mexican vegetal paper known as *amatl* or *quauhamatl* historical or religious events or ideas being represented on the lime-painted surface in fine brush strokes. The persons represented are accompanied by glyphs bearing a name or date and, often, by an indication of the person's genealogy. The name-glyphs use the combinations of twenty signs and thirteen figures of the Mexican calendar, since a man's date of birth was equivalent to his name for the whole of his lifetime. Delicate colours play an important part, usually symbolic, in the pictograms, and were obtained from mineral, vegetable or animal substances. Cochineal was used to reinforce red obtained from an iron base and give it a purple tint; it was to obtain this insect that the Aztecs conquered the Zapotecs: at least, so the tradition runs. In any case, cochineal is included with other precious objects in the tribute inventories.

All the types of writing attempted by the ancient peoples of Mexico remained connected with the image, i.e., with an object. The Maya Indians alone succeeded—strangely, without apparent transition—in getting away from the object and devising a system of signs which only in exceptional cases any longer had any connexion with a specific object. In the case of numerals—at the present stage of research on the subject, only the date-hieroglyphs can be confidently used as a basis for argument—two systems of notation were used, in all probability secular and sacred in their respective origins. The secular system had an abstract sign for 0, a point for 1, and a bar for 5. In the sacred system, the numerals are represented by heads. Are these representations of gods? It is difficult to say, but it is quite possible since—in the same way as, for example, 13 June in the Catholic calendar is the feast of St. Anthony of Padua, each day or period in the Maya calendar came under the patronage of a divinity.

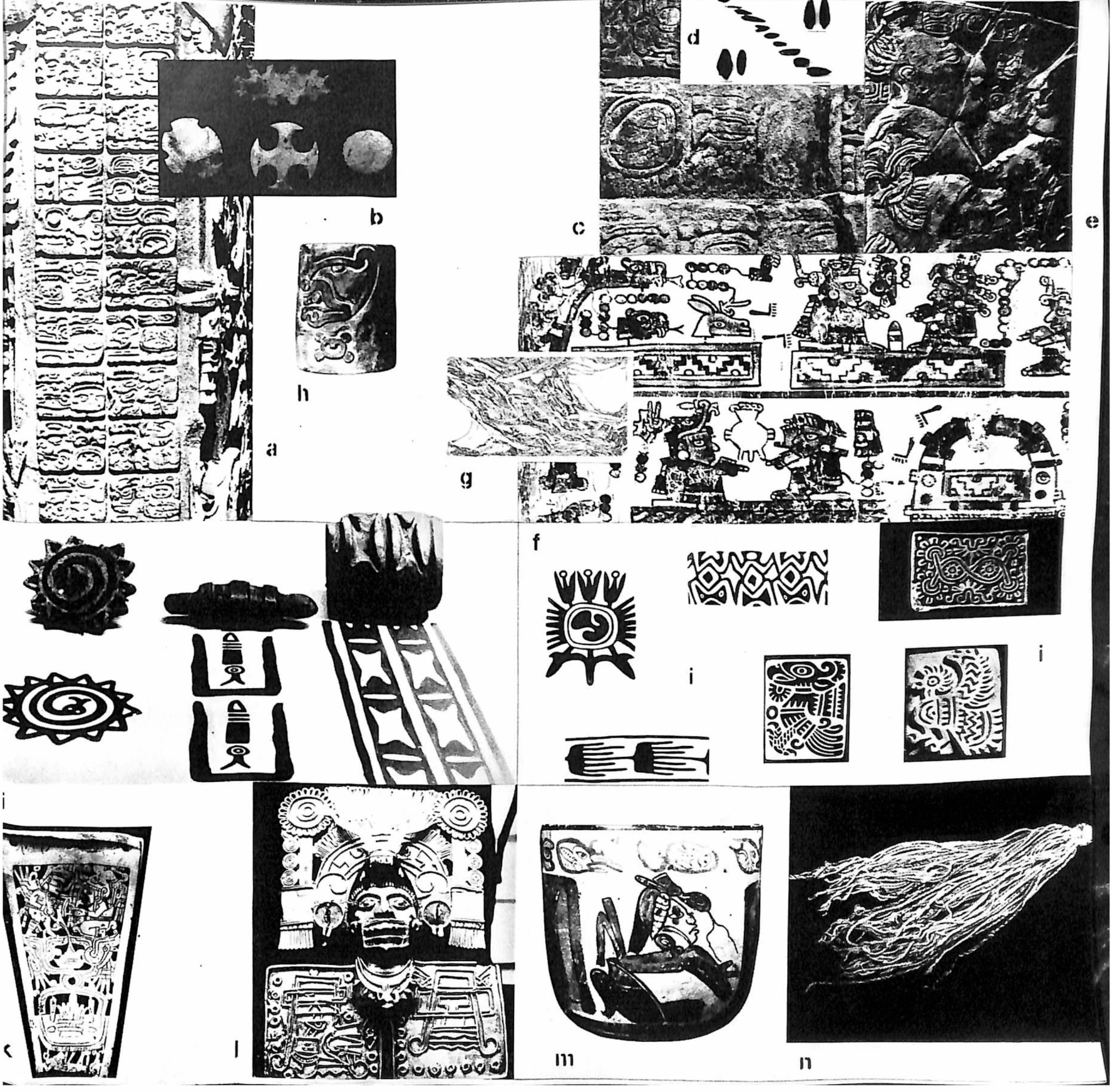
Starting from geometrical ornaments and magic signs, writing in ancient America developed to the stage of hieroglyphs after passing through the ideogram stage (the next stage would have been that of alphabetic signs).

The most ancient forms appear particularly clearly on clay seals. This ancient 'printer's material' was used to impart fragmentary data designed to evoke specific associations of ideas. They were used to put magic signs on paper and on clothing, and to adorn the semi-naked human body. From the earliest times, their abstract motifs, supplanted later by purely geometrical or figurative motifs, were used on the sides of vases. Prefigurations of the human spirit, many of these images incised on clay seals 3,000 years ago today recur in modern paintings in the present century.

The Mayas cut their glyphs on stone steles (a) with flint tools (b); carved inscriptions on stone stairways (c) with obsidian tools (d); and used stones to write on stone (e). They represented the genealogies of reigning houses (f) on deerskin parchments or on special paper obtained from plant fibres (g). The founders of Monte Alban engraved the signs of their calendar on clay beakers (h).

Nearly all the inhabitants of Central America and the Peruvian coast used seals (i) for imprinting designs on their bodies or on cloth.

The peoples who lived along the shores of the Gulf of Mexico engraved the stories of their gods on bone (k); while the Mixtecs, using a mould, cast the signs of the calendar on their gold trinkets (l). The Mayas painted the characters of their writing on earthenware vases (m), and the Incas of Peru used knotted cords to keep a tally of their subjects and their property (n).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The alphabet comes to Europe

It was in the 10th century B.C. at the latest that Phoenician script was transmitted to the Greeks, probably by Semitic traders. The characters in the oldest inscriptions largely coincide with the Phoenician ones and, like them, are written from right to left, following the natural movement of the hand; the practice of writing from left to right, so that one can see to read as one writes, was adopted later. Even the names of the letters were borrowed from the Phoenicians. The Greeks perfected the alphabet by adding separate letters for the vowels, since vowels did not exist in Semitic scripts. During the 4th century B.C. the Ionic script (d) became the common one in all Greek lands. During the classical era, the writing acquired the harmonius and balanced form known as lapidary (d).

The use of a reed or brush for writing led to the adoption of the rounded 'uncial' script (e), from which the Coptic (f) and Slav (g) scripts derive. In the 9th century C.E. the minuscule script (h) appeared, using small characters and elongating the letters upwards or downwards. With minuscule it was easier to write rapidly, and in consequence it gradually replaced uncial for correspondence purposes.

The alphabet was transmitted by the Greeks to the peoples of western Europe and eastern Europe in two great streams (see panels 27 and 28). Little was added thereafter, but writing has since undergone many variations of form and style.

a Inscription on a column in the Isle of Lemnos, about 630 B.C. Language not yet deciphered. The writing has considerable analogies with Etruscan (panel 27); the two may possibly have had a common origin in continental Greece. The writing is 'boustrophedon'. [From: Cohen, *La grande invention de l'écriture et son évolution*, Paris, 1958.]

b Ostraca bearing the name and deme of the Athenian statesman Themistocles; used as a ballot in voting his banishment. 471 B.C.

c Inscription from Lydia, Asia Minor. 4th century B.C. The Lydian script borrows most of its forms from the Greek.

d Treaty between Athens and Samos by which the Athenians granted the franchise to the Samians who remained faithful. 405 B.C. Marble column. [Acropolis Museum, Athens.]

e Greek uncial writing on papyrus. 2nd century B.C. The papyrus contains the first chapters of the Gospel according to St. John and is one of the oldest New Testament documents.

f Coptic writing, with titles in Arabic. About 1480 C.E. Script devised by Christian Egyptians on the basis of Greek uncial, with some demotic signs added (see panel 10). [Bibliothèque Nationale, Paris.]

g Manuscript in Cyrillic script. 11th century C.E. This script was developed from Greek uncial, some signs being added for specifically Slav sounds. [From: Cohen, op. cit.]

h Greek manuscript in minuscule from the Monastery of Paphos, Cyprus, 12th century C.E. [Bibliothèque Nationale, Paris.]

i Trilingual inscription on the base of a metal column found in Sardinia. About 180 B.C Votive offering by a Carthaginian official to the God of Healing. The first line is in Latin, the second and third are in Greek, and the fourth and fifth are in Phoenician. The last two lines read from right to left. [From *Corpus Inscriptionum Semiticarum*. Paris, 1881.]

(On the panel: chart of influence streams.)

a

b

d

Alphabets of the Etruscans, the Romans and the Germans

Greek settlers introduced writing to Italy, possibly with Cumae (Naples), founded in the 9th century B.C., serving as the transmission point. In Italy, the Etruscans were the first to practise writing; and at a very early date —perhaps from the 8th century, since they still wrote from right to left, just as the Greeks, following the Phoenicians, still did at the time (a), (b). Despite the abundance of inscriptions, it has not yet proved possible to decipher the lost language of the Etruscans. From their Etruscan neighbours, the Romans borrowed their alphabet together with much else of their civilization, and this alphabet, in the form the Romans gave it, has spread to vast areas of the world.

Like the Greeks, the Romans derived from the clumsy letters of the archaic period (c) a monumental lapidary script representative of the majesty of the Imperium Romanum and mainly used on official monuments (d). A comparison with the bronze plate (e) shows how the deliberately disciplined writing is built up from a small number of basic elements, horizontally and vertically balanced. This form of classical writing, intended for engraving on stone, is still as attractive today. Not only did the Renaissance go back to it, but our present-day 'antique' characters draw upon its rational spirit.

Letters written with the calamus or the stylus are more flexible, elegant and slender even when, as in the 'rustic' script (h), they are written as capitals. Indeed, the capital letter can become sensitive and intellectual when inscribed on a wax tablet by a nimble hand (g).

Germanic runic writing is a developed and modified form of certain north Italian alphabets, and seems to have appeared before the 3rd century B.C. in Scandinavia, where it mainly spread. It was originally used for magical and ritual purposes only (magic, drawing lots, exorcism), to supplement or substitute for ancient religious signs. The normal development is for writing to pass from religious to secular use, but the Germanic rune-smiths confined the use of this perfected and practical writing (i, k) to ritual and magic. With the spread of Christianity, runic writing gave way to the Latin script associated with the new doctrine, but it has remained in use in remote parts of Sweden up to the present day.

a Etruscan inscription on the wall of a tomb. Reads from right to left. [From: Buonamici, *Epigrafia etrusca,* Florence, 1932.]

b Etruscan alphabet from Marsiliana, engraved along the border of a writing tablet. 8th or 7th century B.C. Reads from right to left. [Archaeological Museum, Florence. From: Buonamici, op. cit.]

c The oldest Latin inscription, on the *lapis niger* in the Roman Forum. About 600 B.C. in 'boustrophedon' style (changing direction from line to line). The Latin alphabet derives from that of the Etruscans.

d Inscription on the Arch of Titus, Rome; monumental Latin capitals. 1st century C.E.

e Roman inscription giving a decision of the Senate, on a bronze plate. 186 B.C. [From: Ritschl, *Monumenta prisc. latinit.*]

f Young Roman woman using a writing tablet and stylus. Mural painting at Pompeii, about 70 C.E. [National Museum, Naples.]

g Cursive writing by a Pompeiian banker on a wax tablet. Middle of the 1st century C.E. This cursive script, using capital letters (d), served until the 9th century C.E. for commercial and diplomatic purposes.

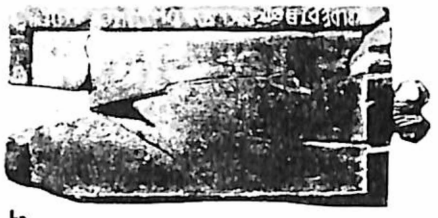
h Latin manuscript in rustic script. Fragment of the *Psychomachia* of Prudentius. 6th century C.E 'Rustic' was the classical Roman script and continued to predominate in manuscripts during Christian antiquity. It disappeared with Roman civilization in the 6th century but was revived in Carolingian times for calligraphic texts. [Bibliothèque Nationale, Paris.]

i Palimpsest. The text (in minuscule) of a commentary on the psalms by St. Augustine was reproduced on a parchment which previously contained a text by Cicero. The latter was erased so that the precious parchment could be used again. Modern photographic technique has made it possible to bring out the older text under the more recent. This illustrates one of the difficulties that have to be overcome in recovering old documents which had been lost. [Biblioteca Vaticana.]

k Stele at Skenala, Uppland, Sweden, with an inscription in Germanic runes; a funerary stele, 11th century C.E. The runic inscription is enclosed within a dragon's jaws—an old Germanic motif.

l Rock design found in Sweden: Sigurd kills the rune-covered dragon Fafnir. Ramsundsberg, Södermanland, Sweden. 11th century C.E. Runic writing is closely associated with religion and mythology.

a



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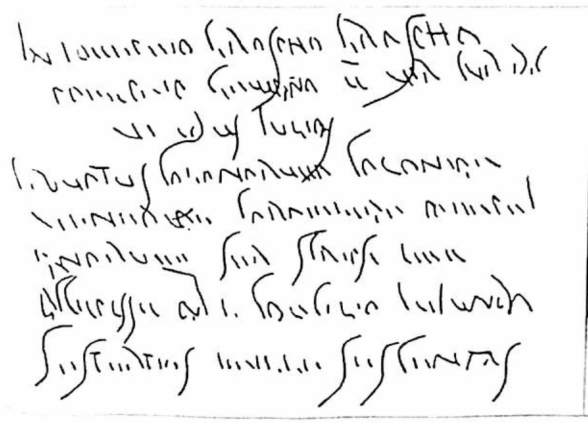

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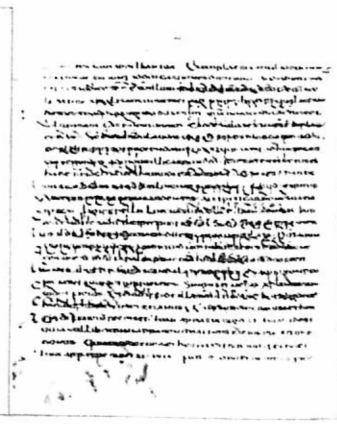

i

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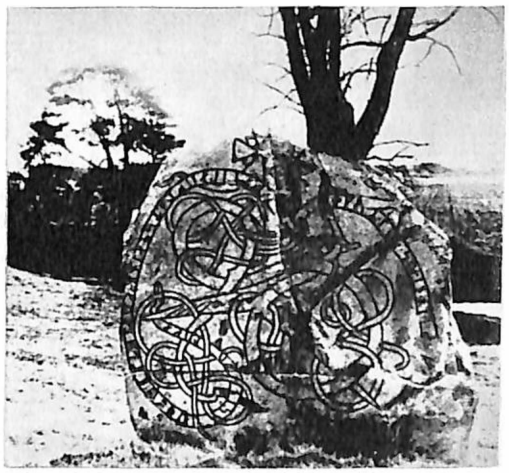

k

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Slav scripts

Slav scripts derive from Greek. In the 9th century, on the basis of the Greek minuscule, the Christian missionaries Cyril and Methodius elaborated, for the needs of the Church, the Glagolitic script which assumed a rounded form with the Bulgarians (c) and an angular form with the Croats (d). To meet the requirements of the Slav languages, new letters were added to the original thirty-eight, so that the Slav alphabet ended up with forty-eight letters. To replace Glagolitic, which became more and more fluid and hence difficult to read, a Cyrillic script (b) was developed on the basis of Greek uncial (a). In its semi-uncial form (h), Cyrillic was developed into printing characters (i) which were simplified on the instructions of Peter the Great at the beginning of the 18th century. It is to him that we owe modern Russian type (k). The Russian alphabet underwent further simplification later, in 1917. This script spread in the same way as the Latin and Arabic.
[*Note.* The most up-to-date research indicates that the Cyrillic alphabet is as old, or almost as old, as the Glagolitic.]

a Greek uncial. 9th century C.E. [Bibliothèque Nationale, Paris.]

b Cyrillic uncial. 1056-57. Gospel text in Old Russian. [From the *Ostromirovo evangelie,* St. Petersburg, 1889.]

c Glagolitic manuscript in Bulgarian script (rounded). 11th century. Gospel text in Church Slavonic. [Extract from *Evangelium Assemani Codex Vaticanus 3 Slavicus Glagoliticus,* Praha, 1929.]

d Glagolitic manuscript in Croatian script (angular). 1395. Gospel text. [Extract from *Evangelia slavice,* Paris, 1843.]

e Cyrillic manuscript, with neumes. 17th century. Old Believers' canticle, in Old Russian. [Bayerische Staatsbibliothek, München.]

f Cyrillic cursive. 17th century. Text from a manuscript collection in Old Russian. [From: Pogodin, *Obrazcy slavjanskago drev'episanija,* Moskva, 1841.]

g The 'Festival of Writing' was held every year in Sofia in honour of Saints Cyril and Methodius, who brought writing to the Bulgarian people. The illustration shows the solemn procession, with images of the saints and posters bearing the letters of the Cyrillic alphabet.

h Cyrillic semi-uncial. 1377. Chronicles of Nestor, in Old Russian. [From: Karski, *Slavjanskaja, kirillovskaja paleografija,* Leningrad, 1928.]

i Text printed in Cyrillic characters; title-page of a Russian arithmetic book. Moskva, 1703.

k Text printed in Cyrillic type modernized by Peter the Great. First document printed in this script: title page of a Russian geometry book, 1708. [From: Siegal, *Russkji graždanškij srift,* Moskva, 1959.]

l Russian alphabet and a collection of the Cyrillic letters now used in the Soviet Union, including the non-Slav ones. [From: Siegal, op. cit.]

m Modern Russian lettering (calligraphy). [From: Černyšov-Sobolev, *Postroenie šriftov,* Moskva, 1958.]

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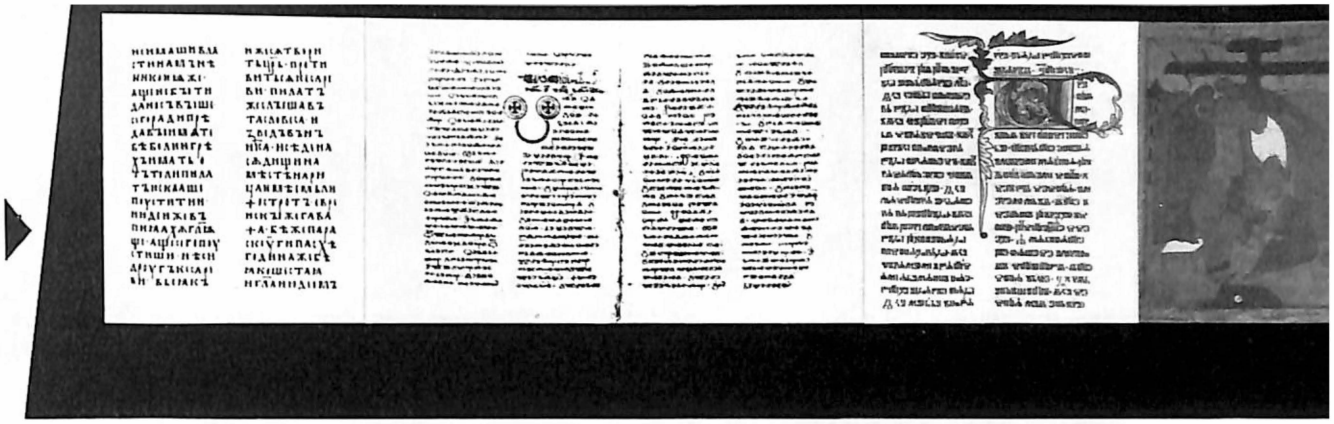

b c d

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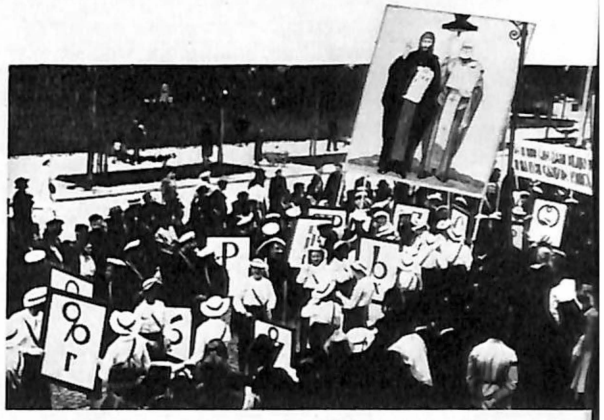

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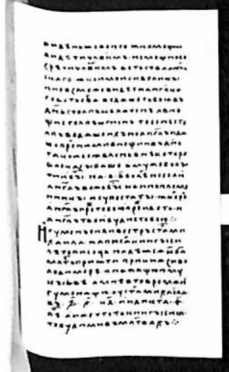

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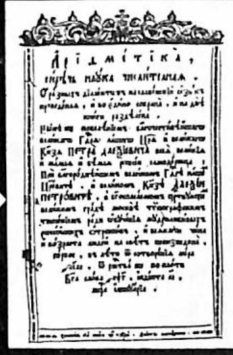

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ГЕОМЕТРІА
СЛАВЕНСКІ
SEMLEMѢРІЕ
Петра Алексіевіча,
АЛЕКСІЙ ПЕТРОВІЧЪ.

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ПРИМЕРЫ
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Manuscripts of the Middle Ages

With the triumph of Christianity, the more lively uncial writing, related to the rustic, was deliberately preferred to the classical capitals which recalled pagan antiquity. The tendency to elongate letters upwards or downwards became more and more clearly marked, as in the stylized writing of Merovingian official documents (a) or in Anglo-Saxon semi-uncial (e). It led to minuscule writing of which the Irish variation (d), characterized by its angularity and brought to England and the Continent by missionary monks, was supplanted during the 8th and 9th centuries by the Caroline minuscule (c). From the Court of Charlemagne (b) spread the appreciation, for the first time since antiquity, of a clear and simple script and the calligraphic presentation of books (b), (c). The Caroline minuscule became current throughout the West.

In the old tradition, minuscule writing was entirely a matter of rounding off the lettering. However, it is not the tool but the stylistic urge which determines the form of writing. The pen thus also gave rise to a completely different form of writing, the Gothic (g), which appeared in the 11th century in Belgium and in northern France. Whereas the Caroline minuscule reflected the style of Roman architecture, the new writing had the pointed taper of the Gothic. The curves are elongated and broken; the upper extremities are developed and splayed; the sharp-edged fuller strokes are joined together by fine and angular hair-strokes. Geometric construction, with shafts arrayed in uniform order, takes precedence over legibility. As always happens with writing, the ornamental aspect takes on a value of its own, side by side with the purely functional aspect.

Gothic writing thus became a European heritage. In the 15th century, the first printers favoured it for their models (see panel 31). But while Gothic, with its strictly ornamental nature, was particularly suited to liturgical manuscripts—it was likewise called the 'missal' script—there also existed a simplified cursive script for ordinary use which in turn gave rise to *bâtarde*, an affected ornamental script which won favour at the culturally foremost courts of Western Europe during the 15th century (i).

a Script used for Merovingian diplomas (court documents). Intermediate between antique uncial and medieval minuscule. End of a document from the time of Chilperic I (583): 'Signum chilperici gluriosi regis / ego eltricus palatinus scriptor recognoui / data anno dominicae incarnat (ionis) DVCI indictione VIII. anno regni chilperici regis XXII / actum rutomagi in generali conuentu III nunas magii mensis.' [From: Faulmann, *Illustrierte Geschichte der Schrift*, Wien, 1880.]

b Signature of Charlemagne. The Emperor merely added his own flourish to the monogram painted for him by the copyist. About 800 C.E.

c Manuscript in Caroline minuscule: *Wessobrunner Gebet*, 9th century. In Anglo-Saxon usage, the conjunction *enti* ('and') is represented by the ⁊. The rune ᚷ indicates the prefix 'ga'. [Bayerische Staatsbibliothek, Munich.]

d Manuscript in Irish minuscule; extract from *The Book of MacCartaigh*.

e Manuscript in Anglo-Saxon semi-uncial with initials. Extract from the Lindisfarne Gospels. About 700. Text: 'In principio erat verbum et verbum erat apud deum'.

f Page of the *Liber sacramentorum* by Pope Gregory the Great. 9th century. [From: *Monumenta paleographica Vindobonensia*, Leipzig, 1910.]

g Document from Spain relating to a donation. 989. The Visigothic cursive used here is a Spanish variation of the Caroline minuscule. Under the seven lines of text are four columns giving the signatures of the witnesses. [From: Villada, *Paleografia española*, Madrid, 1923.]

h Spanish manuscript in Gothic minuscule. Extract from *Reglas del juego de ajedrez* (The Rules of Chess), by Rey Sabio, 1283. [From: Villada, op.cit.]

i French manuscript, in *bâtarde*. Extract from the *Livre du gouvernement des rois et des princes*. Early 15th century. The miniature depicts the construction of a monastery. [Bibliothèque Sainte Geneviève, Paris.]

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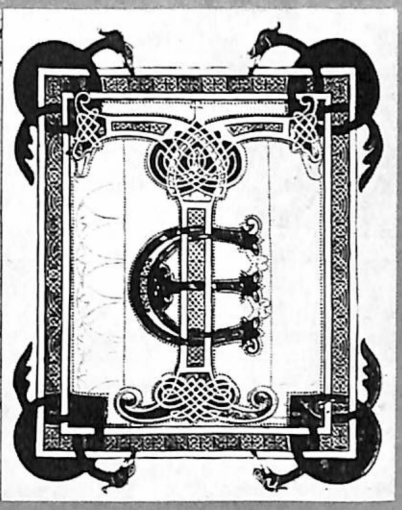

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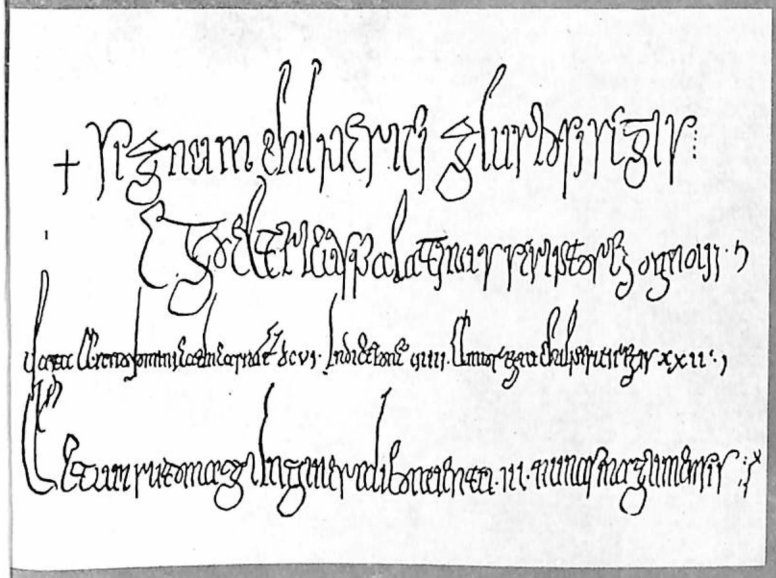

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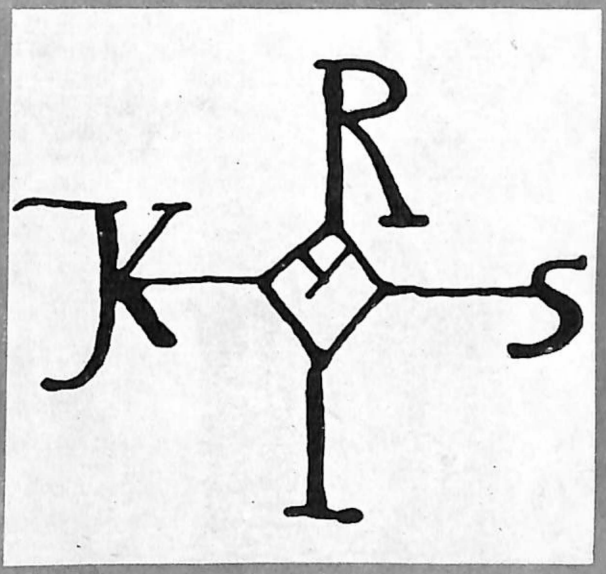

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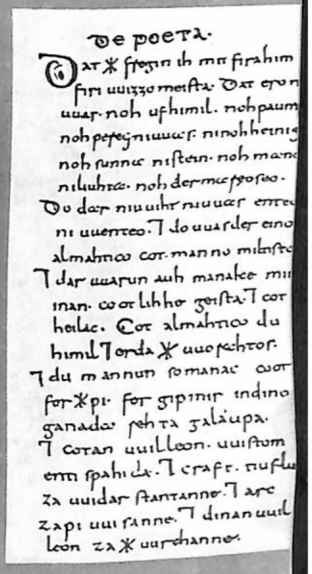

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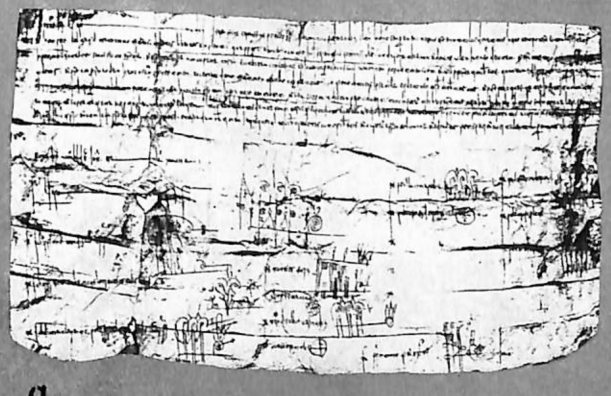

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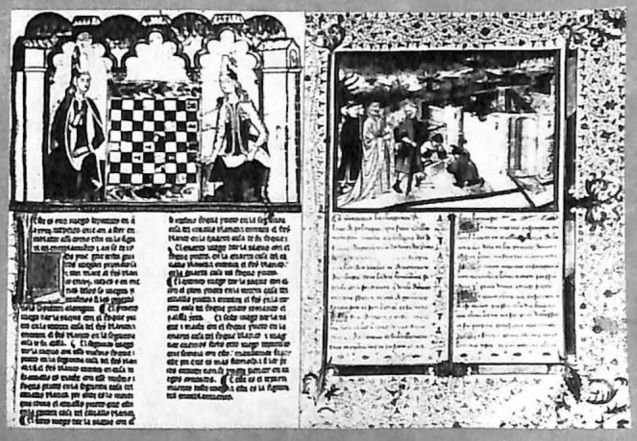


h j

Paper, block printing and movable type

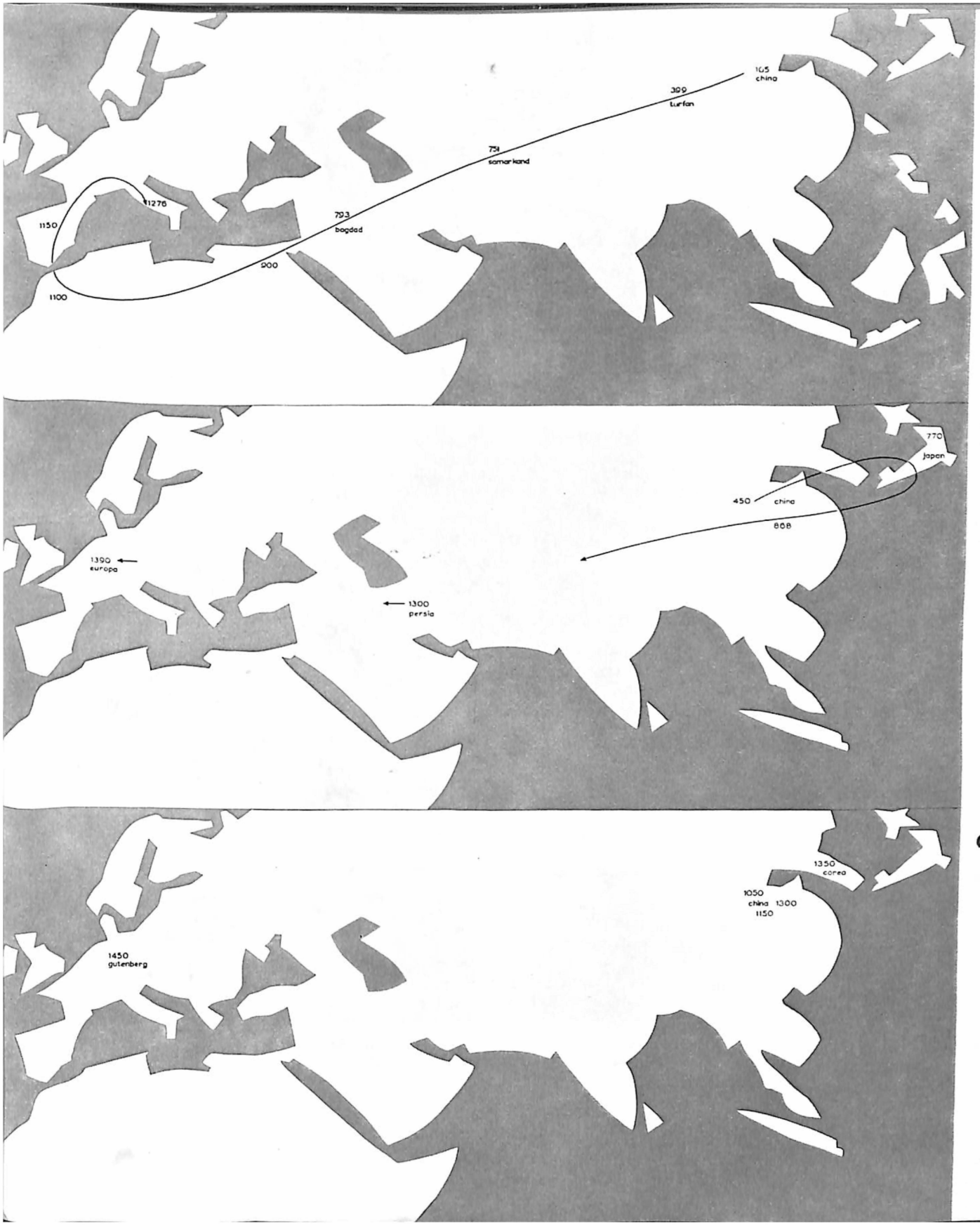
The reproduction of writing depends on many inventions, including paper and ink, printing blocks and presses, movable type.

In regard to all of them, the Chinese were in the forefront. Engraving on stone and handwriting on parchment are slow methods of reproduction.

a Paper:
The Chinese have made paper since the year 105 C.E. During the thousand years which followed, this invention spread gradually towards the West, reaching Europe about 1100.

b Block printing:
Printing by means of seals (450), after having produced a 'million magic formulae' (Japan, 770), culminated in the first block-printed book, the *Diamond Sutra* (China, 868).

c Movable type:
The vital invention — that of movable type, first in clay (1050), then in tin (1150), wood (1300), and finally bronze (Korea, 1390). Seventy years later came Gutenberg's use (1450). [From: *The invention of printing in China and its spread westward,* by Thomas Francis Carter, revised by L. Carrington Goodrich, 2nd ed., The Ronald Press, New York.]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china
309
turfan
751
samarkand
1276
1150
793
bagdad
900
1100
b
770
japan
450
china
868
1390
europa
1300
persia
c
1350
corea
1050
china 1300
1150
1450
gutenberg

The Age of the Incunabula (1450-1500)

Already, before the invention of printing, the development of science and humanistic literature had brought about a considerable increase in the demand for 'mass-produced' copies of manuscripts, and the guilds of copyists in university towns were swamped with work. In the 1450s, the Florentine bookseller Vespasiano da Bisticci employed as many as fifty copyists. Though it had already advanced from the original idea of impression from seals to wooden block-printing, mechanical reproduction did not become a serious competitor of the copyists until Gutenberg found a way of casting movable type (a). Paper, introduced to the West from China by the Arabs, provided a cheap medium; and the new technique, from the moment it was tried out by Gutenberg in Mainz, spread by leaps and bounds. In a short time printing presses were in use all over Europe, particularly in the merchant cities, where the demand for their products was heavy and the necessary capital available. In the first fifty years, more than two thousand different kinds of type were cut (c). The type evolved by the early printers was an exact copy of the characters used in manuscripts (see panel 29). Very soon the craft reached such a level of technical and artistic perfection that their books of the infancy of printing (known for that reason as *incunabula,* or 'cradle books') are among the most precious possessions of libraries. Even the rich ornamentation of manuscripts was reproduced. For decades, the printers still employed illuminators and rubricators to produce the hand-painted or woodcut initial letters, tailpieces and capitals at the beginning of paragraphs (b, e, h). Woodcuts and text (e, i, k) combined to achieve a graphic unity hardly ever paralleled since those days. Right up into the 17th century, wealthy literature-lovers were still having the works of their favourite authors reproduced as richly illuminated manuscripts and printed on costly vellum.

Printing scripts have from the outset been divided into two major branches: the 'brocken' scripts deriving from Gothic minuscule (see panel 32) and the ancient rounded scripts which are based on the Caroline minuscule and tend to revive the ancient forms (see panel 33).

[*Note.* In this English edition of the catalogue the term *Antiqua* (panel 33) is used to designate roman type and *Fraktur* (panel 32) for the angular, later form of the Gothic letter.]

a Casting of type in the hand mould invented by Gutenberg.

b Page of the Bible—one of the first books printed by Gutenberg and Fust. Gothic script. [Mainz, 1453.]

c Table of variants of 'M' in Gothic printing scripts during the age of the incunabula. [From: Haebler, *Typenrepertorium der Wiegendrucke,* Leipzig, 1922.]

d Printing works at the end of the 16th century. Engraving by Th. Galle, after a design by J. Stradanus: composition (left), inking (background), printing (right), assembly of the printed sheets (foreground).

e Page of the oldest edition of the Low German *Reynke de Vos,* printed in Lübeck in 1498.

f Printing works in the 16th century. [From: Jost Ammann, *Ständebüchlein.*]

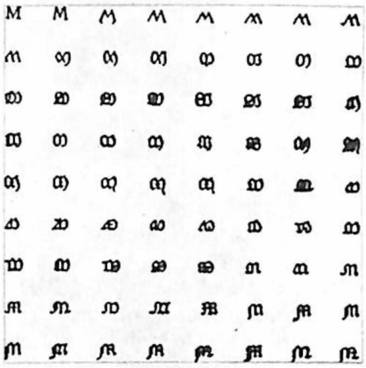
g Page of the *Epistolae* of Gasparini Pergamensis, printed in Paris about 1470 by Gering-Krantz-Friburger. [Bibliothèque Nationale, Paris.]

h Page of Aesop's Fables, printed by William Caxton in London in 1483. Caxton, who introduced printing to England, was a translator, publisher and printer, all in one.

i Title page of *Lilio de Medicina* by Gordonio, printed by Ungut and Stanislaus, Seville, 1495. Rounded letter.

k Page from the writings of St. Jerome, printed by the brothers de Gregoriis, Venice, 1948. *Antiqua* with Renaissance decoration.

l Printing press of Jodocus Badius in Paris (1498-1535): woodcut used as the printer's mark.



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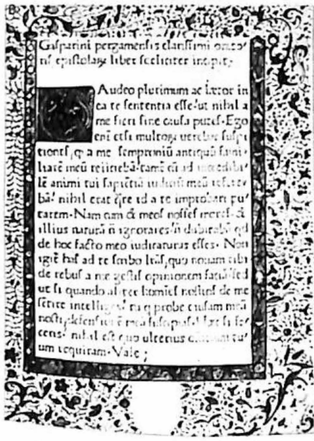

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Lilio de medicina

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k

The broken scripts

The first printers usually took Gothic manuscript writing (see panel 29) as their model. This 'broken' script predominated mainly north of the Alps; in Italy, rounded Gothic was preferred. The characteristic form of the 'broken' scripts is *Fraktur* (b), which developed mainly under the influence of the calligraphy used in the imperial chancellery. The ancient forms of *Fraktur* included 'Teuerdank', so named after a well-known work of that title by the Emperor Maximilian I (Second edition published in 1519 at Augsburg by the court printer, Johann Schönsperger) (b). The broken uprights, the balancing of the small letters and the forking of certain of the upper extremities, the more or less marked tendency to involute the lower extremities, and the addition of 'elephant trunks' to initial letters, are characteristic. The severity and rigidity of Gothic script (see panel 29) give way to often intricate ornamentation (d), adapting the script to the dynamic forms of baroque. Later, when printing characters ceased to evolve and even gradually degenerated, calligraphers were particularly enthusiastic about *Fraktur,* which allowed them to show off their virtuosity with the pen (d, e, f, h). Their response to stereotyped printing script was manuscript writing, which offered all sorts of possibilities of variation and adaptation (e, f), but to which they could, nevertheless, impart a high degree of precision. For records and official documents, use continued to be made of their skilled pens until the beginning of the 19th century. Even in Germany during the 20th century *Fraktur* yielded increasingly to the more rational older scripts (see panel 33).

a Mansion *bâtarde,* Brussels, 1484.

b The first form of *Fraktur* used by Johann Schönsperger. Extract from the prayerbook of the Emperor Maximilian, 1514.

c Rounded writing. [From: Juan de Yciar, *Arte subtilissima, por la qual se enseña a escrivir perfectamente,* Saragossa, 1550.]

d Page of a Nuremberg chronicle, 1591. Handwritten. [Germanisches Nationalmuseum, Nürnberg.]

e Gothic writing. Specimen from a copy-book by Wolfgang Fugger, Nürnberg, 1553.

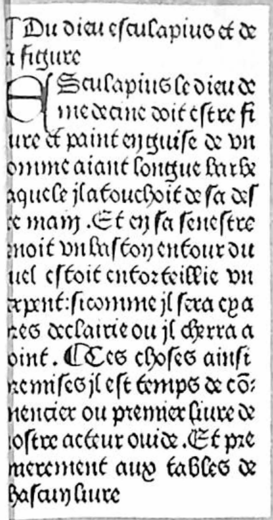
f *Fraktur.* Specimen from a copy-book by Wolfgang Fugger, Nürnberg, 1553.

g Interior, with a man writing. Zürich, 1549. [From: Urban Weiss: *Libellus valde doctus.*]

h English Court hand. From a copy-book by Ayres, London, 1698. This not very readable script, which included many signs from Norman times, remained in use until the 18th century.

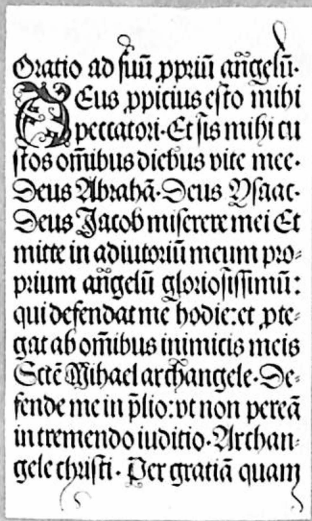
i William Morris, Kelmscott Press. During the 19th century there was a revival of interest in the types used in the Middle Ages. [Page from *Historyes of Troye,* London, 1892.]

k Bold *Fraktur* : a modern form developed by Rudolf Koch between 1906 and 1910. Characters cast at the Klingspor works. [From: Rodenberg, *In der Schmiede der Schrift,* Berlin, 1940.]



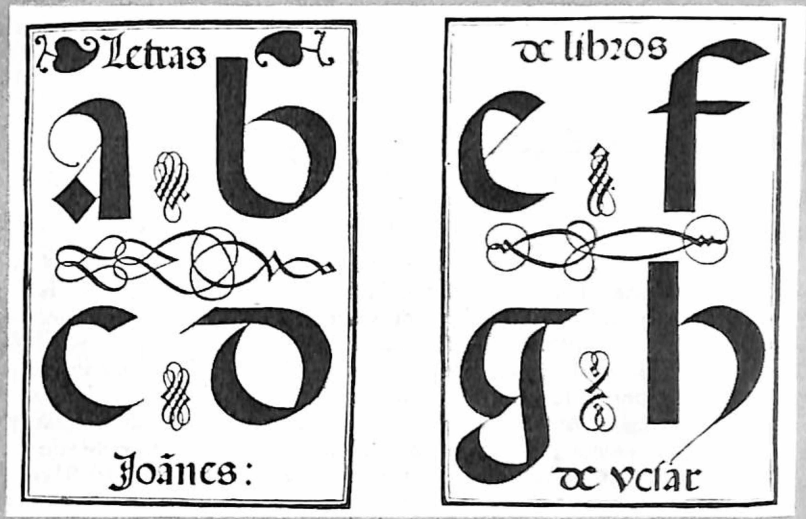
Du dieu esculapius et de
a figure
Esculapius le dieu de
medecine doit estre fi
gure et paint en guise de un
homme aiant longue barbe
aguele il atouchoit de sa des
tre main. Et en sa senestre
tenoit un baston entour du
quel estoit entortellie un
serpent: si comme il sera cy a
pres declairie ou il cherra a
point. Ces choses ainsi
premises il est temps de cõ
mencier ou premier liure de
nostre acteur ouide. Et pre
mierement aux tables de
basain liure

a



Oratio ad suũ ppriũ angelũ.
Deus ppicius esto mihi
peccatori. Et sis mihi cu
stos omnibus diebus vite mee.
Deus Abrahã. Deus Ysaac.
Deus Jacob miserere mei Et
mitte in adiutoriũ meum pro
prium angelũ gloriosissimũ:
qui defendat me hodie: et ptc
gat ab omnibus inimicis meis
Sctẽ Mihael archangele. De
fende me in plio: vt non pereã
in tremendo iuditio. Archan
gele christi. Per gratiã quam

b



Letras a b c d
Joãnes:
de libros e f g h
de yciar

c

Von Sanct Sebaldt
vnnd der selben
Kirchen alhie.
Nürmberg hat einen
Durchleuchtigen Herrn von Königg
lichem Stamm des Edelsten geschlechts der al
ten Königreiche aus Frannckreich Sanct Sebaldt ge

d

h

e

f

How Cacus stale away the oxen and kyen longyng to Hercules & how Hercules fought with hym therfore and slewe hym.

IN the morn Cacus fonde a right grete stone of marble, whiche he toke & bare hit vnto his caue and made therwith his dore. The most parte of the tyme Cacus helde hym in hys caue, & wente neuer out but whan he wold do harm or euyll. When he wente into the feldes as sayd is, he slewe all them that he mette; he robbed euery man, he defowlid women, he brent howses and townes, and shortly maade & dyde so moche harme in Italy that they that passyd in the contre supposid to be behated of the goddes, and coude not knowe wherof ne fro whens cam these persecusions that Cacus maad vnto them. For to retorne than to oure purpose of Hercules, he cam vnto the cyte of kynge Euander in the tyme that Cacus bedewed Ytalye with blood of men, & fyllid hys caue of contynuelle stolen goodes. After the comyng of Hercules & of his men of armes, his beefs or oxen were brought in to the cyte be cause the kynge Euander shold seen hem; the kynge toke grete plaiser to beholde and see hem, for they were hyghe and passyng fayre. After that the kynge had seen hem Hercules demanded hym whether he myght sende for to procure them for that nyght. In trouth, sire, sayd Euander, yf ye will beleue my councell ye shall lete them abyde in this cyte and not to sende hem in to the feldes. Wherfore?

i

ABCDEFGHIJKLMNOPQuR
STUVWXYZabcdefghijklmnopq
rstuvwxyzchck

Fette
deutsche
Schrift

Rudolf Koch: Wir sind Schriftzeichner, Stempelschneider, Holzschneider, Schriftgießer, Setzer, Drucker und Buchbinder aus Überzeugung und aus Leidenschaft, nicht etwa, weil unsere Begabung zu dürftig wäre für andere höhere Dinge, sondern weil für uns die höchsten Dinge in engster Beziehung dazu stehen. In der still zurückhaltenden, edel durchgebildeten, aufs tiefste in jeder Bewegung erfüllten Schriftform suchen wir uns und unser Zeitgefühl auszudrücken. Die stolze und doch geschmeidige Linie eines lateinischen Großbuchstabens, die bürgerlich behäbige Sicherheit und Kraft einer Frakturform, die feinen zarten Maßverhältnisse einer zierlichen Grotschrift drücken uns alles aus, was wir auszudrücken vermögen. In diesen kleinen Abmessungen, in diesen äußerlich so schlichten Voraussetzungen wirkt sich ein reiches unermeßliches Leben von Formen, Bewegungen, Gegensätzen und Verhältnissen aus, das unergründlich und unerschöpflich ist.

k

The rounded scripts

To print the ancient authors who had been rediscovered, the humanists of the 15th century chose a script derived from Caroline minuscule—the script used for the manuscripts in which the works had been transmitted and held, wrongly, to be the original antique script. The main features of what is called *Antiqua* (or roman letter) were stabilized during the 15th and 16th centuries, and have undergone no major changes since. Contrary to the 'broken' scripts with their balanced or rigid features (see panel 32), *Antiqua* is characterized by its static harmony. To a large extent its forms lend themselves to geometrical construction and rational analysis (a, c); each letter has its individuality, and derives its beauty from its felicitous adaptation to the surface it occupies.

With humanism, *Antiqua* spread throughout the whole of Europe. Among the celebrated printers in all countries who helped to perfect it were the French printers Nicolas Jensen, Claude Garamond, Firmin Didot (f), the Italian Giambattista Bodoni (e), the Englishman John Baskerville and the German Johann Michael Fleischmann.

The beginning of the 19th century saw the appearance of 'sans-serif' characters (i), used especially for advertising, posters and similar texts, their practical nature being in keeping with the spirit of the modern world.

The tradition of humanistic manuscript writing gave rise during the 15th century to a light, flowing, almost playful, cursive or 'italic' letter. Because of the narrowness of the type characters, the great publisher Aldus Manutius adopted it for the 'Aldine' publications, one of the first small-format editions to be printed in large numbers. In the long run, however, italic continued to exist side by side with roman only as a way of emphasizing certain parts of a text.

Technical requirements impose stability on printing types and leave little scope for the elaboration of new forms. Manuscripts, on the contrary, abound in variety; and this is why manuscripts—charters, diplomatic letters, deeds and so on—still have their enthusiasts nowadays. Calligraphy remained a profession up to the end of the 18th century and, in rounded script, has produced masterpieces which have not been surpassed (b).

a The construction of Latin initials, by Johann Neudörffer.

b Spanish Chancery hand. [From: Francisco Lucas, *Arte de Escrivir*, written in 1570, Madrid, 1608.]

c The construction of cursive. Extract from a copy-book by the Spaniard Aznar de Polanco, Madrid, 1719.

d Didot *Antiqua*, Paris, about 1800.

e Aldus *Antiqua*: page from *Hypnerotomachia Poliphili*, Venice, 1499. Type cut by Francesco Griffe. *Antiqua* owes its international diffusion to Aldus Manutius, one of the greatest publishers of all time.

f Bodoni *Antiqua* (in three sizes). [From: *Manuale Typografico*, Parma, 1818.]

g Greek inclined type. Printer: Estienne, Paris, 1551.

h Baroque cursive lettering. Extract from the copy-book *Spieghel der Schrijfkonste*, by Jan van den Velde, Rotterdam, 1605.

i Modern posters on the wall of a house in Madrid.


P Q
S T
X Y


abecon sus principios
Fran Lucas me escre-
uia en madrid año

b

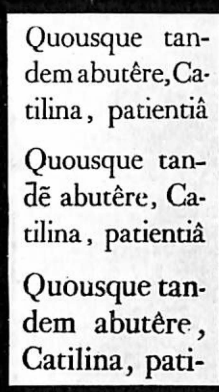
c


ABCDE
FGHIJ
LMNOP
QRSTU
VWXYZ
NOIR

d


POLIPHILO INCOMINCIA IL SECONDO LIBRO DI LA SVA HYPNEROTOMACHIA. NEL QVALE PO-LIA ET LVI DISERTABONDI, IN QVALE MODO ET VARIO CASO NARRANO INTERCALARIAMEN-TE IL SVO INAMORAMENTO.
NARRA QVIVI LA DIVA POLIA LA NOBILE ET ANTIQVA ORIGINE SVA. ET COMO PER LI PREDE CESSORI SVI TRIVISIO FVE EDIFICATO. ET DI QVE LA GENTE LELIA ORIVNDA. ET PER QVALE MO-DO DISAVEDVTA ET INSCIA DISCONCIAMENTE SE INAMORE DI LEI IL SVO DILECTO POLIPHILO.

e


Quousque tan-
dem abutêre, Ca-
tilina, patientiâ
Quousque tan-
dẽ abutêre, Ca-
tilina, patientiâ
Quousque tan-
dem abutêre,
Catilina, pati-

f

g

h


Y ESPAÑOL Y PIDO UNA OPORTUNIDAD
¡USTED LA TIENE! VEA
HA, CHA, CHA
VISTA ALEG
GRANDIOSA NOV
PEDRO RO
RUFINO MI
AURELIO CALAT
SOTOMA
ÑIA!
ATINA
ELIS
Una casadita sugestiva
REVISTADA
MUJER ES COSA MIA!
NITA BUSTOS
35 PTAS.

i

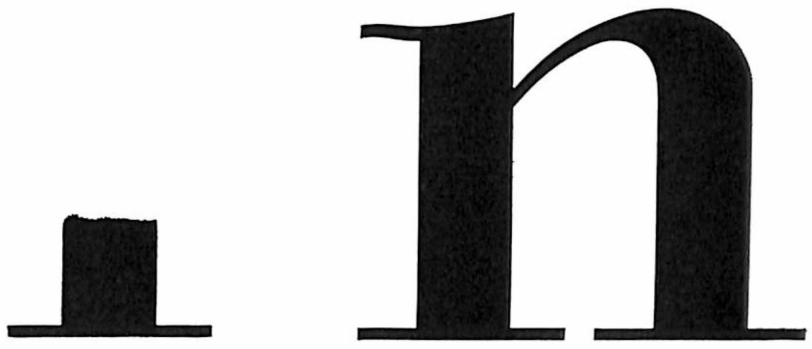
The families of rounded scripts

The four families are differentiated in respect of their serifs: triangular, linear, square and sans-serif.

The serifs lead the eye from left to right along the line. The development of writing goes hand in hand with improvements in the quality of paper. Each of the families has several variations.

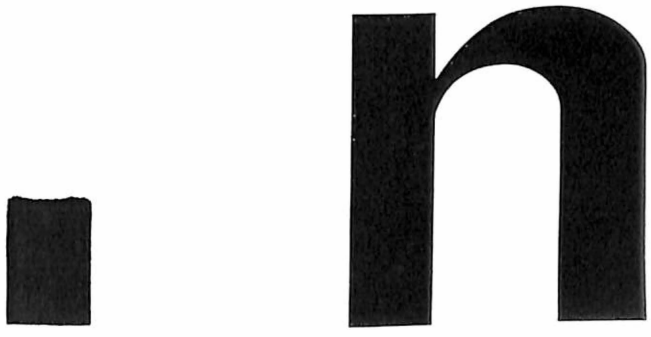
± 1500 old face

1780 modern face



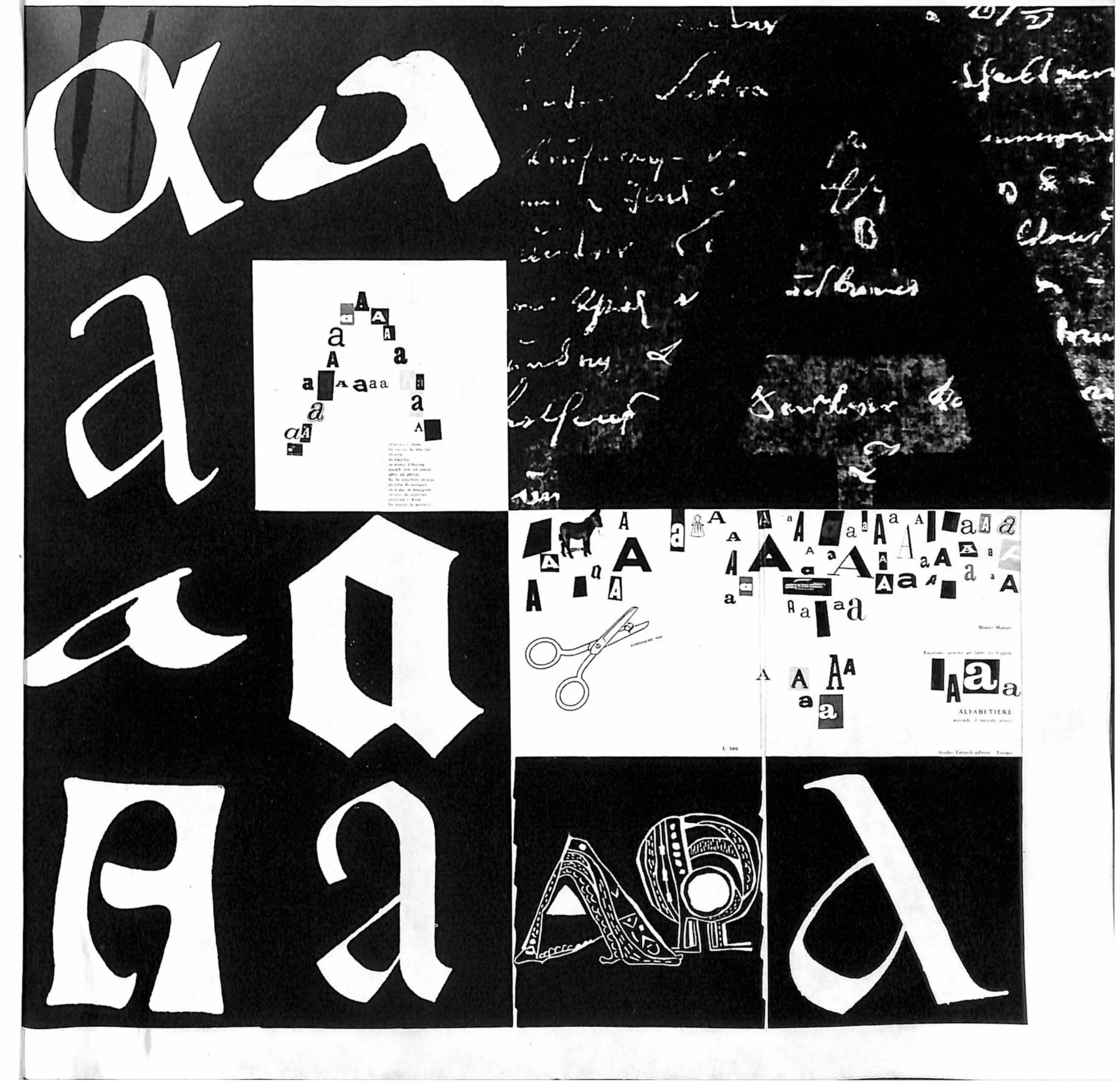
± 1815 slab-serif

± 1815 sans-serif



The many aspects of a letter

Letters, like human beings, can be infinitely varied. Each of us, in fact, produces his own alphabet: hence graphology.



Writing and its two empires

Some three thousand years ago the inhabitants of a Phoenician town succeeded in isolating the different sounds of language. For each sound they devised a letter. The Greeks perfected the system, and the Roman Empire and the Christian religion were responsible for the adoption of alphabetic writing throughout the western world.

This 'a' was cut by the French printer Garamond (1480-1561).

Although the Pekin dialect is the official language of China, many widely differing dialects are still spoken, but people can understand one another through writing. This, however, requires a knowledge of thousands of characters—which does not make it easy to learn to read and write. Anyone outside China who knows the characters can make out something of the meaning of a Chinese text.

In Japan, Chinese texts can be read by applying the rules of Japanese syntax and are consequently easy to understand.

Therefore, despite the variety of forms that developing languages have assumed, writing is a unifying factor in the East Asian cultural region. The sign reproduced here means 'hero'; it was designed by the Japanese calligrapher, Inoue Yuichi, in 1961.

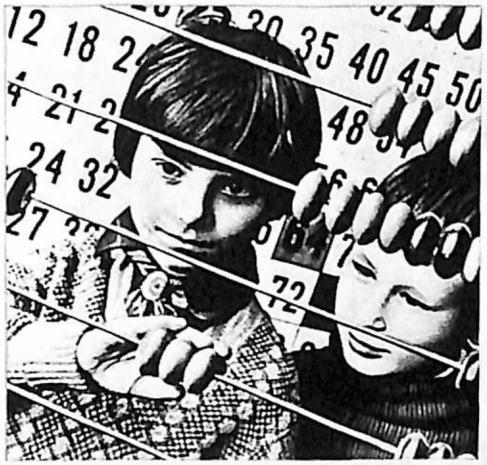
Arithmetic, figures and the discovery of zero

The theorems of Pythagoras (a) and Euclid, and the counting-frame or abacus (b), satisfied the need for many centuries. The Greeks and Romans used their alphabets to denote units, tens, hundreds and so on, and built large numbers by repeating the letters. About 500 C.E., the Hindus, by introducing a separate symbol for zero, became the first people to denote units, tens, hundreds and so on by the position of the symbol.

The Mayan number-script had a zero-symbol which indicated magnitude by vertical position.

The Hindu-Arabic figures became virtually international and made development of mathematics possible.

The Romans, in conformity with Egyptian practice, used vertical marks (I, II, III) to indicate the first three integers; in India the same signs were used, but horizontally (−, =, ≡). Later on, through using a cursive form for the second and third integers, they produced symbols like z and $\overset{z}{z}$, which easily flowed together in fast writing and became 2 and 3. [See: Lancelot Hogben, *From cave painting to comic strip,* London, 1949.]



b

Example 1950

Babylon

3 × 600 + 2 × 60 + 3 × 10

Egypt

1000 + 9 × 100 + 5 × 10

Greece

1000 + 500 + 4 × 100 + 50

Rome

1000 + 500 + 4 × 100 + 50

Maya

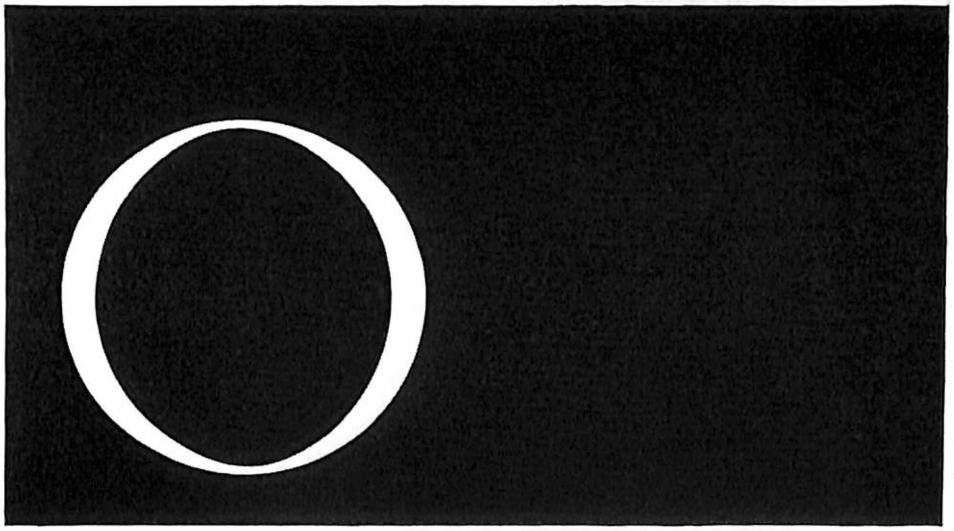
5 × 360 = 1800
7 × 20 = 140
10 × 1 = 10

China

一千九百五十

1 × 1000 + 9 × 100 + 5 × 10

India 500



Baghdad

1950.

Europe

1950

Europe

1950

Learning to read and write

a Alphabet invented by children. [From: Cohen, *La grande invention de l'écriture et son évolution,* Paris, 1958.]

b A page from M. J. Buno's *ABC- und Lesebüchlein* (Spelling-book and primer), Danzig, 1650. The pictures are intended to help children to memorize the sounds represented by the letters: 'W', for instance, is illustrated by a picture of a boy being caned, symbolizing pain *(Weh* in German); 'Q' by the head of a cow *(Kuh).*

c An old Dutch primer.

d A little Haitian girl learning to read and write in one of Unesco's model schools. Action to do away with illiteracy is one of Unesco's main tasks.

e A man writing. Sanguine by Domenico Zampieri. 17th century. Vienna. Albertina.

f A writing lesson in ancient Japan before the establishment of public schools.

g A public letter-writer in Gaza.

h Girl book-keeping clerks trying out a modern electronic accounting machine.

i Spanish boy going to school.

k Original page from primer.

l Nigerian women learning to read.

m Saint Anne teaching the Virgin to read the Holy Scriptures. A baroque sculpture in the parish church of Blaichach/Allgäu.

n A blind child learning to read Braille. The Braille system was invented by Louis Braille, a French cobbler's son, who had gone blind; it is now used all over the world.

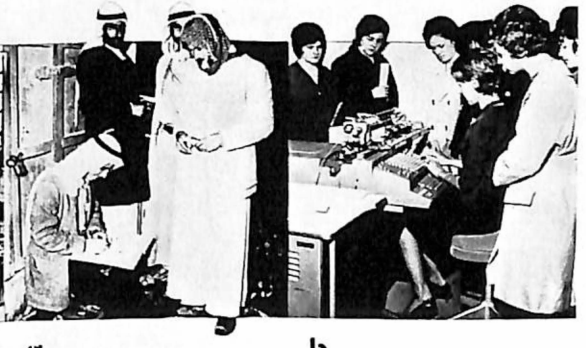
d

a

b

c

e



f g h

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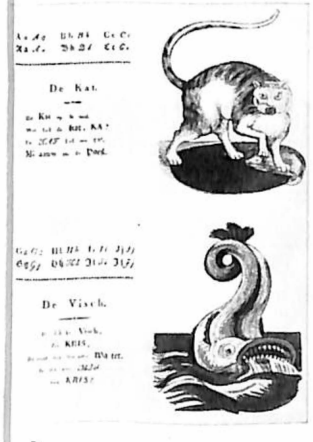


De Kat.

De Visch.

k

l

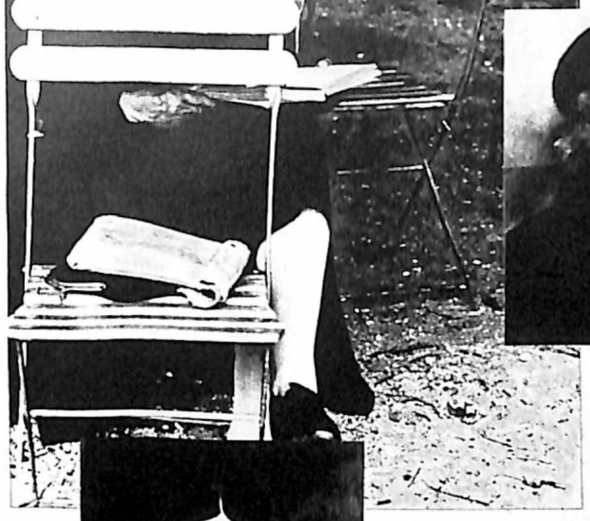
m

n

Nigerian women learning to read

Reading

a A woman reading.
b Rembrandt's son, Titus, reading. About 1656. [Kunsthistorisches Museum, Vienna.]
c Sculpture from the altar of the *Huber-Kapelle* in Kempten.
d An apostle teaching. Sculpture from an altar in the Sebalduskirche, Nuremburg, 1485.
e A girl reading. A painting by Gustav A. Hennig.
f The bookworm. Painting by Spitzweg.
g A blind man reading with his fingers the world's first transparent newspaper for blind people.
h Ramses II, before his accession, reciting hymns from a book. On the right, a list of the royal ancestors. Egyptian relief.
i Looking at posters.
k The newspaper reader. Lithograph by Daumier.
l Immersed in the newspaper.
m The newspaper reader, design by Steinberg.



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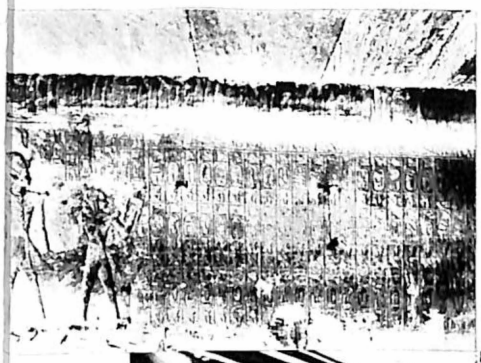

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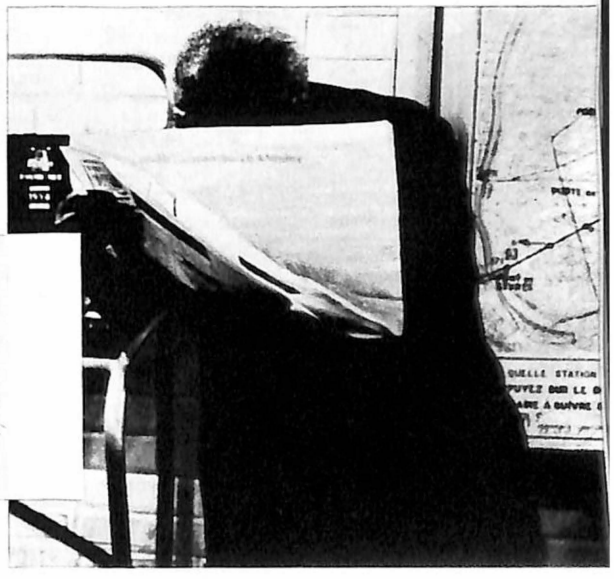


l

Modern printing techniques

Up to about 1800, the printing techniques devised in the 15th century—composing by hand and wooden presses—underwent little change; but, after that date, the increased demand for educational and scientific facilities on the part of large sections of the middle classes, which had been prompted by the progress of liberalism and enlightenment, made it necessary to use mechanical methods of printing capable of a larger output. In 1810, Friedrich König invented the steam press, which printed as many as 4,000 sheets an hour as compared with the 300 sheets printed by the hand press. This advance chiefly benefited newspapers, which began to appear daily and to achieve large circulations. Further progress came with the type-founding machine, first built by William Church in 1822, and Giuseppe Mazzini's type-setting machine, constructed in 1843. With the giant modern rotary presses (e), editions of several million copies can be printed. Nowadays type is set by hand only for particularly difficult or delicate typographical work (personal cards and notices, bibliophile's editions). Composing machines hold the field: the 'Linotype' (g) which casts complete lines at a time; and the 'Monotype' (i) which casts and sets single types using (h) a paper strip (perforated by a keyboard machine) that controls the casting-machine. The latest development is the photographic composing machine (k, l), which speeds up composing to the limit. Thanks to mechanical reproduction processes, writing has made its way into all sectors of human life, and there is now scarcely any form of activity in which it does not play a part as a means of conveying information, co-ordinating, controlling, recording or interpreting.

a The first iron printing-press. Invented by Lord Stanhope in 1800, it replaced the wooden presses and made printing quicker and easier.

b Mechanical press room. The Imperial and Royal State Printing Office, Vienna. In the foreground, a composing machine. About 1840.

c The first rotary press for newspapers. Constructed in 1846 by Robert Hoe and Company of New York. Thanks to the rotary cylinder, it was possible for the first time to print 15,000 to 20,000 copies an hour.

d Modern printing-press.

e Modern rotary press. With this, 400,000 copies can be printed an hour.

f Simple 19th-century composing machine, for the printing of newspapers.

g Composing on a 'Linotype'. On this machine, whole lines can be composed and cast at one time.

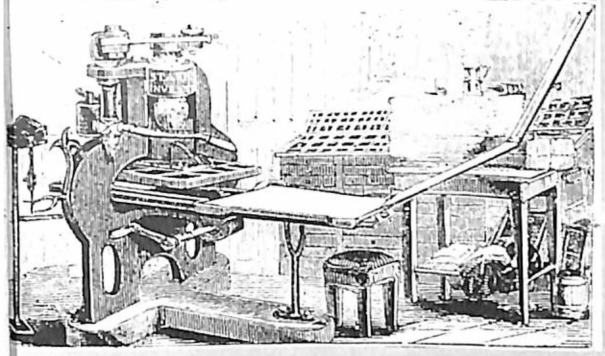
h 'Monotype' perforated tape guide for casting type.

i Letters cast with the 'Monotype machine'. Unlike the 'Linotype', this machine casts types separately.

k 'Monophoto' photographic composing machine. Output: approximately 12,000 characters an hour.

l Matrix case for use with the photographic composing machine.

m Newspaper, 1929.



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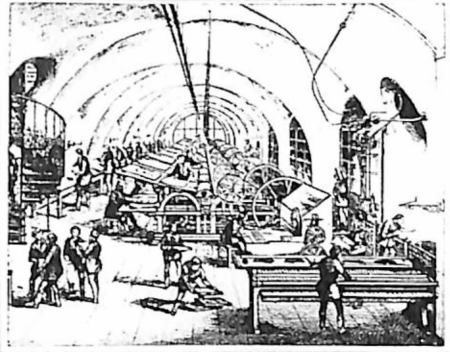

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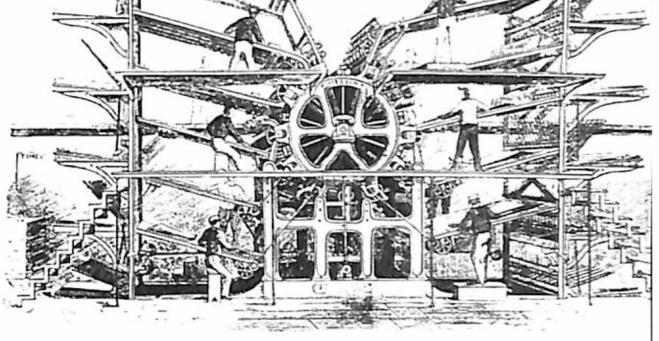

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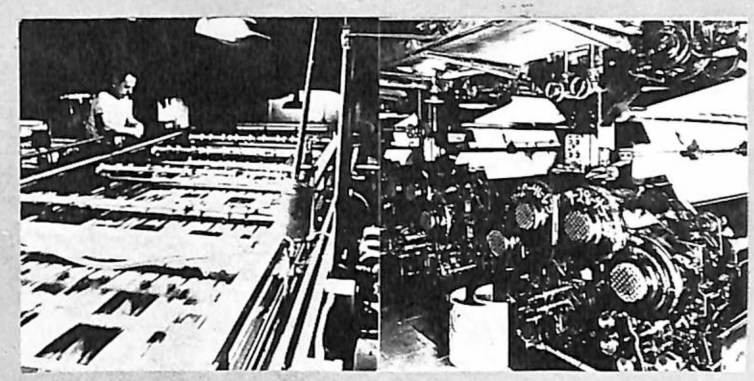

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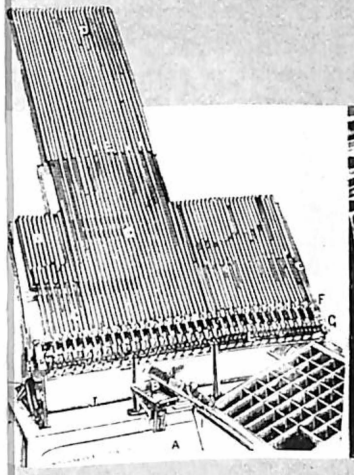

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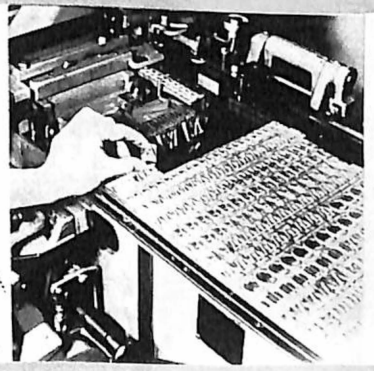

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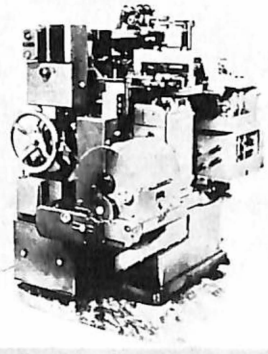

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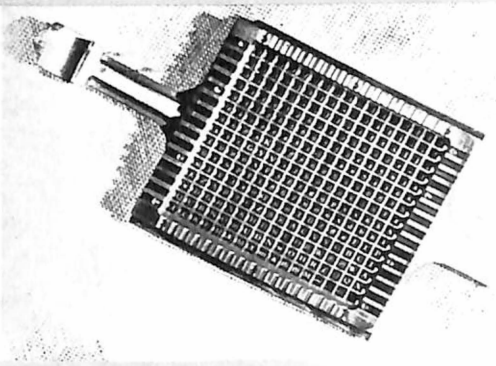
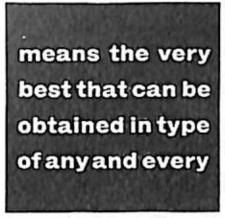


l

The diffusion of writing

a Latin
b Cyrillic
c Chinese
d Bamum
e Arabic
f Hebrew
g Indian

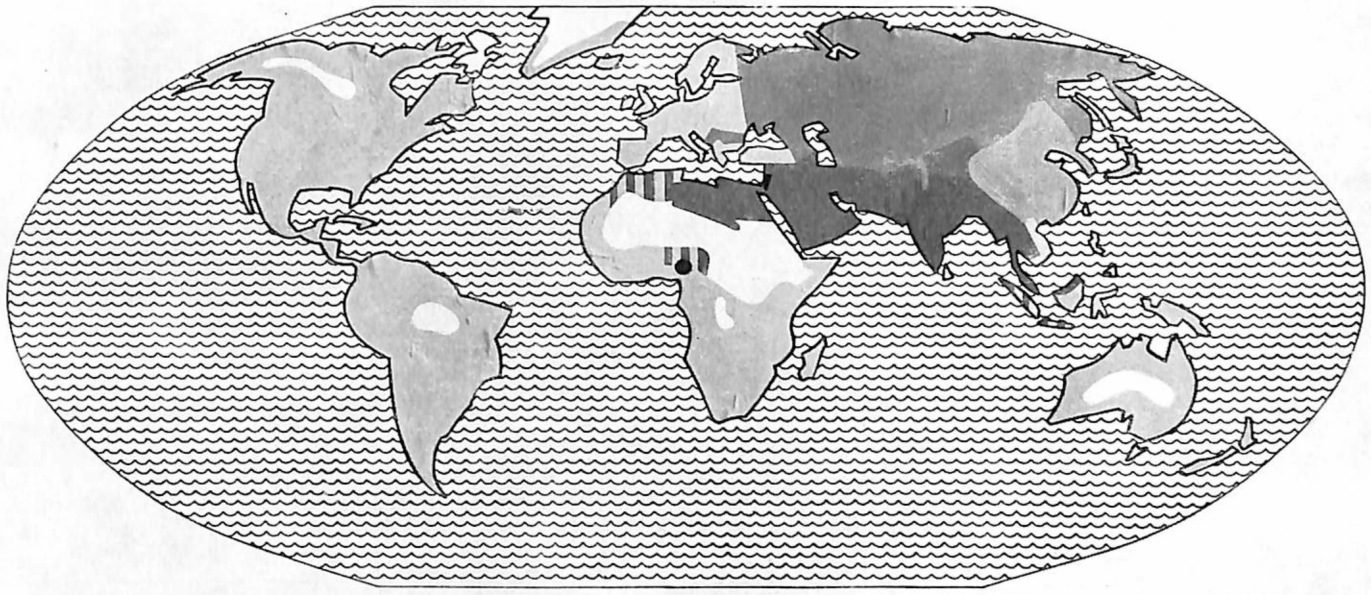


a

Конгресс потребовал восстановления профсоюзных прав, демократических свобод для трудящихся и народа Греции, в частности амнистии для всех заключенных в тюрьмы и высланных из страны политических и профсоюзных деятелей, включая Микиса Теодоракиса.

b

c



d

e

f

g

Newspapers and posters

The breakdown of absolutism, the progress of education, and the rise of modern democracy, led to the demand for quicker information. Modern printing methods also advanced and enabled newspapers to meet this demand.


stedelijk a'dam
collectie van
- 25 apr
abbe
museu
Campendonk
Colla
haber
Jacobsen
Kelder
stedelijk amsterda
STAHL
ЖИВЕЕ ВСЕХ ЖИВ
Литерату
Madame, êtes-vous une BONNE belle-mère?
La vraie cause du cholestérol : L'ANGOISSE
Germinal
Le grand hebdo compact illustré
ЛЕНИНИЗМ—ПОБЕДНОЕ ЗНАМ
ПРИМЕР ИДУЩИХ ВПЕ
HENRY IRVING
AND HIS COMPANY.
THE MERCHANT of VENICE
Shylock — HENRY IRVING
BECKET
Becket — HENRY IRVING
LOUIS XI.
Louis XI. — HENRY IRVING
KING RENÉ'S DAUGHTER
FOLLOWED BY
THE BELLS
Mathias — HENRY IRVING
NEXT WEEK,
For Six Nights and Matinee, Saturday, Oct. 21st,
Mr. GEORGE EDWARDES' COMPANY,
Including
Miss MARIE STUDHOLME
As "LADY BETTY,"
IN THE NEW MUSICAL PLAY,—
LADY MADCAP
From the PRINCE OF WALES THEATRE, LONDON.
TA NEA
ΣΤΑΘΕΡΟΣ Ο ΑΓΩΝ ΚΑΤΑ ΤΗΣ ΒΙΑ
Καταρτίζεται πρόγραμμα περιοδειώ
τοῦ κ. Παπανδρέου εἰς τὴν

Propaganda in the second century

Trajan's Column in Rome illustrates the two wars (101-106 C.E.) of the Romans against the Dacians (b). The column was erected in 113 C.E.

The army's activities in enemy territory: the Roman camp with soldiers gleaning (a, opposite); the treatment of prisoners (c, d); the Emperor among his soldiers (f); road-making (e, g, h); war scenes (i, k, l).

Street notices and advertising

Wherever we go, by night and day, in town and in the country we find writing: advertisements or notices for drivers; notices urging us to buy, to go in, to adopt a certain political attitude or to be entertained. Writing in the air, on the walls, under our feet, done professionally or scrawled by an unpractised hand.


SEVERAMENTE PROIBITO
FERMARSI ATTRAVERSARE
IL PIAZZALE DELLA VILLA
a
AUTOMOBILI CAMION, MOTOCICLI
& CICLI, E QUALSIASI SPECIE DI
VEICOLI
TOBAK
LAUNDERERS
LOTTENS
Trikå
PALS
MODES
Umleitung
PHILIPS
VESTER Bio
REST
NON STOP
FOTO
IN ONLY
EXPORTERS
萬國辨
SCUE SOCIETY
THE
RESCUE
SOCIETY
GOSPEL
SERVICE
NIGHTLY
at 8
44
NE
RENTE
garantie
OUI
A DE GAULLE
NON
NON!
Prof. FEDELE DE PACE
PAX
CARRINO
Rita

Standardization and personal expression

While writing becomes increasingly standardized, we also find individual expression in the design of letters.

a The Stuttgart Passionary (about 1175).
b *Decamerone,* Mantova, 1472.
c Wood engraving from a book by a master of writing.
d Otto Eckmann: Type for *Die Woche.*
e Sandberg: Catalogue cover.
f Dubuffet: Initial.
g Old face type.
h A. M. Cassandre: Bifur type.
i Stuttgart Polytechnic School: brass-rule type.
k Rudolf Koch: Sans-serif type.
l Josef Albers, Bauhaus—Dessau.

a

g

b

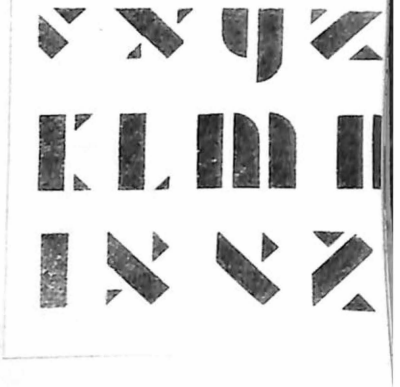
c

h

d

i

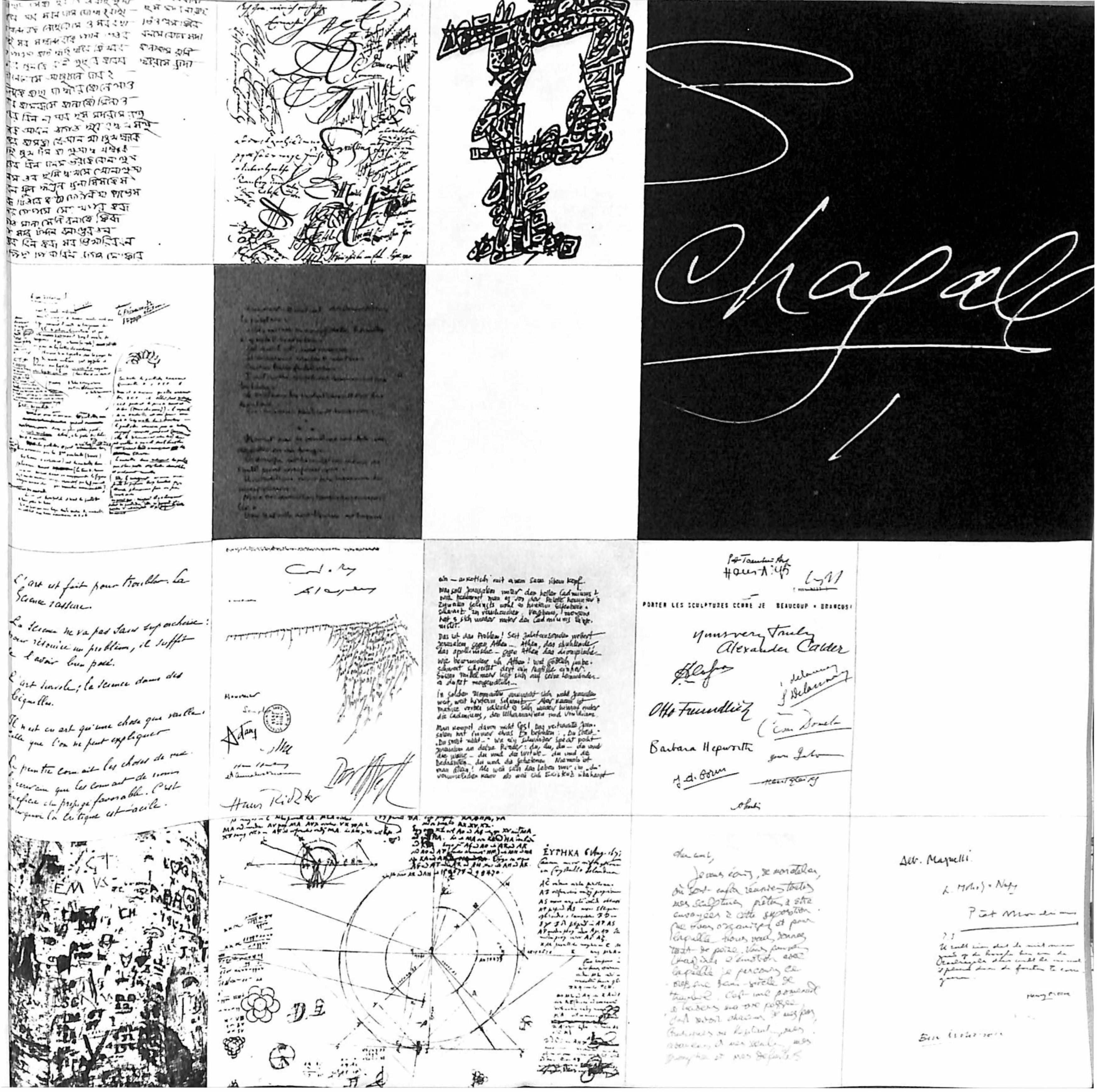
f



l

Handwriting

Handwriting, and particularly the signature, is expressive of the personality. In past centuries, writing had to conform, throughout life, to certain given standards. But with the 19th century, this exigency was gradually relaxed, except at school, and handwriting began to reflect the writer's intellectual and psychological characteristics. A new science—graphology—developed, concerned with the psychological interpretation of handwriting.


Chagall
PORTER LES SCULPTURES CCHRE JE BEAUCOUP • BRANCUSI
Yours very truly
Alexander Calder
Otto Freundlich
Barbara Hepworth
Piet Mondrian
L'art est fait pour troubler. La Science rassure.
La science ne va pas sans surpercherie:

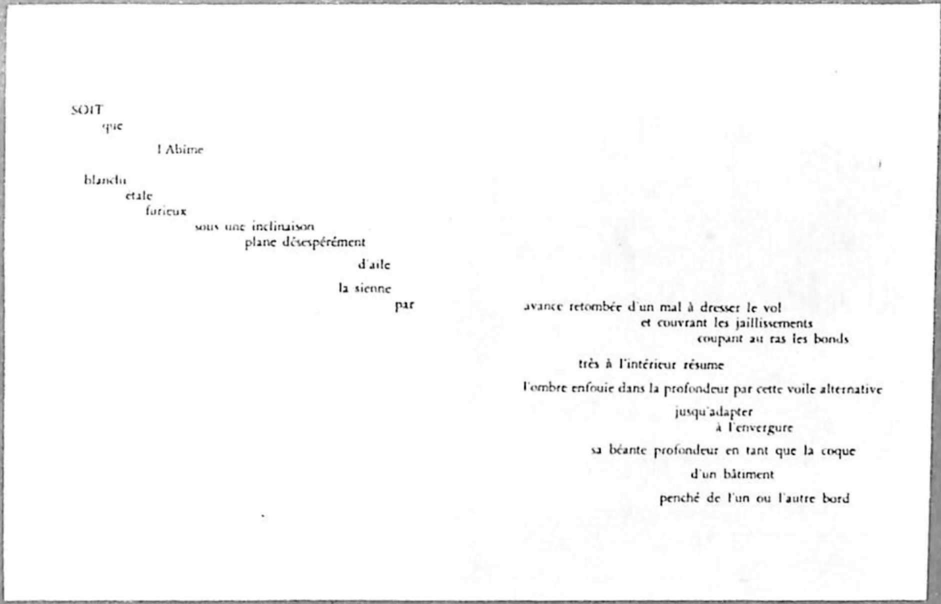
Writing as art

In Asia, from the beginning, both script and picture have been the written character that signifies a given object and, at the same time, the feelings and ideas associated with it, and the knowledge of it gained through experience. In examples of earlier East Asian calligraphy, a philosophy of life was compressed into the delineation of a written character (cf. Hakuin, Plate 21c) which, by the 17th century, had led to the production of new, free characters. Again, in modern Japanese calligraphy (where the title of each sheet is open to more than one interpretation), the writing of a character becomes an expression of the individual's relationship to the world, which by its pondered choice of the actual character and rhythmical continuation of its delineation, succeeds in complete concentration on the essential. Revolutionary contacts with the West led to a rediscovery of the tradition of freedom belonging to older times.

Outside of Asia, a rather similar sort of 'sign-painting' made its appearance in the middle of the 20th century. Fundamentally different from Asian calligraphy, in that it is not based on signs 'representing something', it has nevertheless been influenced by it, although it nearly always seeks to express something new, something not previously formulated. The two tendencies meet in painters such as Mark Tobey, Alcopley (United States of America) and Georges Mathieu (France).

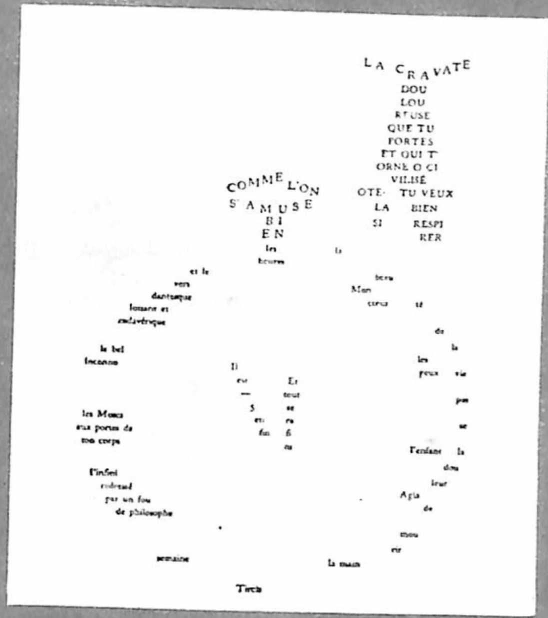
In countries with alphabetical scripts, the cursive form and the linking up of letters have also been used to form 'pictures'. In psychograms, the soul is, as it were, left to express itself in writing, but as the soul does not know the letters, a new 'script' comes into being, giving the effect of a picture through the movement by which it is informed.

In 1897, the French poet, Mallarmé, had his poem 'Un coup de dés' (a) printed in such a special form that text and typography constitute a new unity. In 1960, the Germans Vostell and Jürgen Becker, followed suit in a quite original manner (d, opposite). The Dutch printer, Werkman, introduced a 'picture' element into his calendar (c). The painters, Feininger (g) and Emil Schumacher (k) devised appropriate ways of writing their own names. Guillaume Apollinaire follows earlier examples in setting his poems out in the form of the object to which they relate (b and i). For Paul Klee (e) and Kurt Schwitters (h, f), the meaning of the words is of less and less importance and their works come close to Cubist paintings.



SOIT
que
l'Abîme
blanchi
étale
furieux
sous une inclinaison
plane désespérément
d'aile
la sienne
par
avance retombée d'un mal à dresser le vol
et couvrant les jaillissements
coupant au ras les bonds
très à l'intérieur résume
l'ombre enfouie dans la profondeur par cette voile alternative
jusqu'adapter
à l'envergure
sa béante profondeur en tant que la coque
d'un bâtiment
penché de l'un ou l'autre bord

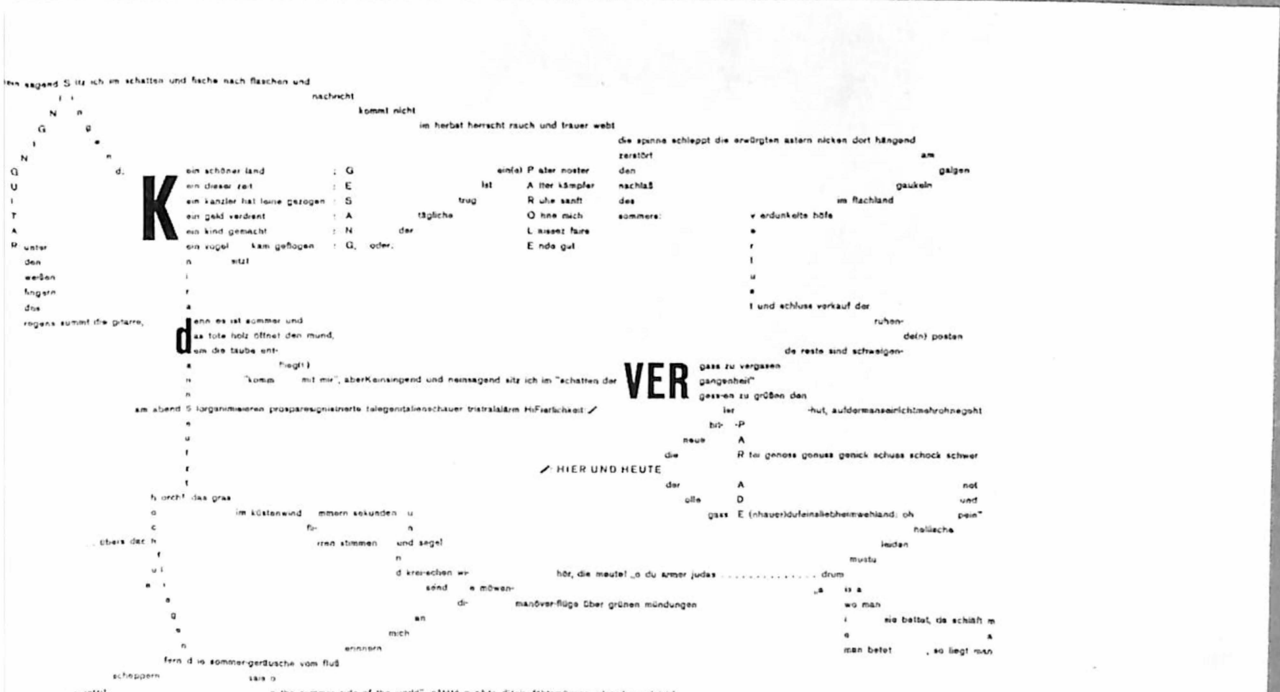
a



LA CRAVATE
DOU
LOU
REUSE
QUE TU
PORTES
ET QUI T'
ORNE O CI
VILISÉ
OTE- TU VEUX
LA BIEN
SI RESPI
RER

COMME L'ON
S'AMUSE
BI
EN
les
heures
et le
vers
dantesque
luisant et
cadavérique
le bel
inconnu
les Muses
aux portes de
ton corps
l'infini
redressé
par un fou
de philosophe
semaine
la main
Tircis

b



... sagend S itz ich im schatten und fische nach flaschen und
nachricht
kommt nicht
im herbst herrscht rauch und trauer webt
die spinne schleppt die erwürgten astern nicken dort hängend
zerstört am
den galgen
nachlaß gaukeln
des im flachland
sommers: v erdunkelte höfe
G U I T A R R E N G I N G E N d.
K ein schöner land : G ein(e) P ater noster
ein dieser zeit : E ist A lter kämpfer
ein kanzler hat leine gezogen : S trug R uhe sanft
ein geld verdient : A tägliche O hne mich
ein kind gemacht : N der L aissez faire
ein vogel kam geflogen : G, oder. E nde gut
n sitzt
unter den weißen fingern des regens summt die gitarre,
d enn es ist sommer und
d as tote holz öffnet den mund,
d em die taube ent-
fliegt(!)
"komm mit mir", aberKeinsingend und neinsagend sitz ich im "schatten der VER gass zu vergasen
gangenheit"
gess-en zu grüßen den
e r l u e t und schluss verkauf der
ruhen-
de(n) posten
de reste sind schweigen-
am abend S (organimieren prosparesugniertnerte talegenitalienschauer tristralalärm HiFierlichkeit:/
ler -hut, aufdermanseirichtmehrohnegeht
bit- -P
neue A
die R tei genoss genuss genick schuss schock schwer
/ HIER UND HEUTE
der A not
olle D und
gass E (nhauer)dufeinaliebheimwehland; oh pein"
höllische
leiden
mustu
h orch! das gras
im küstenwind mmern sekunden u
fli- n
... übers dac h rren stimmen und segel
n
d kreischen wi hör, die meute! „o du armer judas . . . . drum
sénd e möwen- „a is a
di- manöver-flüge über grünen mündungen wo man
an i sie bettet, da schläft m
mich e a
erinnern man betet , so liegt man
fern d ie sommer-geräusche vom fluß
scheppern sais o
„a jetzt n the summer side of the world", côtété = côte d'ésir, fähtamüsang, plassivousplaisir!
und nen b ad-
hebt renn end-et-ende bronzed-beauties, begin the bikini! kino krimi- chrom and sexociety crème, krude cliquen claquen quick und quakend kulthurraserein!
es bräun-
an mal nale
zu mag killer knüller ller nüller ller üller ler ller er ler r er r
sagen". mann
nachrichten sind anzusagen T sieht jeder"-
alte nazis anzuklagen A n der
sonst du sollst den sonntag anzug tragen K irchentür, zum beispiel,
aber niemals anzufragen A ndernorts ein
endlich emigranten helfen koffer an den zug zu tragen L aufloser
... P rotest zerbeißt
die flatternde zunge
vergilbt wie herbstliche nachricht

k

Writing in the fine arts

The letters of the alphabet were used in a picture, for the first time, in 1913, by the Cubist Georges Braque, and later by Pablo Picasso and Juan Gris. The letters were either painted or cut out (from a newspaper) and stuck on the picture (this marks the beginning of the *collage* technique).

Almost all well-known modern painters have introduced letters into their paintings, many of which, like the works of the Cubists, Schwitter's *collages,* and Paul Klee's 'Villa R' are famous. There are many compositions bearing such titles as 'writing', 'the alphabet', 'ABC', 'secret writing', etc.

The letters usually represent a graphic or spatial element in the composition. Sometimes one letter stands out clearly among fragments of other letters as an indication of something precise. For instance, the letter 'A' in the picture by Robert Rauschenberg (New York) indicates the 'American Abstracts'; the same letter is used at the Landesmuseum of Darmstadt to direct the visitor to the exhibition ('Ausstellung').

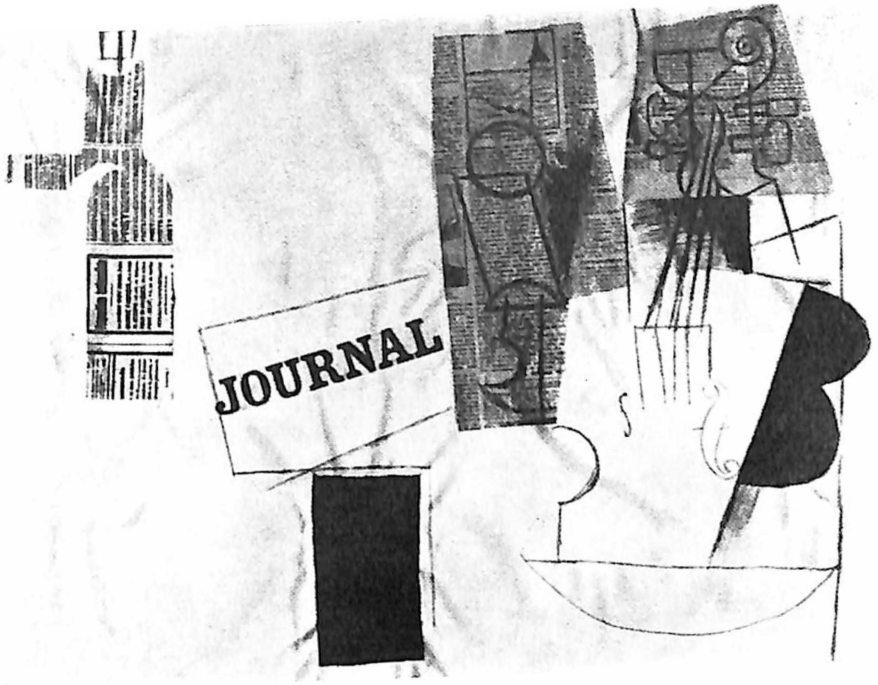
The Futurists brought movement to letters; their paintings come close to 'written drawings' in which writing and freely-drawn lines are mingled; the letters become the picture. This tendency originated with the 'object poems' of Mallarmé and Apollinaire and certain *art nouveau* works.

A very famous calligram is Paul Klee's poem 'Einst dem Grau der Nacht enttaucht'.

The Dutch artist, H. N. Werkman, invented paintings composed exclusively of letters; this idea is carried on in modern typographic art.

The Cubists were the first to introduce letters into their paintings (Georges Braque, 1913). The strangeness of this unusual form gives pictures a new intensity. Letters lose their old significance and become shapes again.

In the works of Picasso (a), Paul Klee (d) and Rauschenberg (f), letters again take on the monumental character they had in Egyptian art (c). They are combined in new forms, as in the paintings of Marinetti (e) and Werkman (b, h) or in decorative patterns as in those of Gris (g) and Vostell (i).



a

i

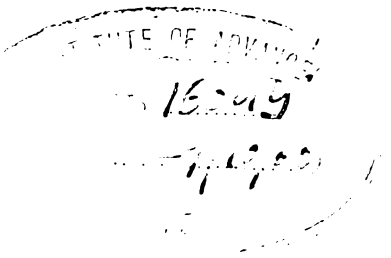
The art of writing

Pictures used for advertising purposes employ writing, and usually must do so in order to be understood; but perfect legibility is not always necessary; difficulty in deciphering sometimes helps to fix attention.

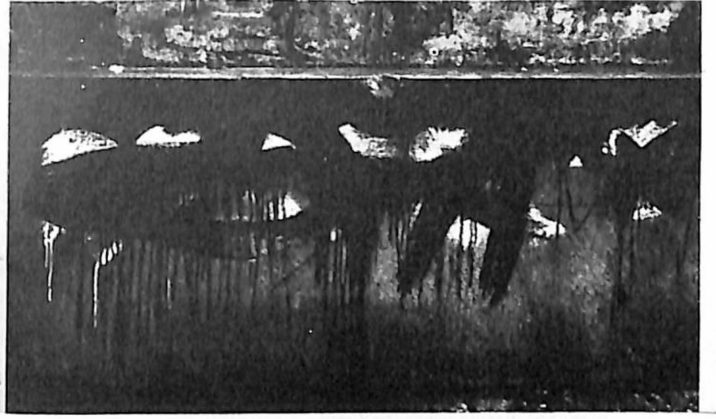
A clear text and an eloquent picture are often happily combined, as in the 'musica-viva' poster.

The uninitiated and those who seek a clear meaning cannot understand ciphers, magic writings, lovers' messages and free combinations of signs which call writing to mind. Such combinations of graphic elements resembling writing or simply reminiscent of mathematical formulae or musical notes, are often found in modern art.

The artist's handwriting—for instance in his signature (h, bottom left)—becomes an essential element in the picture: Van Gogh (a); a wall photographed by Brassai (b); Miro (c); Mathieu (d); a 19th-century Arabic calligram (e); Klee (f); Cuixart (g); Japanese calligraphy: Okabe Sofu (i) and Osawa Gaku (k); Alcopley (l); Steinberg (m).



a



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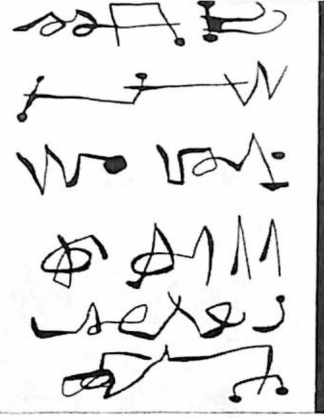
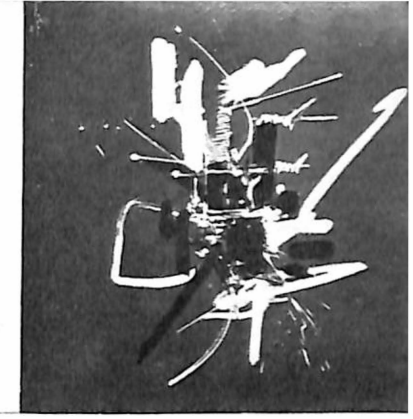
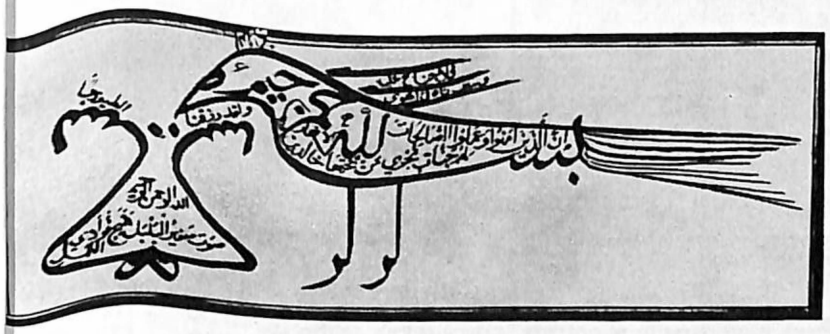


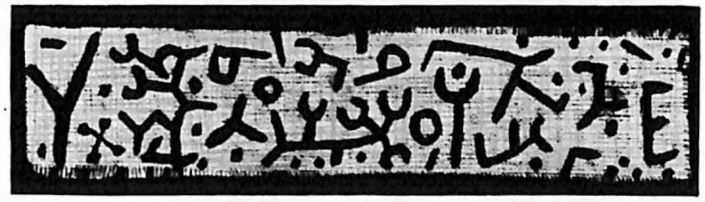
c



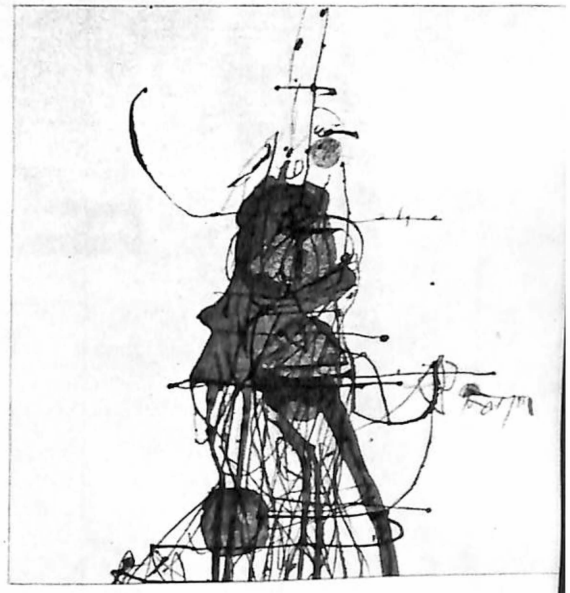
d



e



f



g

i

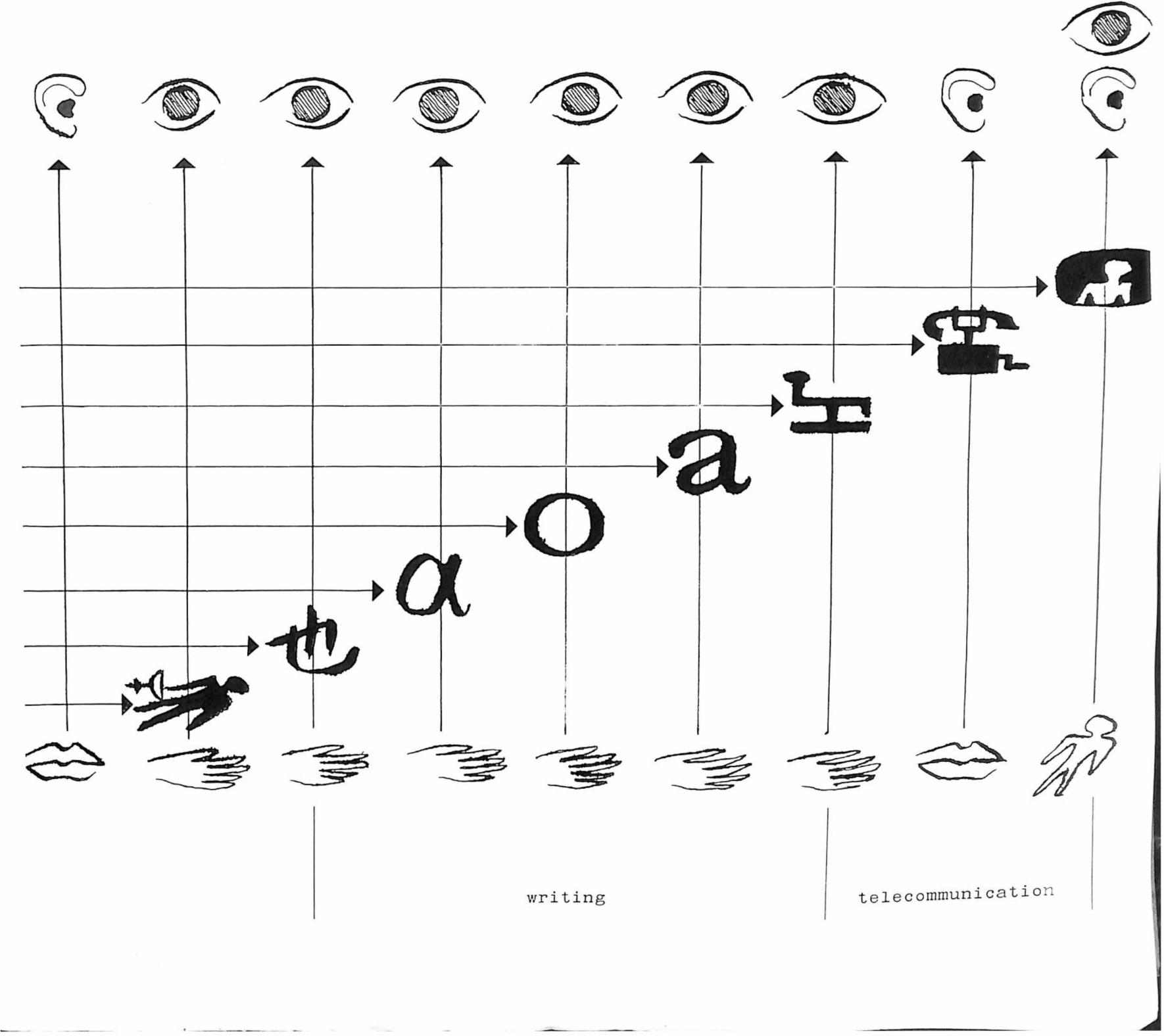
k

l

m

Principal stages in the development of communication

Television
Telephone, gramophone, radio
Telegraph
Movable type
An international sign: zero
Phonetic script: the alphabet
Figurative script: the ideograph
Pictures
Speech


writing
telecommunication

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