

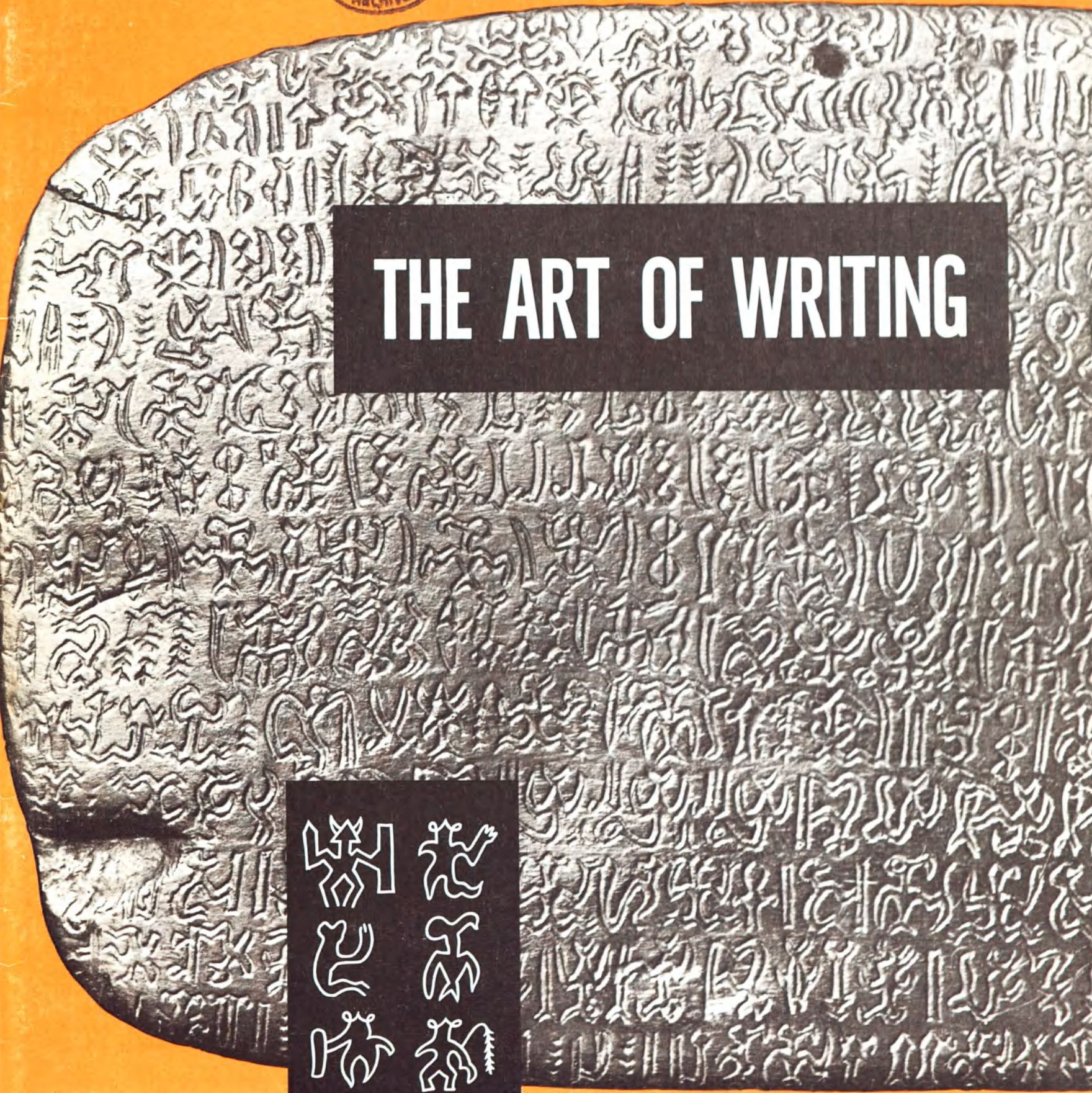
A WINDOW OPEN ON THE WORLD

3/64



# Courier

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## THE ART OF WRITING







## MASTERS OF THE PEN



Photos from "Eccentric Typography" by Walter Hart  
Blumenthal, published by Achille J. St. Onge, Wor-  
cester, U. S. A. 1963



Many artists have made use of writing and calligraphic designs in their paintings and drawings. Above left, an oil painting of Count de Galvez, an 18th century Mexican nobleman. It is the work of two priests, Friar Pablo de Jesus and Father San Jeronimo, a painter, and a calligrapher. Above, a centaur designed in rustic capitals, taken from a 10th century manuscript of Cicero's "Aratea", in the British Museum. Below left, a portrait of Abraham Lincoln, President of the United States, appears like a work in filigree through a calligraphic presentation of the Emancipation Proclamation, the centenary of which was celebrated last year.

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**COVER PHOTO**

The "singing wood" tablets (also called "talking woods") of Easter Island are entirely covered with mysterious symbols of men, animals, fish and birds which no one as yet has been able to decipher. Cover shows portion of one of these wooden tablets. Inset outlines six of these undeciphered figures (see page 26).

© Musée de l'Homme, Paris

Page

- 4 THE ART OF WRITING
- 9 HITTITE AND MAYA GLYPHS
- 10 CHAMPOLLION DECIPHERS EGYPT'S HIEROGLYPHS
- 13 THE BIRTH OF CUNEIFORM
- 14 THE EMERGENCE OF THE ALPHABET
- 17 IN THE PATH OF SACRED BOOKS
- 18 A FAMILY OF ASIAN SCRIPTS
- 20 HOW EUROPE BEGAN TO WRITE
- 22 ECHOES FROM THE STORY OF WRITING
- 24 ELEVEN CENTURIES OF THE CYRILLIC ALPHABET
- 26 SCRIPTS SHROUDED IN MYSTERY
- 30 IDEOGRAMS FROM ANCIENT CHINA
- 34 LETTERS TO THE EDITOR

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**Editorial Offices**

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Sandy Koffler

**Assistant Editor**

René Caloz

**Associate Editors**

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All correspondence should be addressed to the Editor-in-Chief.

**O**n January 21, 1964, a Unesco Travelling Exhibition, "The Art of Writing" was inaugurated at the Staatliche Kunsthalle, in Baden-Baden, Federal Republic of Germany. Its fifty panels with their hundreds of photographs and explanatory texts present the story of writing: the birth and evolution of different systems and their subsequent impact on the life of man.

The Unesco exhibition was prepared by Willem J. Sandberg, former head of the Stedelijk Museum, Amsterdam, in collaboration with Dr. Dietrich Mahlow, head of the Staatliche Kunsthalle, in Baden-Baden, according to a plan drawn up by Dr. Marcel Cohen, professor emeritus in the School of Modern Oriental Languages at the Sorbonne, in Paris. Specialists from other countries also gave their help.

In this issue The Unesco Courier has made extensive use of illustrations and texts from this exhibition, which will later visit other countries. The catalogue of "The Art of Writing" is a richly illustrated 130-page volume with a preface by Professor Etiemble, of the Sorbonne, and an introduction by Dr. Marcel Cohen, from which the following text has been drawn in slightly abridged form. The catalogue has already appeared in German; English, French and Spanish editions are in preparation.

The vast panorama of the art of writing is not only of historical interest; in an age when illiteracy is recognized as a challenge to the world, it reminds us that writing is still, as always, a basic condition of all human progress.





# THE ART OF WRITING

By Marcel Cohen

The first "texts" were "stories without words" told in drawings (pictographs). Signs shown here are memory-aids made by the Cuna Indians of Panama. They are for use by the singers of a ritual chant describing the quest for the fugitive soul of a sick man. The lines run alternatively from right to left and from left to right.

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**T**HE story of writing has had many beginnings in many different places. Though no more than a single moment on the time-scale of human history, it is nevertheless one of immense importance.

Recent discoveries suggest that as much as half a million years ago there may already have been human beings who possessed tools, weapons and utensils—stone implements that still survive and other artifacts of which no trace remains because they were made of vegetal materials.

Only in comparatively recent times—probably not more than 40,000 years ago—do we find man as we now know him (in terms of brain development), not only equipped with some comparatively well-designed implements but, in the case of certain peoples, also able to engrave, shape and paint images of living creatures that are pleasing to modern tastes.

It is clear that for these far-off peoples, æsthetic and utilitarian considerations were already closely linked. They appear to have believed it useful to produce likenesses, in certain conditions, and to use them in appropriate ways (in conjunction with spells and rites involving touching or transfixing) to ensure plentiful game and fruitful hunting. Their pleasure probably stemmed from the actual work of creation and from contemplating what they had fashioned in the dim, uncertain light of their cave homes.

Nor was this modelling of figures, whatever magical value may have been attributed to them, their sole artistic outlet. Even everyday objects reveal ornamental features, and jewellery was also made and worn.

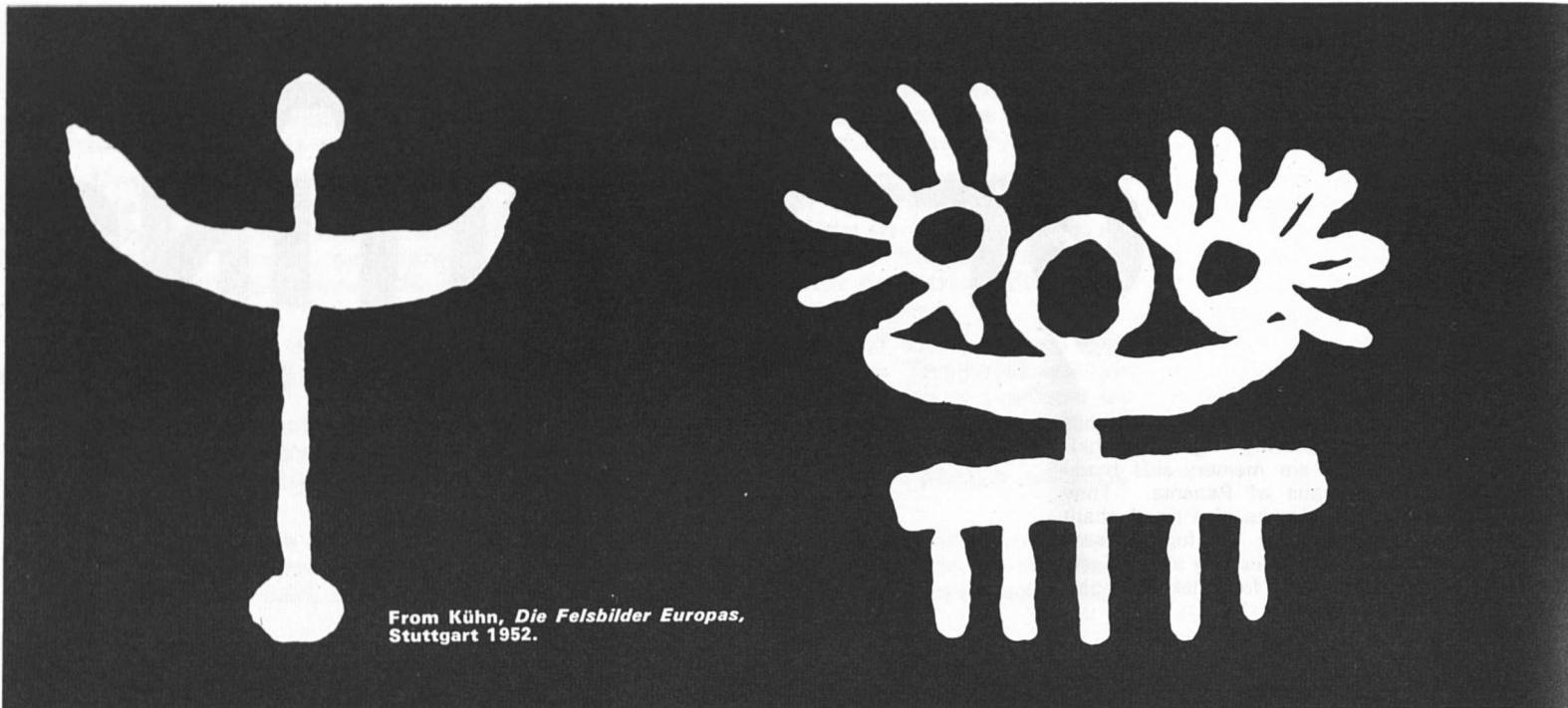
During the gradual evolution of speech into a perfected instrument it is probable that ways were found of replacing it and also of preserving it to a certain extent. This brings us to the "signs" (taken in a broad sense) which preceded writing and which have survived alongside it for various uses.

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 (from the Latin root "to paint" and the Greek root "to trace or write"). 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 anyone seeing it can grasp its message, although it is not broken up into words, and thus 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 form and use of these signs vary in the different societies which employ them, all of which have remained at a low level of economic development as is the case with hunting, fishing and simple farming communities in Africa, Northern Asia, America and Oceania.

CONT'D ON NEXT PAGE





From Kühn, *Die Felsbilder Europas*,  
Stuttgart 1952.

## A 6,000-year-old history

In a quite different category are the memory-aid pictographs. These are devoid of descriptive details and merely serve professional narrators as memory-aids for their recitations.

Genuine writing, involving the breakdown of sentences into words represented consecutively—a new sign of powers of observation and abstraction—emerges only in societies which have advanced to the stage of town building. This presupposes complex, regular trading, particularly for the supply of food to the towns from the country, and above all, the development of architecture at the hands of craftsmen and artists.

**A**RCHÆOLOGISTS have been unable to trace any written documents going back further than about 4,000 B.C. Broadly speaking, then, writing, which is not one of the strict necessities of life, has a history of about 6,000 years. Even now it is not yet in universal use, since nearly half the population of the world still does without it.

In an ideal, truly pictographic script, each word would have to be represented by a recognizable special sign, which is called the rebus system, or, more accurately, the "straight" rebus system—still employed nowadays for certain games, with various additional conventions. For instance, a circle with rays would mean "sun," a drawing of some headgear would represent "hat," and animals 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 are thus known as ideographs. As regards form, so long as the drawings are realistic, they may be described as hieroglyphs in the broad sense of the term, from the name given by the Greeks to the characters used in ancient Egyptian writing: (*hieros* "sacred" and *glypho* "carve").

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 of course be needed to cover a variety of themes.

6 In the next stage of invention, we find sounds being represented, and writing becomes—at first and only to a limited extent—a phonetic notation (from the Greek *phone* "sound"). But picture-writing or ideography is still the

basis of the system although use is now made of a "transferred rebus" procedure. This calls for a thorough analysis of a given language. It may then be seen, for instance, that it includes short words with "homophones" (the same sound); thus a sign can be saved, for example, by using the same one for "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." The writing here, though still ideographic in form, is now directly connected with the language concerned and its sounds.

When telling the story of writing, it is usual to begin with the Central American systems even though this is chronologically incorrect. The reason is that Central America is the only place, as far as we know, where a pictographic or hieroglyphic script developed without any schematization.

That is why this empirical classification would still hold good even if the present-day efforts to decipher Mayan and Aztec documents were to bring to light a mixture of ideographic and phonetic systems, such as we find in the more ancient writings of the Old World.

An urban stage of civilization, including the use of writing, had been reached in Central America. The Mayan Empire seems to have been in existence by the fourth century A.D., but after various vicissitudes it had to all intents disappeared even before the Spanish conquest in the sixteenth century.

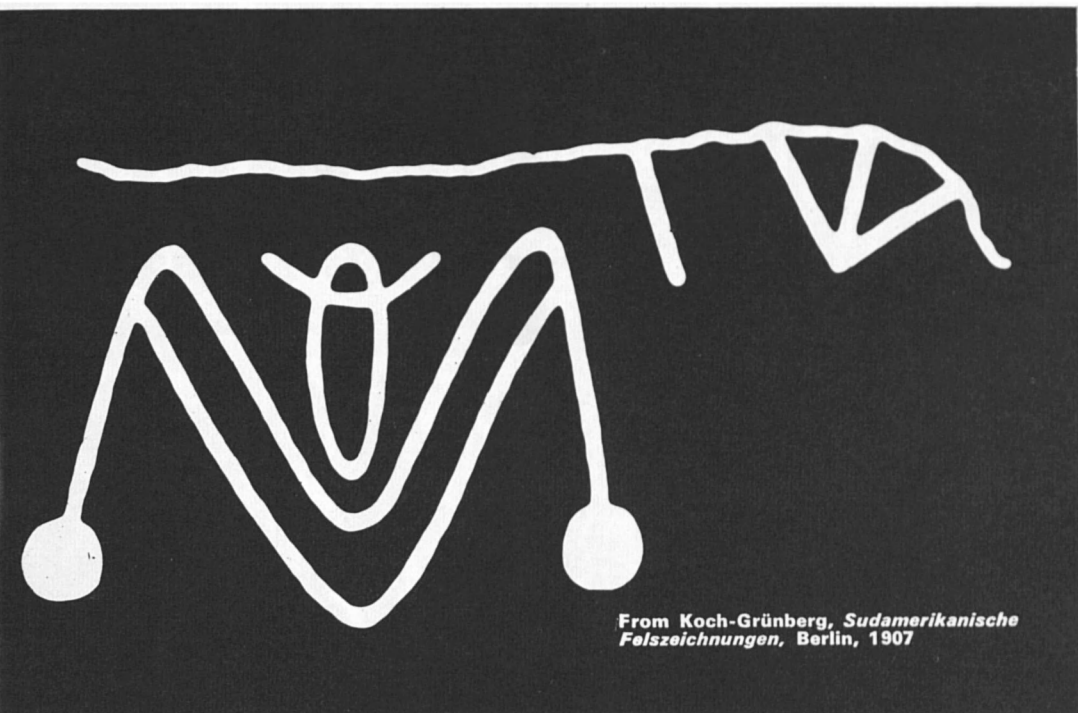
**R**UINS bear witness to the advanced stage of development reached in Mayan architecture, with its pyramids and monumental stairways. And writing was closely bound up with the architecture, large hieroglyphs being carved on the steps of stairways. Stucco figures and frescoes have also come down to us.

The Mayas also produced codices on parchment or 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 Mayan script. But the carvings on monuments were there for all to see and must have served for explanations, in the same way as the statues and



## EMBRYOS OF WRITING

The earliest elements from which true writing gradually developed were the images—drawn, carved or painted—with which ancient pastoral and hunting peoples marked a route or a site or commemorated some experience. Some signs were figurative and their subjects are easily identified. Others, like the primitive signs shown here, are abstract in form and their exact meaning still escapes us. From left to right: a moon-shaped form and an outline with two stars at its extremities (prehistoric rock paintings from Spain); rock-carved figure which was found in Brazil.



From Koch-Grünberg, *Sudamerikanische Felszeichnungen*, Berlin, 1907

stained-glass windows of Europe's Romanesque and Gothic cathedrals. We also know that one of the beliefs in the Mayan civilization was that the same events periodically recurred. The Mayas, therefore, must have thought it worth while to set down any facts which would help in making future predictions.

The Aztecs, who established themselves in Mexico in the fourteenth 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 known to exist, scores of Aztec manuscripts have been preserved. Some contain religious and others historical and geographical information; place-names recorded in the Aztec 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." "Coatl" is the word for "serpent," but to indicate the place, the preposition "tlan" (in the place of) is represented by the sign *tlantli* (disregarding the ending) mean-

ing "teeth." By this phonetic analysis the complete sign indicates the pronunciation as well as the sense.

It is also because of the mechanics of its system of writing that we now turn to Chinese, which goes back only to the middle of the third millennium B.C., instead of to the scripts of which we have the earliest evidence. The Chinese system comes close to the ideal form of pictography in that, in principle, there is one drawing, i.e. one character, for each word, which is itself an invariable monosyllable.

While this is perfectly true, linguists do agree that in fact, in many cases two words are often joined to form a kind of compound. There are thousands of characters, and one needs to know about 3,000 of them in order to read ordinary texts, while dictionaries for scholars contain over 40,000 characters—even more if rare words are included.

These characters are phonetically associated with particular groups of sounds. Many of the sounds have come

CONT'D ON PAGE 9

## WORD AND ORNAMENT

The art of representing speech by visual means springs from a graphic skill, which was first used as a means of ornamentation. Right, two Elamite decorative motifs. The Elamites, who lived to the north of the Persian Gulf and to the east of the Tigris, lost their independence to Assyria about 640 B.C. The script which they evolved and used for five centuries later fell into disuse.



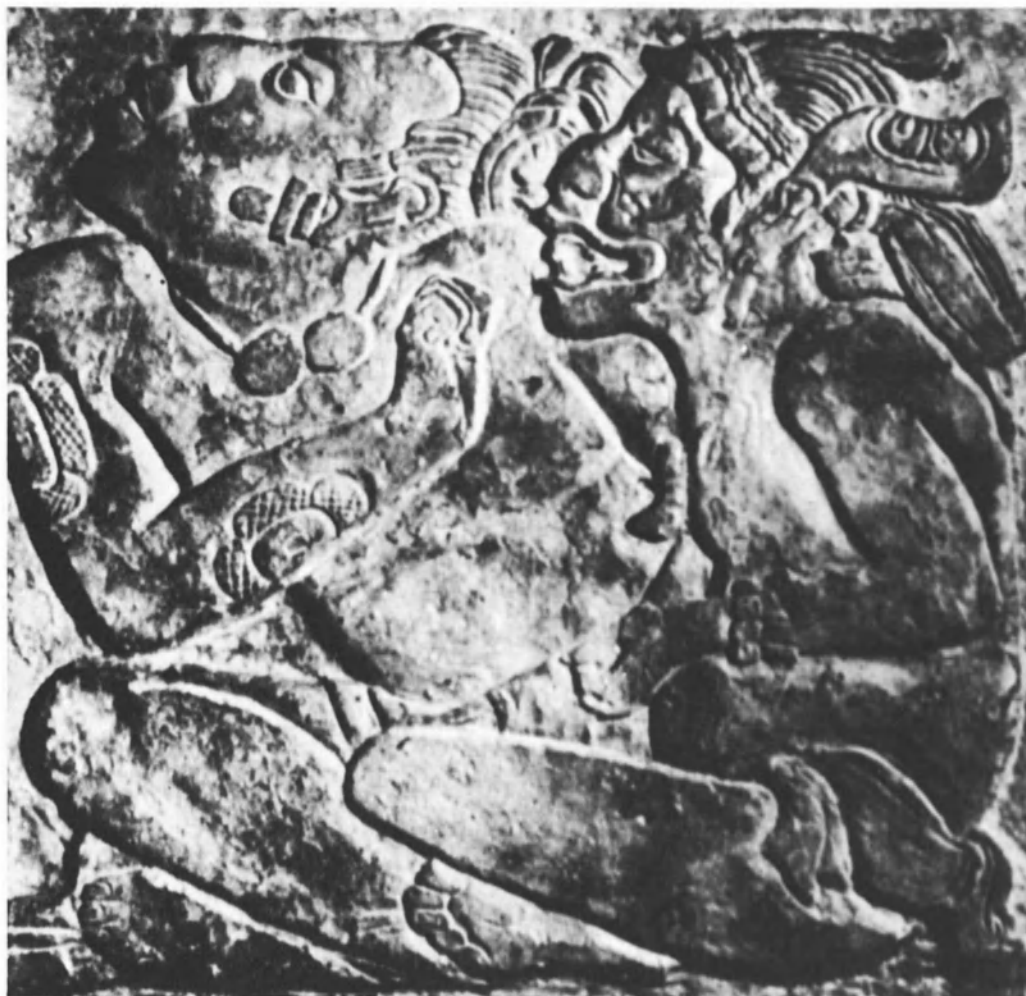
From "The Alphabet", by David Diringer, London, 1949





# HITTITE & MAYA GLYPHS

The Hittites, a group of peoples who inhabited Asia Minor and northern Syria, were already using their own form of hieroglyphic writing in 1500 B.C. Later they came to use the Babylonian cuneiform writing. Designed for the needs of religion, the Hittite writing was reserved for inscriptions on monuments (left). It was only when cuneiform writing had been deciphered that it became possible to tackle the hieroglyphs with the aid of a few existing bilingual texts and by searching for keys to the Hittite language through a careful analysis of monuments. (See Unesco Courier, Feb. 1963). Almost 20 centuries later the Mayas of Central America employed a form of hieroglyphic writing closely linked with sculpture and architecture. This writing was used by the rulers of a theocratic state for their religion and the remarkable calendar they devised. About one third of all the characters discovered relate to this calendar, and they have now been deciphered (See Unesco Courier, March 1962). Right, two Maya full figure initials heading a series of glyphs and symbolizing periods of time (7th century A.D.).



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## ART OF WRITING (Cont'd)

# Stones that speak

to denote a variety of objects, and in order to differentiate their meanings, keys or radicals of varying complexity (consisting of 1 to 17 strokes), and ideographic in character have been added.

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

**T**HERE IS no doubt that most of these characters are complicated, consisting of a number of small strokes applied with the tip of a brush. The practice of writing, which was once confined to educated people such as government officials and members of the wealthy classes, is today taught almost universally in China.

Aesthetic considerations are of major importance. Each minute character, occupying an imaginary square, each at a regular distance from its neighbour (punctuation marks being used to indicate groupings), is a miniature work of art. The work of skilled calligraphers, professional or otherwise, has always been as highly esteemed in China as the drawings and paintings of artists, and writing is often used as a decorative element.

From inscriptions on monuments and documents brought to light in Egypt, we know that as long ago as 3,000 B.C. there were organized states there with large cities where writing was in use. This was composed of hieroglyphs with elegant little drawings of recognizable objects (though some of the signs probably represented conventional gestures).

Used in monuments, including small stelæ with

inscriptions carved on them, and in paintings on inner walls of funerary chapels, these carved or painted pictures were still being made almost up to about the beginning of the Christian era. They then gave way to 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.

After a thousand years or so, a cursive form of writing developed alongside the monumental style. For this everyday form ink was generally used, and 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. With the help of these two systems, the number of signs could be reduced to a few hundred, thus placing far less 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 are similar to the Chinese keys or radicals.





British Museum, London-Kunstarchiv Arntz, The Hague

The Rosetta Stone takes its name from the town in the Nile Delta a few miles from where it was found in an ancient fort in 1799. This black basalt stèle was inscribed with a decree dating from 196 B.C. and defining the honours to be rendered to Ptolemy V in the temples. The stone bore three versions of the same text. The first was composed of 14 lines of ancient Egyptian hieroglyphs; the second had 32 lines in demotic (an everyday script derived from hieroglyphs); the third had 54 lines written in the Greek tongue and script. In the part shown above, the name of Ptolemy figures in the sixth line in a cartouche (one of the oval figures enclosing royal or divine names).



**PTOLEMY**

Above, the name of the Pharaoh Ptolemy, as it appears on the Rosetta Stone; right, Cleopatra.



**CLEOPATRA**

# CLEOPATRA & PTOLEMY GAVE CHAMPOLLION HIS MISSING CLUE

Right and below, Champollion's original drawings which accompanied his letter to the *Académie des Inscriptions* announcing his remarkable success. The letter and drawings were published in Paris in 1822. Right, Champollion gives in demotic script and hieroglyphs a series of names he identified, including Ptolemy, Cleopatra, Alexander and Berenice. In the bottom corner he has signed his name in hieroglyphic form. Below, part of a table of phonetic signs from the demotic and hieroglyphic scripts of the Egyptians together with corresponding Greek letters.

Unesco photos



*Tableau des Signes Phonétiques des écritures hiéroglyphique et Démotique des anciens Égyptiens*

Lettres Grecques	Signes Démotiques	Signes hiéroglyphiques
A	Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
B	Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
Γ	Ⲁ Ⲁ	Ⲁ Ⲁ
Δ	Ⲁ Ⲁ	Ⲁ Ⲁ
E	Ⲁ	Ⲁ Ⲁ
Z		
H	Ⲁ Ⲁ Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
Θ		
I	Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
K	Ⲁ Ⲁ Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
Λ	Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ
M	Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
N	Ⲁ Ⲁ Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
Ξ	Ⲁ	Ⲁ Ⲁ
O	Ⲁ Ⲁ Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
Π	Ⲁ Ⲁ Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ
P	Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
Σ	Ⲁ Ⲁ Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ Ⲁ
T	Ⲁ Ⲁ Ⲁ Ⲁ	Ⲁ Ⲁ Ⲁ Ⲁ
Υ		

ON September 22, 1822, a young French scholar who was passionately interested in Egyptology burst into the room in the French National Institute, in Paris, where his brother was working. He had hardly the time to cry out "Je tiens l'affaire" (I've got it) before he collapsed in a dead faint. Jean-François Champollion, poor and exhausted by overwork, had just solved the riddle of Egyptian hieroglyphic writing. A few days later when he had recovered, Champollion announced the great news in a letter to Monsieur Dacier, the secretary of the Académie des Inscriptions et Belles Lettres, in Paris.

Although eight years earlier, an Englishman, Thomas Young, had managed to recognize the cartouche with the name of Ptolemy in hieroglyphics on the trilingual Rosetta Stone, no further progress had since been made.

In 1821 Champollion made a capital discovery. Counting the hieroglyphic signs on the Rosetta Stone and the words of the corresponding Greek text, he found the hieroglyphs outnumbered the Greek words three to one; thus it took several hieroglyphs to form a single word. Using a demotic script written on papyrus, he confirmed the hieroglyphic form of the name Ptolemy and, in 1822, succeeded in deducing and writing with almost perfect accuracy the name of Cleopatra. He now had 11 letters as a basis for future decipherment. His findings were confirmed when he deciphered the name Thutmosis and he thus opened the way for a complete understanding of hieroglyphs—the key to ancient Egyptian history which had been lost for 1,500 years.

For the Egyptians, pictures and hieroglyphs continued to be closely associated even after the hieroglyphic script had become syllabic and its signs given phonetic value regardless of their original meaning. For three thousand years hieroglyphs remained the basis of monumental writing because of their artistic qualities.



# Ingenious triangles baked in clay

The second type, an aid to the pronunciation of the signs, consisted of phonograms or phonetic complements representing only the consonants of short words (one or two consonants) to indicate the pronunciation, without regard to the sense. In the uni-consonantal signs, the most common of all; we have the equivalent of the letters used at a later stage.

These phonograms, which represent 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 this writing serving utilitarian purposes, but being on fragile materials, they have perished. The oldest surviving documents are narratives of contemporary events. Documents relating to everyday life, as well as commemorative writings, have come down to us from a later period. Pictures of groups of scribes, writing apparently from dictation, show the beginnings of the practice of multicopying texts, in other words of compiling books.

The engraving of characters on scarabs used as seals was one of the very earliest uses of writing, to judge by remains from civilizations like that of the Indus Valley cities, 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.

**I**n another part of what, for Europeans, is the Near East, there developed at practically the same time a system of writing similar in concept to the Egyptian 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 have still to be established, and Akkadian (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, resembling nails, and other triangles with two sides extended to produce an arrow-head or wedge shape (hence the term cuneiform writing), made by pressing the tip of a sharpened reed, lightly or heavily, into a clay tablet before baking. This material has demonstrated its power of survival.

The many Mesopotamian scribes, whose intensive studies included grammatical comparisons between the two languages they used, developed a real calligraphic art with their angular tools. They arranged their texts with great ingenuity, fitted an astonishing amount of minute writing into small areas, and cleverly arranged their blank spaces.

This type of cursive writing on soft material was used by skilled stone-carvers on small monuments, particularly stele, the walls in miniature found in conjunction with the majestic Mesopotamian architecture and its often colossal sculptures.

As in Egyptian, most of the signs (about 500 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, and others are even shorter (a vowel alone or a vowel plus a consonant).

In both Sumerian and Akkadian the same signs are used to express different meanings. Sound-transfer was used



Louvre Museum, Paris - M. Chuzeville

Detail of the "family" relief depicting King Urnanshe of Lagash on a carved limestone plaque dating from about 2400 B.C. The king carries on his head a ceremonial contribution of mortar for building the temple; beneath him are officials. Script and figures are closely intermingled.





British Museum, London - Kunstarchiv Arntz, The Hague

## CUNEIFORM SCRIPT

A Sumerian cylinder seal dating from about 2250 B.C. The name engraved on the seal is illustrated with a scene depicting the release of the Sun-god.

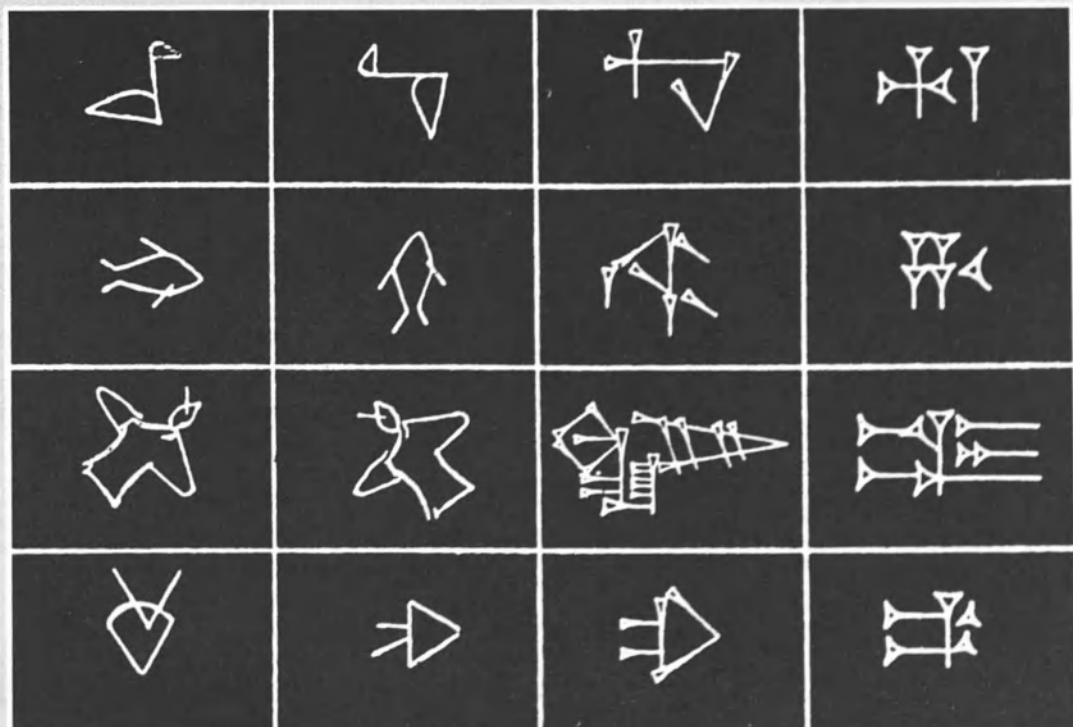
# Born from the point of a reed

**T**HE Sumerians in Lower Mesopotamia rank with the Egyptians, the Cretans and the Chinese as the earliest inventors of an efficient system of writing. They took the first step from the pictographic to the syllabic system and thus helped to develop writing as we know it today. About 3000 B.C., the Sumerians made seals, used as property marks, and then employed word-signs picturing the object referred to. These original "picto-

graphs" were then given phonetic values resulting in a greater descriptive precision. This was now a "rebus-writing", a word that was difficult to render pictorially being shown by the sign for another word with the same or similar sound. It thus became possible to write almost any combination of spoken words. By 2500 B.C., the writing had evolved into a few wedge-shaped strokes from which the name "cuneiform" is taken. It was writ-

ten on tablets of damp clay with a stylus—often the sharpened point of a reed. The Babylonian and Assyrians—and later the Hittites and Persians—took over the cuneiform script from the Sumerians and adapted it to their own languages. Sometimes an explanatory picture was included with the writing to guide the illiterate. But pictures and script now had no need of each other. Reading and writing began to spread throughout Mesopotamia.

How some Sumerian pictographic signs developed into cuneiform script. The word is first represented by a drawing. This turns on its side, then becomes schematic when written with a stylus on a clay tablet, and finally, in an abstract form, becomes an efficient syllabic method of writing. Thousands of tablets and texts have been discovered on sites in Mesopotamia and deciphered. Right, from top, signs originating as a bird, a fish, a donkey and an ox.



From "A Study of Writing" by I.J. Gelb, University of Chicago Press, 1963



Middle East Museum, Berlin-Maribor

## MEN OF LETTERS

One of the most momentous developments in the history of writing occurred in the Near East, one of the busiest highways of the ancient world. In the 2nd and 1st millennia B.C., the cuneiform and hieroglyphic syllabic scripts no longer met the needs of international trade and commerce. Efforts were made to produce an alphabetic script using only 20 to 30 signs. The Phoenicians, a roving people, now spread their highly practical script which proved easily adaptable to most languages. It took root, especially in their North African colonies. In its Aramic and Greek versions it threw out two mighty branches which finally covered a large part of the world. Left, Aramaic inscription on the bas-relief of King Barakab of Zenjirli (c. 750 B.C.).

### ART OF WRITING (Cont'd)

## The emergence of the alphabet

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. Because Akkadian took over Sumerian characters with their meanings and added others by breaking down Semitic roots, it is especially 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 an ideograph. There are fewer determinatives than in Egyptian, but Akkadian 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 only possible for someone who had studied thoroughly 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 millennium, the Elamites adopted the cuneiform script, making particular use of its phonograms. In the second millennium, a hieroglyphic system and cuneiform writing were both used in the Hittite country to the northwest of Mesopotamia. The great number of inscriptions used here have helped in the decipherment of inscriptions by giving a general idea of their content.

In the Ægean 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. (Minoan Linear B, for instance, has 80 and Cypriote 55). 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 Mycenæ, before the Greeks had received the alphabet. They have also deciphered texts from Cyprus dating from 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 Phœnicia have failed; nor is there any certainty that it is connected with some inscriptions found in Sinai, possibly dating from c. 1800 to 1500 B.C., containing a small number of signs more or less resembling crude drawings.

What is certain, however, is that in the region of the main scripts of the Near Eastern civilizations, and two thousand years after them, the alphabet was invented





André Vigneau, Ed. - Tel

The Phœnicians introduced their system of writing to their colonies, including Carthage, where this inscription was found on a Neo-Punic votive stone.



From "The Alphabet", by David Diringer, London, 1949

The Iberian inscription on the piece of pottery (above) is written from right to left, like Phœnician script on which it is probably based. It is believed to date from about 400 B.C.



Left, extract from a letter written by a Touareg woman of North Africa. This writing, still used in the Sahara, derives from Punic script.

From *La grande invention de l'écriture et son évolution*, by Marcel Cohen, Paris, 1958

only once, so far as we know, in the form of a phonetic system of writing, based on the smallest components of words. It thus consisted of very few characters (hardly more than 20) with simple outlines not representing any object. This ushered in the reign of sound-signs or letters.

It was a moment of capital importance when man reached a clear appreciation of the internal structure of his speech and made practical use of this understanding. This happened in a region of small city-states, whose prosperity was apparently maintained by trade with distant lands across seas or deserts, and in which the citizens probably took a fairly large part in government. As a skill possessed by more and more people, writing was thereafter to become a growing force in the development of the intellectual aspects of civilization.

The history of the alphabet, from its beginnings to the present day, is a complex one. It includes the ways in which the alphabet spread under the impulse of events, the emergence of national differences in the shapes of characters (reflecting, to some extent, different aesthetic tastes), the choice of different ways of supplementing phonetic symbols (in particular, the representation of vowels) and the various methods used in delimiting words while taking ideographic needs into account.

Paradoxically enough, the first confirmed use of the alphabet is found on tablets unearthed in Ugarit (in Northern Phœnicia), bearing cuneiform characters written from left to right. These tablets are believed to date from between 1600 and 1200 B.C. and the language used

is a form of Western Semitic closely akin to Aramaic.

The characters which were to develop into our alphabet made their appearance in Phœnicia and the neighbouring regions, in the case of both Canaanite and Aramaic, at least as early as 1000 B.C. (some archæologists say 1300 B.C. in the case of certain Phœnician monuments).

This alphabet had 22 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 extending upwards or downwards above or below the two imaginary parallel lines limiting the body of the small letters. The first impression is of a cursive script (with the characters separated), adopted for use on the hard material of sarcophagi or funerary stelæ. 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 (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 Phœnicians or by some channel of

# Journey from alpha to omega

propagation in Asia Minor, had far-reaching consequences.

The first was the completion of the alphabetic system by the addition of letters denoting consonants and 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, after some hesitation, became established from left to right. For what we call capital letters, the Greeks adopted a more or less rectangular form, not extending above or below the line, and with a pronounced 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 fifth century B.C. Although it was almost certainly borrowed from the consonantal Semitic alphabet, the shapes used from the beginning for the majority of the letters differed sufficiently to throw some doubt on this theory. 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 occurs most commonly; signs (and not letters) following, preceding and 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 sentence ending is indicated.

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

It is fascinating to follow the fortunes of the alphabet in the different parts of the world to which writing has penetrated in varying degrees for diverse uses: its journeys along trade routes and in the steps of religion, the changes in its outlines due to 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.

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 from right to left and from left to right, which is often found in large monumental inscriptions, is an aid to continuity in reading for anyone looking up at a façade. 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 stelæ and read upwards.

In the Semitic area where the Aramaic language itself gradually ousted Canaanite, Ugaritic, Akkadian (and Sumerian). Aramaic writing developed differently into various distinctive forms read from right to left. One was the "square Hebrew," which is now the official script of the State of Israel; others were the Syriac of the minor 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 linked letters were more often found in another small centre on the fringe of Arabia where the Nabatæan script was used.

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

16 In the south of the Semitic area itself, the Bedouin of Arabia borrowed their writing from the Nabatæans. 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 with the omission of the vocal punctuation above or below the characters, which is used in the case of the Koran and for teaching. It lent itself to all sorts of calligraphic exercises and refinements, in which some stylization was used, but it was also widely employed ornamentally on both objects and monuments, particularly on sections of ornamental stucco. 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.

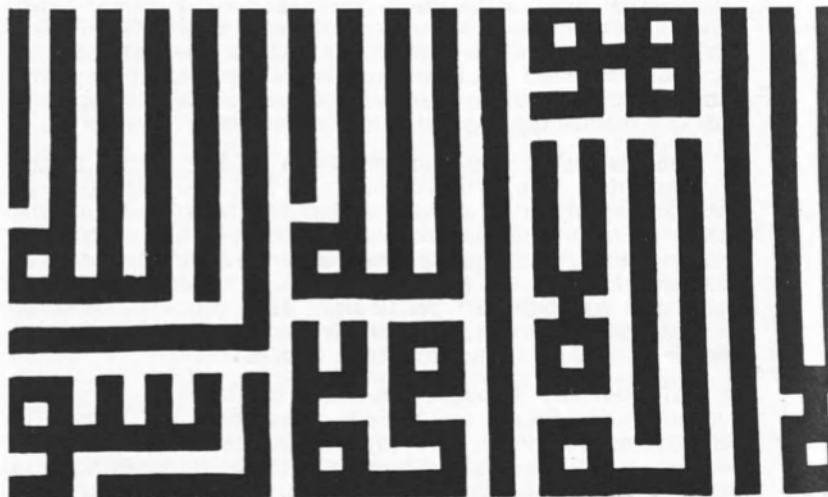
The Indian scripts covered the area in which Indo-Aryan languages are spoken, reaching as far as Nepal, and the area in which the Dravidian languages are used, to the south; but, following Buddhism (which was not to survive in India itself), they reached Tibet in the north and part of Indo-China and most of the Malay archipelago in the south-east. 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, in its classic form, has always remained confined to a limited area. It nevertheless



The script now used in the state of Israel is basically the same kind of "square Hebrew" shown above on a 5th century A.D. dedicatory inscription. It comes from the synagogue of Naaran.

Kufic writing is a beautiful, monumental script which takes its name from the Mesopotamian town of Kufa and its school, where the script was practised by famous calligraphers from the end of the 7th century A.D. Below, a Koranic inscription in Kufic.



Unesco photos.



expanded within this area in a variety of ways, undergoing relatively substantial changes at different times and in different directions. Eastwards, we should not overlook the existence in antique times of certain now extinct languages of Asia Minor such as Phrygian (although at least some of these languages may have received the Semitic system of writing at the same time as Greek did, or even before it). With the spread of Christianity, Greek script was used in Africa for Coptic and for the language of the Nuba people. For a time, to the north of the Black Sea, it was used to write the Germanic language of the Goths.

**G**REEK script then took the form still used for the Slavonic languages—the Cyrillic alphabet, with its distinctive but very similar characters—as it followed the path of the Eastern Church (Greece itself being an exception). Aberrant imitations, incorporating elements from a different source, were used for the Armenian and Georgian languages. The Soviet Union is now extending the use of the Cyrillic alphabet, to many of the regional languages, including Finno-Ugrian, Turkic and Mongolian, replacing Arabic characters in some cases.

Westwards, alphabetic writing spread in antiquity as the result of cultural influences and apparently without any particular religious implications. It did so above all in Italy, both among the Etruscans, whose mysterious language has still to be deciphered, and, either through the Etruscans or by some other means, among the Italic

speakers of Indo-European languages, especially the Latins.

A northern variety, in the Alps, apparently gave rise to the runes, the characters used in the ancient Germanic and Scandinavian alphabets, which in the Scandinavian countries had a certain magical significance.

The characters of the Latin capital-letter script, like the Greek, were largely symmetrical in shape and very clear. This script was thus well suited for monumental inscriptions; when need arose the characters could be made large enough to be read from a distance. For everyday use and the writing of books, all sorts of different forms were adopted; these have their own distinct history in which æsthetic tastes and the practical need for reconciling speed and legibility both played a part.

In the sixteenth century came the Gothic book-hand, a script curiously reminiscent of the ogival architectural style, found in the latest manuscripts and in 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 reached much of the rest of the world, including the Americas. It is now by far the most widely spread.

CONT'D ON PAGE 20

## IN THE PATH OF HOLY BOOKS

In the 9th and 10th centuries B.C., when the many small Aramean States in Northern Syria fell one by one under the domination of the Kingdom of Assyria, most of the people were deported. This enforced migration had an unexpected result. The Aramaic language and script spread across the whole of Assyria. For over one thousand years Aramaic was the language of trade and commerce from the Mediterranean to India. Writing and religion became increasingly linked as Judaism, Christianity and Islam set forth their doctrines in sacred books. The spread of religion also disseminated the script in which it was written down. Today, for instance, Arabic script is used not only for the Arabic language, but also with added signs for many other languages of Muslim peoples. It was from Aramaic that the text now known as "square Hebrew" developed, and parts of the New Testament were originally written in Aramaic.

Right, a 15th century manuscript of Uighur writing. (The two upper lines are written in Arabic). The Uighurs were a Turkic people of Central Asia. Their writing came indirectly from Aramaic and was the 12th century official script of the Mongol emperors.

Bibliothèque Nationale, Paris-Kunstarchiv Arntz, The Hague







Archæological Seminar of the University of Halle, Federal Republic of Germany

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1 - A bestiary of elephants, tigers, and rhinos intermingles with mythological characters and still undeciphered inscriptions on the seals made by the people of the Indus Valley. These plaques and seals, dating back some 5,000 years, attest the use of writing by this ancient civilization.

2 - An 18th-century manuscript in Gujarati, which began to be widely used in India from the 11th century A.D.

3 - A Tibetan woodcut for printing. Around the figure of a winged horse are inscriptions cut in reverse. The people of Tibet still use the Indian writing they adopted in the 7th century.

4 - A 16th century nuptial stele from Mysore, India. Texts surrounding the dancers are Telugu, the most widely-used script in southern India.

5 - Manuscript in Mongolian script which is read downwards and from left to right. Top line is written in a Tibetan script. Mongolian script is derived, with various additions, from the writing of the Uighurs, a Turkic people.

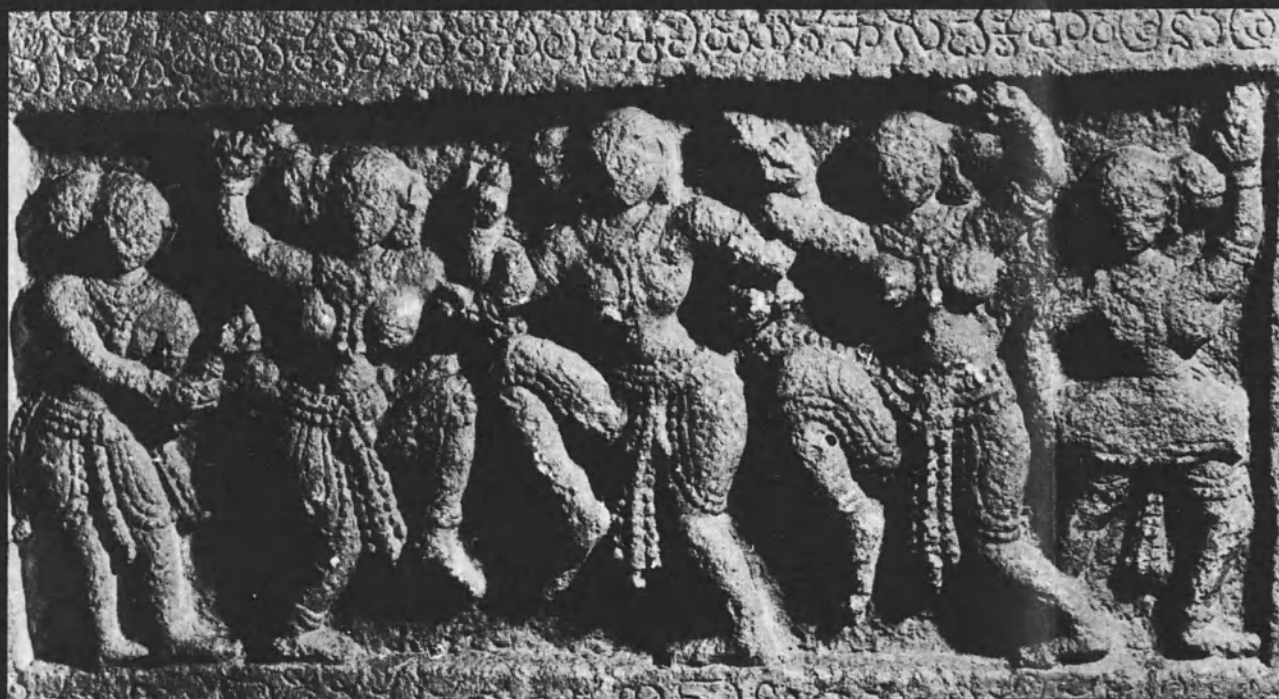
Westdeutsche Bibliothek, Marburg-Maribor

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Unesco

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Musée Guimet, Paris

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Musée Guimet, Paris

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# A FAMILY OF ASIAN SCRIPTS

Indian systems of writing did not evolve from the script used in the Indus Valley nearly 5,000 years ago. They made their appearance about 1,000 years before the present era, in a highly developed Indian civilization in which sacred texts had been orally transmitted for centuries. The ancestor of India's present systems of writing was probably introduced about 600 B.C. by traders coming from places where Aramaic writing was used. (The influence of Aramaic was felt as far as Mongolia).

The most ancient examples known — inscriptions carved on rocks and on

columns in the time of King Asoka (272-231 B.C.— show that there were already two types in use. One of these, *Brahmi*, spread throughout India and is the basis of all later regional scripts. The other, *Kharoshthi*, was used only in the northwest. The direction of these Indian scripts, written from right to left, indicates their Semitic origin.

The spread of Indian civilization soon brought its writing to distant peoples. Thus, *Gupta*, a variation of the ancient *Brahmi*, reappeared in East Turkestan. Tibetan writing also derives from an Indian source, as do Burmese, Siamese

Cambodian, Balinese and Batak (in central Sumatra).

Modern Indian scripts are divided into two main groups: those employed respectively in north and south. The classic northern script is the *Deva-nagari*, now being increasingly used for writing Sanskrit and thus replacing the many local writing systems that were formerly employed. Many other languages have their own scripts derived from ancient forms. In Southern India Tamil (spoken by about 18 million people) has a precise and practical script whose outlines contrast strongly with heavily ornamented forms of writing such as Sinhalese.



# The onslaught of the machine

Through its use in schools opened by missionaries, the Latin script has been adapted to the needs of the Malagasy language in Madagascar and of Vietnamese 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 it is now also being taught to the population at large. It is also being 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 with that of artifacts—the materials used for writing on, the writing instrument, the liquid used for writing. For a long time it depended on the manual skill of carvers and other copyists. A major turning-point was reached when texts were multi-copied thanks to printing processes, the prerequisite for which was a paper industry.

The history of multiple prints began in China in the second century A.D. Wood-engraving was practised in the sixth century. Movable type goes back to the eleventh century in China and Korea. In Western Europe, after a limited use of wood-engraving, the manufacture of movable type and presses in the fifteenth century opened the way to the development of books and broadsheets, resulting in a vast extension of reading, even though education was not yet general. Needless to say, the printing industry required new kinds of technically skilled workers.

In the nineteenth century, we find simultaneously a very great quantity of printed material, including daily newspapers (thanks to constantly improved machines), and general education in countries with a developed industrial civilization.

In the age of electricity, the accelerated progress of industry, to which writing as an intellectual tool contributed so much, has produced various alternative means of satisfying the needs for which writing caters: improved communications, recording, transmission and general diffusion of information, education, publicity and advertising and entertainment. The telephone, cinema, radio, T.V. and the tape-recorder are encroaching on the field of correspondence, newspapers, textbooks and novels.

The position of writing still seems to be unchallenged for at least some of the uses to which it was first put, earlier than the book, that is, for authentication in all its forms: certified communications, contracts, formal commemorations, edicts or judgements, religious texts to be repeated word for word, testaments and official legislative and judicial records. There seems little doubt that it will also continue to be used for private correspondence, personal records, and the notes and jottings of authors and writers.

To what extent the mechanical recording of speech will also affect these uses, and how much 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 answers are still uncertain.

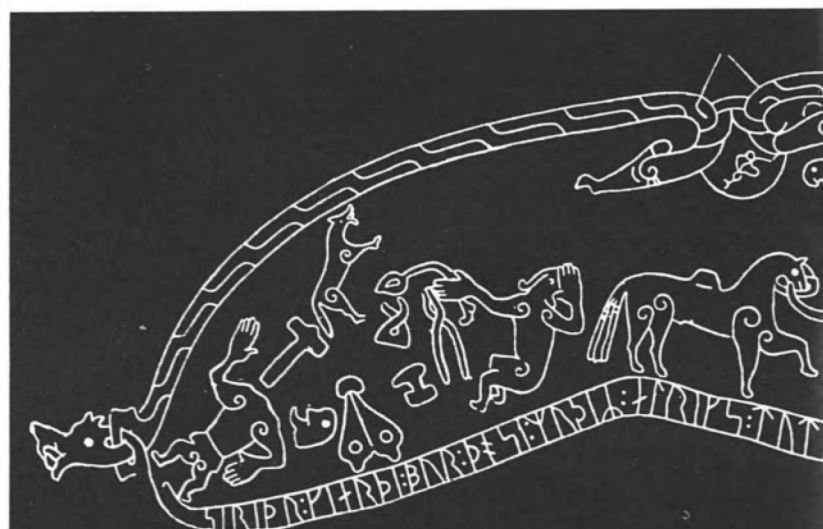
To what extent will the mechanical recording of speech affect all these uses and how much of writing will actually remain in use to prepare these same recordings? These are all questions for tomorrow.

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MARCEL COHEN is director of the Ecole Pratique des Hautes Etudes in Paris and professor emeritus in the School of Modern Oriental Languages at the Sorbonne. He is the author of many works on languages, including the monumental *Les Langues du Monde* (*Languages of the World*), written in collaboration with Antoine Meillet.

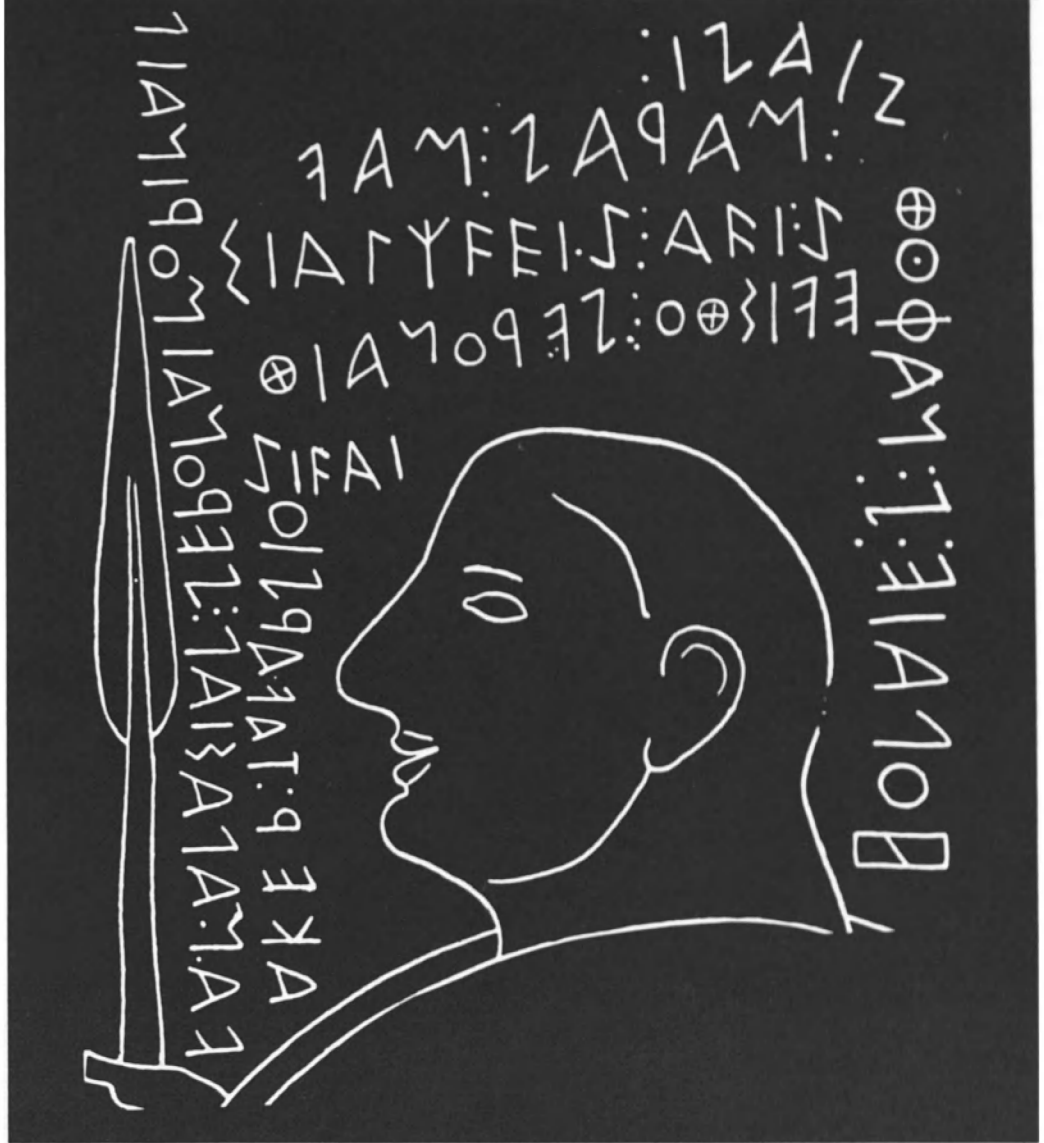


## HOW EUROPE BEGAN TO WRITE



Inscription on a column dating from the early 7th century, on Lemnos, an Aegean island. The writing, as yet undeciphered, is in a language which has many analogies with Etruscan. The two may have had a common origin in continental Greece.

From *L'Écriture et la Psychologie des Peuples*, Armand Colin, Paris, 1963



Etruscan tomb inscription. The development of this alphabet, initially borrowed from the Greek, continued during seven centuries of Etruscan history.

From Buonamici, *Epigrafia etrusca*, Florence, 1932

About 1000 B.C. the Phœnician alphabet was transmitted to the Greeks, probably by Semitic traders. Characters in the oldest Greek inscriptions have much in common with Phœnician ones and, like them, are written from right to left. The Greeks perfected the alphabet by using separate letters for the vowels, since vowels did not exist in Semitic texts. Later the new alphabet was written from left to right.

Greek settlers introduced writing to Italy, where the Etruscans were the first to practise it, probably from the

8th century B.C. The Etruscans, like the Phœnicians, wrote from right to left (see page 28). Their alphabet was adopted by the Romans who gave it a new form in which it spread throughout the world.

It was also from the Greeks that the peoples of Eastern Europe received the alphabet. Germanic runic writing is a developed and modified form of certain north Italian alphabets and appears to have been used in Scandinavia in the 3rd century B.C. Early Slavonic scripts evolved from Greek.



Right, one of the oldest Latin inscriptions (about 600 B.C.). It is carved on the "Black Stone" found in the Roman Forum.

Alinari, Florence

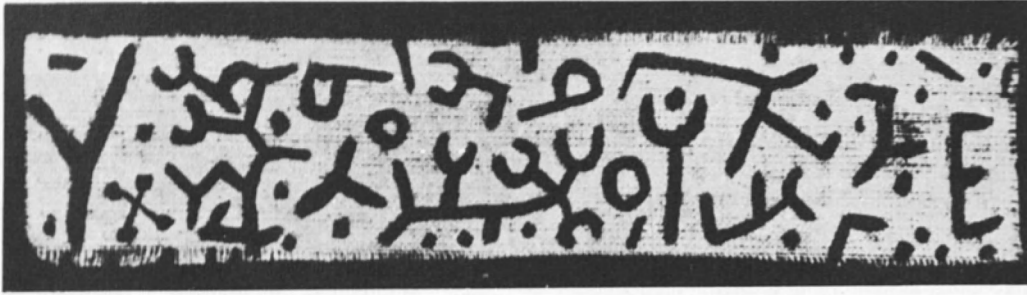
A rock-carved design from Sweden. A mythological hero, Sigurd, kills the dragon Fafnir, whose body is covered with runic inscriptions. Early Germanic sagas abound with instances of the magic power of runes and treatises were also written on their use for magic.

Kunstarchiv Arntz, The Hague





## CALLIGRAM COMPOSITIONS



Arabic characters forming the fanciful impression of a nightingale (right). This 19th-century Arabic calligram is a quotation from the Koran promising entry to Paradise to those who do good during their lifetime. Left, letters of an imaginary alphabet are used in this calligram composition by the Swiss painter, Paul Klee.

Unesco photos

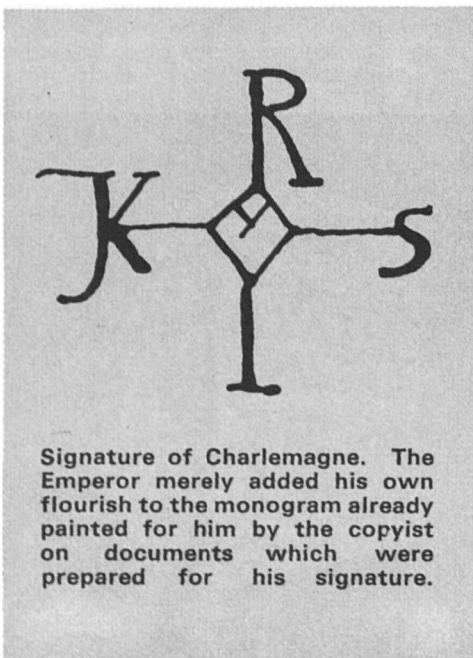
# ECHOES FROM THE STORY OF WRITING

On these pages we present extracts from "L'Écriture et la Psychologie des Peuples" (Writing and the Psychology of Peoples), a work recently published by Armand Colin, Paris. In this volume of 18 studies, eminent scholars explore the connexions between the history of writing and the psychological and sociological characteristics of different peoples.

## EGYPTIAN HIEROGLYPHS

The hieroglyphic system of writing is remarkably precise and if its rules are followed exactly, there is little chance of mistakes being made. Another of its advantages is that it can be written from left to right or from right to left, in lines or in columns. In nearly all cases the direction chosen is the contrary to our own system. The orientation of a text is linked to those hieroglyphs that represent living things or objects of unsymmetrical shape. When these are turned to the right, the inscription should be read from right to left; when they are turned to the left the text should be read from that side. Texts can thus be arranged in a great variety of ways.

JEAN SAINTE FARE GARNOT



Signature of Charlemagne. The Emperor merely added his own flourish to the monogram already painted for him by the copyist on documents which were prepared for his signature.

## THE SCRIBES OF SUMER

Towards the middle of the third millennium B.C. there were already schools of writing throughout the land of Sumer. Records of the period reveal that there were several thousand scribes. There were the "junior" and "high" scribes, scribes of the temple, and "royal" scribes of the palace and scribes specialized in particular kinds of administrative work... it was a man's profession; and in Sumer it was also one which carried with it great prestige. Several of these professional writers rose to high government rank and some even became rulers of the country. Some time later, in the days of the Assyrians and the Babylonians, the profession of scribe was opened to women.

RENÉ LABAT

## A BATTLE OVER BOOKS

The story of the book as a vital part of everyday life begins shortly after the start of the Alexandrian Era, about the middle of the 2nd century B.C. It is closely linked with the results of Alexander's conquests, with the development of culture in general and with the creation of the great schools of philology. This, then, was the opening of an era that has since moulded human existence: the era of books. At the same time the problems of writing and book production became inter-related to some extent.

Several common factors determined the development of writing and of books. One of these was the expansion of papyrus-making; another was the increased use of the Greek script among peoples who were not exclusively Greek in origin. An Egyptian, for example, was obliged to learn Greek as a schoolboy of today learns a foreign language. An added stimulus to cultural growth was the rivalry existing between the great Hellenistic cities. Pergamum, in Asia Minor, an active and often successful rival of Alexandria, invented a new writing material, "pergamum", now known to us as parchment.

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Early in the 2nd century A.D., a conflict arose over the use of papyrus or parchment for book-making and over the form of books: between the "volumen" and the "codex". The "volumen" was a long roll with writing only on one side; the "codex" was made of a series of sections written on both sides. These sections were placed in the order required and were protected by a

binding or cover. The "codex", especially the parchment codex, seems to have developed more rapidly in the Occident than in the Orient.

This battle over the different kinds of books was waged over a long period and in many ways. Not only were "codices" sometimes skilfully fashioned from papyrus, but book-makers also used papyrus and parchment sheets in the same volume.

ALPHONSE DAIN



A "ballot paper" bearing the name of the Athenian statesman, Themistocles (471 B.C.) and used on the occasion of his banishment. According to Greek custom a potsherd or tile or even a shell (ostraca) was used in such cases, and on it was written the name of the person being sent into exile. From "ostraca" we now have the word "ostracize".

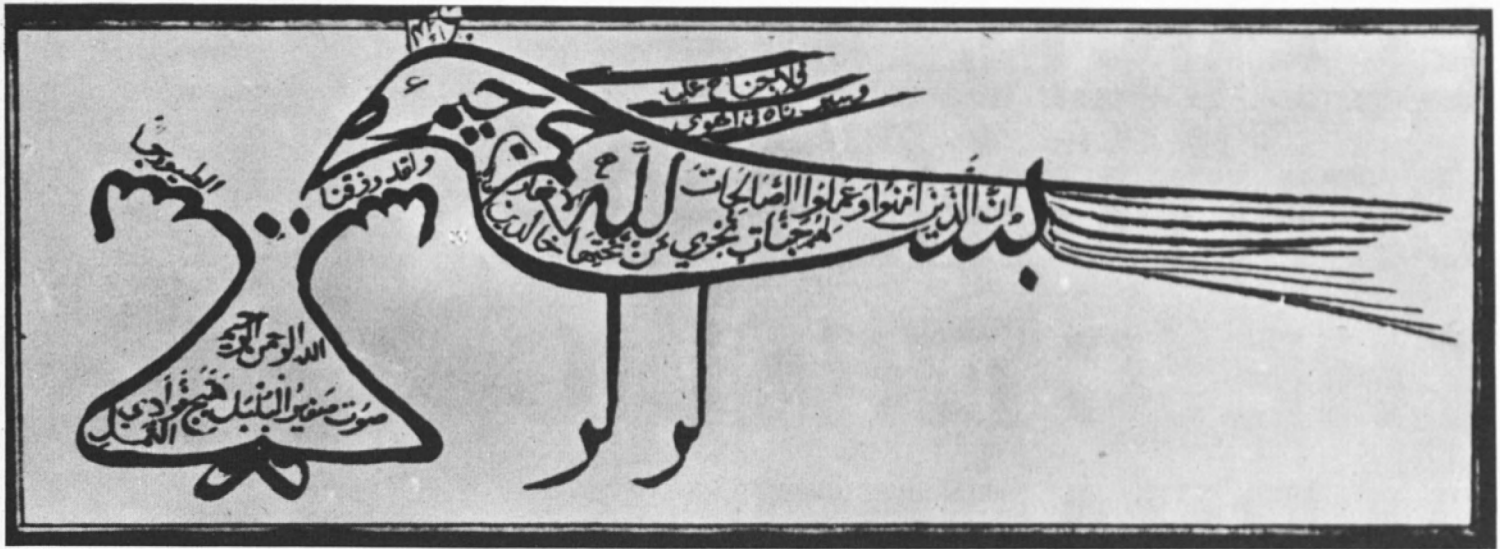
## CHINESE 'NOBLE' ARTS

The formal and scholarly aspect of the most ancient Chinese writing suggests that it was once a more or less jealously guarded prerogative of a restricted circle or élite. History and archæology have now confirmed that this was so.

It is already significant that writing was once regarded as one of the Six Arts: rituals, music, archery, chariot driving, writing and the science of numbers (that is, basically, the art of soothsaying). According

## NEW ESKIMO SCRIPT

Despite their archaic air these characters are a modern creation: a syllabic form of writing evolved for the Eskimos of Canada. Their meaning also has a modern ring: "First Conference of the Arctic Co-operatives."



to Confucian traditions, all these activities were designed to contribute to the education of the "superior man"; but instead seem to have formed the basis of "noble" arts linked with magic.

With the growth of the imperial power early in the Han Dynasty (2nd and 1st centuries B.C.) the code of ethics of the nobility and the ritual practices of antiquity were restored and given a new interpretation in the interests of the State. It was thus a ritualist concept of writing which developed among the ruling classes. The emperor became the guardian and sole arbiter of standard writing practices, and writing itself became an affair of state. Because writing was regarded as a collection of symbols used to represent and evoke all living persons and because it was accepted that the emperor's chief function was to allot to each person his name and station, no changes could be made in writing by those who used it. The emperor alone was authorized to proscribe certain signs and to introduce new ones.

JACQUES GERNET

## CALLIGRAPHY

The fact that Chinese writing soon led to a complex and scholarly art form is due to its graphic wealth and stylized forms. Its aesthetic aspects and functions are thus far more developed than those of other scripts. Unlike the hieroglyphic writing of Egypt, with its immutable outlines, or Arabic script, it has more than a purely ornamental value. It constitutes an art in its own right, in which the individual personality of the calligrapher finds full expression.

That is why processes for the accurate reproduction of calligraphic work were developed in China even before techniques were evolved for the everyday diffusion of texts. The practice of making impressions in stone appears to date back to

about 500 A.D., but is still employed today because it offers a cheap and effective way of reproducing examples of skilled calligraphy; it in no way encroaches on the purpose of ordinary printing which is designed to meet quite different needs.

JACQUES GERNET

## ROMAN STREET SIGNS

In the Roman world of Augustan times (63 B.C. to 14 A.D.) many citizens could read but few had the means to assemble a library. However, as the teaching of writing seems to have occupied an important place in the education of slaves there must also have been numerous individuals who managed to constitute a library by borrowing books and then having them copied in their own homes.

By the middle of the 1st century A.D., the Romans had ceased to think of writing in its exclusively utilitarian role; they discovered its aesthetic possibilities. Painted inscriptions began to be used to ornament the streets, along with signs bearing figures and designs. A book page became a work of art.

ROBERT MARICHAL

## EARLY BEST-SELLERS

Along with the books found on the shelves of collectors there already existed in the 16th century the equivalent of our present-day newspapers and magazines—the vast collection of printed matter consisting of news items recounting important events. Some of these works came into the hands of a very large public. For example, one unpublished inventory reveals that the stock of a Parisian bookseller in 1540 included 250,000 prayer books. Another bookseller had 30,000 devotional books. Counting together all the published editions of Luther's translation of the Bible, the total number of copies would run to several hundred thousand. By 1560 the number of copies of works bearing Luther's name could be reckoned, if not in their millions, at least as having exceeded the one million mark. I discovered in a 17th century inventory references to 30,000 copies of various dramatic works, including 10,000 copies of plays by Corneille; at this period, theatrical works were widely read.

HENRI-JEAN MARTIN

## For further reading

### WRITING AND THE ALPHABET

By A.C. Moorhouse  
Cobbett Press, London, 1946.

### A STUDY OF WRITING

By I.J. Gelb  
The University of Chicago Press,  
Chicago and London, 1963.

### THE ALPHABET

By David Diringer  
Hutchinson's, London and New York,  
1949.  
(new edition in preparation)

### VOICES IN STONE

By Ernst Doblhofer  
Souvenir Press Ltd., London, 1961.

### HISTORY OF MANKIND

Cultural & Scientific Development  
(sponsored by Unesco)  
Vol. 1, Prehistory & the Beginnings  
of Civilization; Chap. 6, Languages  
& Writing Systems by Sir Leonard  
Woolley, London: George Allen &  
Unwin Ltd. (75/-); New York: Harper  
and Row (\$ 12.50).

### African king's alphabet

In 1899, Njoya, King of the Bam-  
ouns, in the Cameroons, Africa,  
invented a system of writing. It  
began as a picture language to be  
used for secrecy in sending messages.  
When he realized that the same  
drawings could be used to represent  
groups of sounds, the King trans-  
formed the system into a syllabic  
one and put it to use in his kingdom.  
Five years later he revised his system,  
giving it a purely alphabetic character.

ALFRED METRAUX  
The Unesco Courier, Nov., 1950

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# ELEVEN CENTURIES OF THE CYRILLIC ALPHABET

**U**NESCO recently commemorated the 11th centenary of the Slavonic or Cyrillic alphabet. It was in 863 A.D. that Cyril the Greek missionary (whose real name was Constantine) and his brother Methodius left Constantinople to go among the people of Moravia in Central Europe, to preach to them in their own Slavonic tongue which had no alphabet.

The Slavs invaded the Balkans as early as the 6th century and settled around Salonika and on the Aegean coast, where Slav was spoken as much as Greek. As the Slavonic tongue had not split up into the various distinct languages that are spoken today, Cyril's Aegean coast dialect was easily understood by the Moravian Slavs who were already partly converted to Christianity.

Cyril, one of the most brilliant minds of his time, trained by the great masters of Byzantium, combined the qualities of theologian, diplomat, teacher and scholar. He brought the Slavs an alphabet of his own invention, different both from the Greek and the Latin. This was a completely new alphabet which made it possible to write down very precisely the ancient Slavonic tongue with its complicated phonetical structure that could not be recorded accurately by any other alphabet of the period. The writing invented by Cyril was called "Glagolitic" from the Slavonic expression "glagol," meaning "word."

Despite objections by the Germano-Latin clergy for whom the only valid languages were Greek, Latin and Hebrew, Cyril persevered in his task. On his death

The inscription on this stone is written in Old Slavonic and dates from the 11th or 12th century A.D. Discovered recently at Tulcea, Rumania, it shows how the Cyrillic alphabet spread rapidly to other lands after it was finally evolved in Bulgaria at the end of the 10th century.

Bucharest Museum of Antiquities



Cyrillic letters being carried in procession through the streets of Sofia, the capital of Bulgaria. Every year since the 19th century the Bulgarians have celebrated

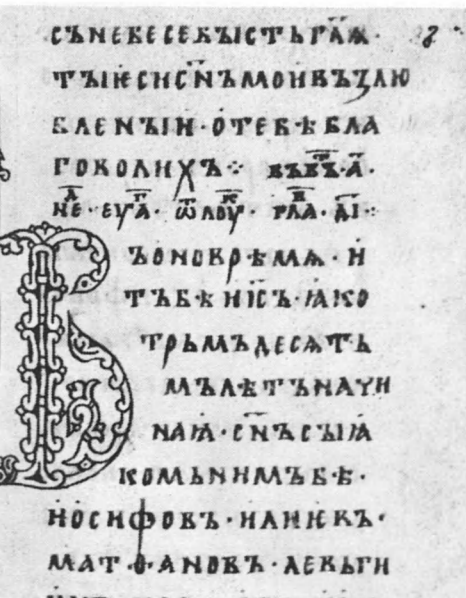


Historical Museum, Moscow  
Page from an early 12th century gospel in Cyrillic characters. The Bulgarians



Willy Prager, Fribourg

the Festival of Cyril and Methodius who produced the first Slavonic alphabet in the 9th century. (Banner on the right bears the images of the two brothers.



gave Hellenic forms to the characters of Cyril's original Slav alphabet.

in 869 A.D., his brother, Methodius, carried on the work, training new disciples and teaching the people in their own language, until his own death in 885 A.D.

The disciples of Cyril and Methodius were then accused of heresy and driven from Moravia. But another Slav country, Bulgaria, opened its doors to them.

In Bulgaria the only written language was Greek. The Bulgarians now received the new alphabet brought from Moravia and adopted it after making some modifications. The curved and rounded forms of the Glagolitic script were replaced by the clear and simple Greek ones. In other words, while retaining Cyril's script as a phonetic alphabet fully representing the sounds of the Slavonic language, they systematically Hellenized the characters.

Thus, around 940 A.D.—80 years after the creation of Glagolitic, the first Slav alphabet—there appeared a new, entirely reconstructed version, the Cyrillic alphabet. Bulgarian literature of the ninth century is the direct offspring of the work of Cyril and Methodius. Ancient Bulgarian inscriptions—like the Mostic inscription discovered in eastern Bulgaria ten years ago—illustrate the form of the Cyrillic being used in the 10th century.

Cyrillic writing, however, was to expand enormously. After taking root in Bulgaria and Macedonia it spread to Serbia, Bosnia and above all to Russia after the Russian conversion to Christianity in 988. In Rumania Cyrillic characters were replaced by the Roman Alphabet in the 19th century.

With only slight modifications to adapt it to modern Slavonic languages, Cyrillic has retained the form in which it was originally created in the 10th century. In Russia it was simplified early in the 18th century on the orders of Peter the Great. Cyrillic characters were also further simplified after the Russian Revolution in 1917.

Cyrillic, in forms which vary slightly between different languages, is now used over a vast area. Since the Soviet Union decided on its general application it has been employed for a variety of non-Slavonic languages spoken in the U.S.S.R., including Finno-Ugrian, Turkic and Mongolian, and it has travelled across Siberia to the Pacific coast.



# SCRIPTS SHROUDED IN MYSTERY

An outstanding feature of the great advances in archaeological research in the 19th century was the decipherment of many of the ancient languages brought to light. At the beginning of that century not a word could be read of the hieroglyphic system of writing of the Egyptians, one of the earliest used by man. Yet 22 years later the code had been cracked, and now documents covering three millennia of civilization have become an open book. The cuneiform scripts used by the Sumerians, Babylonians and Assyrians were all deciphered during the 19th century. The 20th century itself has seen the decipherment of two more cuneiform scripts, (the Ugaritic script of Ras Shamra,

**I**N 1908 an Italian mission working at Hagia Triada, near Phaistos, in Crete, brought to light a script of which only one example exists. It was inscribed on a flat terra-cotta disc about six and a half inches in diameter which was found in an outbuilding of the Minoan Palace. Next to it was a broken tablet inscribed with the Cretan Linear A script that has been dated to about 1700 B.C.

On either side of the terra-cotta disc is a text impressed with a hitherto unknown form of hieroglyphics arranged in bands spiralling to (or from) the

## The undecipherer

centre. The signs, which seem to have been stamped by means of 45 different wooden and metal punches, number 241 in all and are divided into 61 groups of characters (which might represent words or sentences) separated by vertical lines. The script is considered to be a syllabic one: there are too few



Spiralling lines of a unique and still mysterious hieroglyphic writing cover this clay disc found in an outbuilding of the Minoan Palace in Crete. The signs on it were probably pressings of individual seals. Dated to about 1700 B.C.

Editions Arthaud Paris -  
© Michel Audrain

Syria, and that of the Hittites) as well as the Hittite hieroglyphic script. In 1953 came the decipherment of Minoan Linear B. More recently important work has been done on the Mayan hieroglyphic script by the use of electronic computers (See Unesco Courier, March 1962). To all these results scholars in many countries have contributed. It is to be hoped that with the tools of modern science, the remaining "mystery" languages will one day find their decipherers. Below, we describe five of the most famous of the undeciphered scripts extant.

R. J. Spector

## ed Phaistos disc

characters for a pictographic script and too many for an alphabetic one.

Archæologists and classical scholars have been trying, right from the start, to decode this script on the basis of internal evidence—the only evidence existing, in the absence of a bilingual key such as the Rosetta stone. Sir Arthur Evans himself concluded, from the warrior element discernible in various signs, that it was the text of a sacred song of victory, and he considered it to come from the south-west coast of Asia Minor.

The main difficulty is that no-one knows what language the text was written in—it has been variously adjudged to be Philistine, Lycian, Carian, Greek, Cypriote, Libyan, Anatolian and Semitic—or even whether it was written from right to left, or the reverse. J. Chadwick, of Cambridge University, the collaborator of Michael Ventris in the decipherment of Minoan Linear B, took the latter view. He drew particular attention to the use of punches, and described it as a remarkable anticipation of the invention of engraving and printing. It was hard to believe, as he significantly pointed out, that the preparation of the set of 45 punches would have been undertaken solely for the production of one disc. Thus, companion pieces may one day be found.

Some examples of the results achieved by would-be decipherers give an idea of the hazards involved. An English investigator, in 1931, took the language to be Greek, ascribing to each character a syllabic value and expanding each sign-group to form a phrase. Thus one five-character group, which she read as *an-sa-ko-te-re*, was expanded into *Ana, Saô, koô, thea, Rê*, which she translated as "Arise, Saviour! Listen, Goddess, Rheal" A Greek scholar favoured Semitic, and produced a partial "rendering" in 1948:

" Supreme - deity, of the powerful thrones star,  
 Supreme - tenderness of the consolatory words,  
 Supreme - donator of the prophecies,  
 Supreme - of the eggs the white..."

Professor S. Davis, of the University of Witwatersrand, Johannesburg, who has made a close study of the disc during the past few years, initially interpreted it as relating to a votive ceremony conducted by King Nokeul of Phaistos to mark the consecration of the palace. His latest findings are due to be published shortly in book form.

## Seals of the Indus

**F**ROM the valley of the Indus (Pakistan) comes an enigmatic script of which many examples abound. They are variously dated to about the third or second millennium B.C., before the Indo-Aryan invasion, and were brought to light in the excavated cities of Mohenjo-Daro (Punjab) and Harappa (Sind) as well as in some smaller towns. They take the form of stone, copper or ivory seals or amulets. Similar material has been found at various Mesopotamian sites, and it is considered that the Indus and Sumerian cultures may have been related.



Because of the striking similarity between the Indus Valley script (on left) and the writing of Easter Island (on right), some scholars have tried to establish connexions between the two despite the distance between the two places.

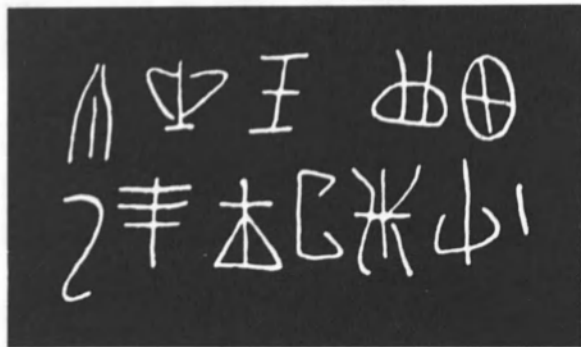
From "The Alphabet" by David Diringer, London, 1949

The writing appears to be pictographic, but all attempts at decipherment have so far failed. Calculations of the number of signs range from about 250 to 400 (some authorities regarding certain of them as graphic variations of others). Taking a mean figure of about 300, it is clear that the script cannot be either alphabetic or syllabic, nor yet purely ideographic.

It is therefore assumed to be partly ideographic and partly phonetic (probably syllabic), and that it also contains some determinative signs (like Egyptian, Linear B etc.). Since most of the inscriptions are seals (or amulets), it is likely that they mainly represent proper names. The absence of other inscriptions implies that some perishable material must have been used.

Theories advanced connect the script with early Hittite writing or with early Elamite; B. Hrozný, the famous Czech decipherer of Hittite, related it to the Brahmi script (which is now given an Aramaic origin). One bold researcher, Father Heras, S.J., ascribed syllabic values to the characters and deduced that they represented a language which gave birth to the Dravidian tongues of South India.





From H. D., *Die Schrift*

Signs written in Linear A, a still undeciphered script from Crete. Found on monuments and clay objects and sometimes even written in ink, it is believed to date from about 1750 B.C.

## Texts from Cretan monuments

ONE of the many conjectures made during the long efforts to decipher Etruscan texts was that the language had connexions in Crete. This idea was destined to bedevil for years the decipherment of another script brought to light in Crete and given the name of Minoan Linear B.

It was only after he had discarded the idea of Etruscan as the key to Linear B and had turned to Greek instead that the English linguist Michael Ventris succeeded in deciphering and reading it. (1) But another Cretan script, known as Linear A, which has about 48 signs in common with Linear B, still awaits its decipherer. It has been dated to about 1750 B.C. and may still have been in use about 1450 B.C.

Inscriptions in Linear A, which derives from Cretan hieroglyphics, have been found on stone monuments and clay objects, and there are even examples written in ink. Unlike Linear B, none of them occurs outside Crete; and so the script, consisting of 85 signs plus obvious hieroglyphs and figures, is widely believed to convey the non-Greek language of the autochthonous Cretan population. And, indeed, the elements of Linear A are particularly ill-suited to the Mycenaean Greek of the former. In particular, the view that Linear A could be Greek has been forthrightly discounted by J. Chadwick, Ventris' collaborator.

Dr. C. Gordon, the American expert on Semitic languages, has equated it with Babylonian Akkadian; and Professor Davis, has also suggested Semitic affinities. Others, like Dr. L. Palmer, the Oxford University philologist, have suggested that it may contain an Indo-European language other than Greek, and that it is possibly related to Hittite and the other earlier languages of Anatolia.

(1) See "The Case of the Four-Handled Jars", *The Unesco Courier*, March-April 1955.

## 'Talking woods' of Easter Island

EASTER Island, 2,500 miles west of Chile, in the Pacific, is famous not only for its huge stone images but also for the mysterious wooden tablets inscribed with pictographic characters which were found there. At present, about 15 of them remain. They are mainly fragments, of all sizes up to 6 feet, and are known as *kohau rongorongo*, or "talking woods."

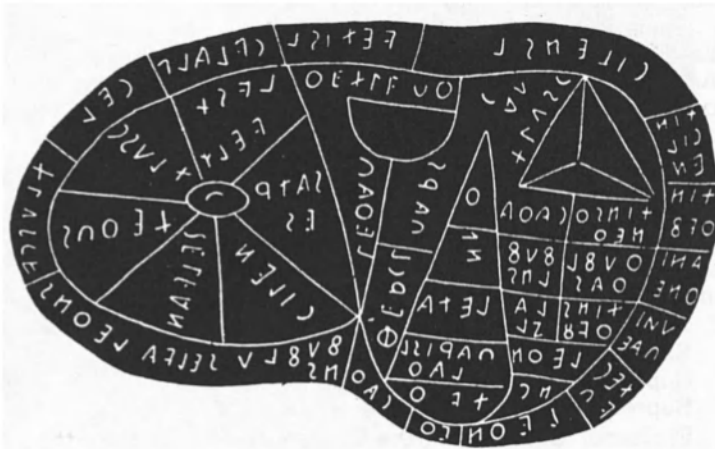
The signs (500 different ones in all) were inscribed with a shark's tooth, in a continuous serpentine system in which — and this is the unique feature of the Island script — every other line was upside down, so that the reader has to turn the tablet round at the end of each line.

According to local tradition, Hotu-Matua, the ancestor of the Easter Islanders, came to the island (in the 12th or 13th century A.D.) in two big boats manned by 300 warriors, bringing with him 67 of the inscribed wooden tablets.

Many of the characters have an external likeness to those

## The enigma

THE science of decipherment of languages began almost five centuries ago with the discovery of some inscribed tablets at Gubbio, near Perugia, in Italy. The now celebrated Iguvine tablets (from Iguvium, the ancient name of the site) were inscribed with a script devised from a Greek model by the Etruscans, a mysterious people whose



From *The Alphabet*, by David Diringer, London, 1949

Model of a calf's liver made in bronze by the Etruscans and found at Piacenza in Italy. It is inscribed with the names of Etruscan deities and was used to teach apprentice soothsayers.

of the Indus script, as pointed out by the Hungarian scholar, G. de Hevesy ; but according to the anthropologist, the late Alfred Metraux, the similarities were the result of small adjustments—changing of proportions, obliteration of details, etc.—and there was no evidence of a corresponding

identity of phonetic values. A recent attempt at decipherment by Thomas Barthel, a German ethnologist, has been said to indicate that the language was Polynesian and that the Easter Islanders came from Rangitea, one of the Friendly Islands, 1,500 miles away.



© Musée de l'Homme, Paris

**Wooden fish, one of the tablets and other objects inscribed with pictographic characters found on Easter Island, in the Pacific. These hieroglyphs were inscribed with a shark's tooth. They depict human beings, animals and ceremonial objects.**

## of the Etruscans

origins are still unknown, but who passed on to Rome, and hence to the world, much of its culture and its alphabet (which gave rise, in its Latin dress, to all the Western European alphabets).

Most of the Iguvine tablets were actually inscribed in Umbrian (a Latin-type language) written in a script which was an offshoot of the Etruscan. But interest in the Etruscan people, once stimulated, continued to grow and received fresh impetus from the humanists of the Renaissance.

Over the centuries, slow but steady progress has been made in reading the alphabet, culminating in 1880 with the identification of the last outstanding letter.

However, although we can now spell out all the mass of Etruscan inscriptions that have meanwhile been unearthed, it has still not proved possible to understand more than a fraction of their contents. The Etruscan language itself remains an enigma.

Altogether there are about 1,000 inscriptions, the great bulk of them are short funeral ones giving little more than names and indications of ancestry. The fuller documents include a clay tablet containing about 300 words, a bronze replica of a calf's liver inscribed with the names of Etruscan deities, and a linen manuscript originally in the form of a roll and later cut into strips and used as swathings for the mummy of an Egyptian woman of the Græco-Roman period. This text, now in the Zagreb mu-

seum, provides more than 5,000 words, and is still untranslated.

In the absence of bilingual texts of any importance, the decipherers have had to rely on internal evidence. The repetitiveness of the funeral inscriptions has been a positive help in this connexion: the meaning of a list of about 100 recurrent words compiled by the eminent Etruscologist Professor Pallottino is now quite certain, and many short phrases and sentences can be conjecturally interpreted.

We know the Etruscan for the numerals up to 6 (although we are not sure of their exact order). They are mach, zal, thu, huth, ci, sa. A typical inscription reads : "larth alethnas arnthal ruvfialc clan avils LX lupuce," meaning "Larth (Lars, in Latin) Alethnas, son of Arn (Arruns) and Ruvfi, died at 60 years."

Clearly, this strange language is unlike any other known to us, especially the Indo-European ones. Many experts agree with Herodotus, who ascribed to the Etruscans an Oriental origin and said that they came to Italy by sea in the early centuries of the first millennium B.C. No certain cognate has yet been found, but one conjecture is that there are affinities between the Etruscans and the Lydians, whose last (and most famous) king was Croesus, and who lived on the west coast of Asia Minor.

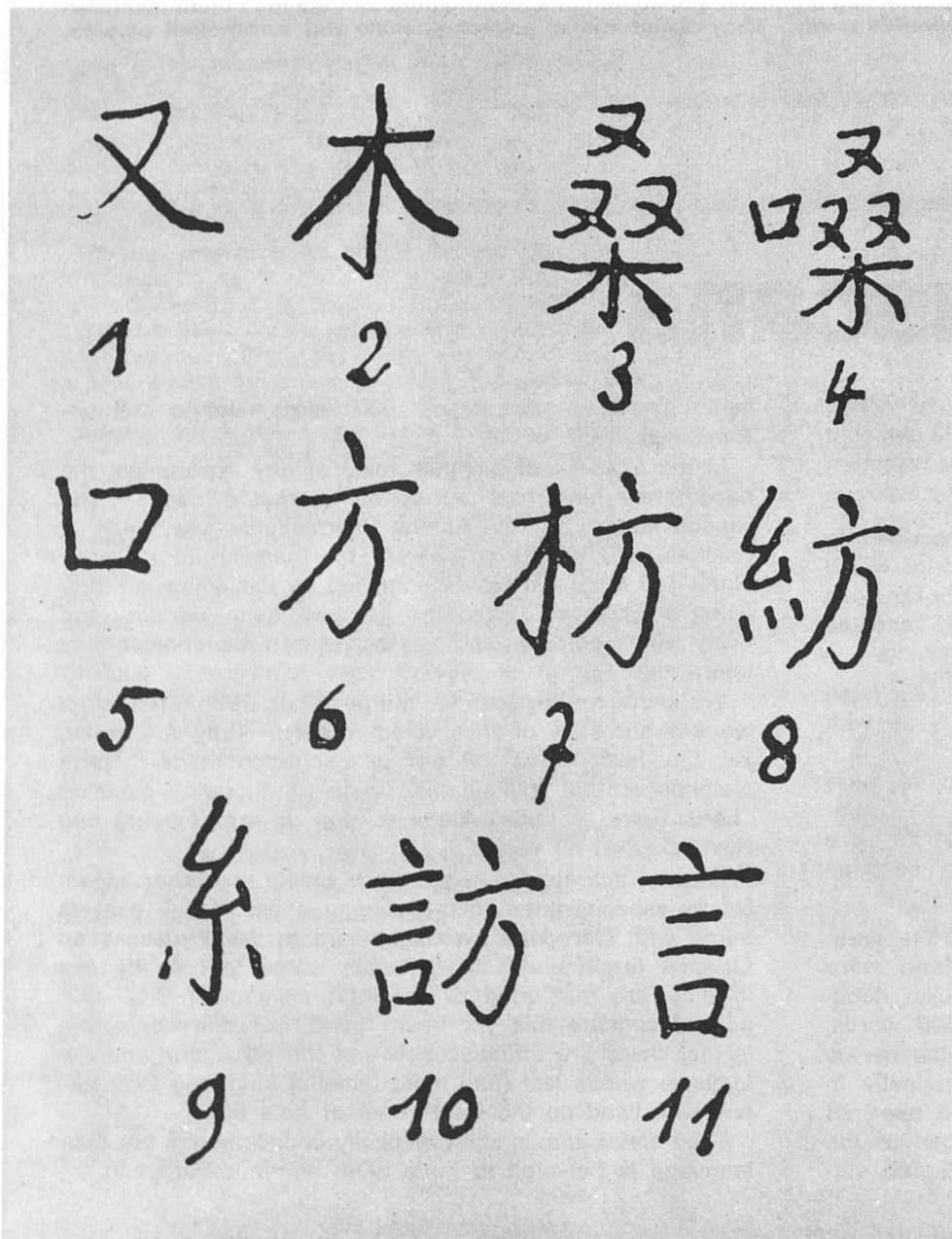
Their script, too, is still practically undeciphered, but their language is believed to have been non-Indo-European.



女 = Woman

子 = Child

The upper Chinese character (right), means "woman" and is pronounced *nü*. The lower one means "child" and is pronounced *tzu*. Placed together (far right) the characters are pronounced *hao* and signify "good", "well" and, in a wider sense, "friendly". Thus an abstract idea is expressed by a symbol formed with two concrete characters, each representing a word sign and a sound.



### 'KEYS' TO CHINESE

In Chinese writing the same characters can have different meanings. To differentiate these meanings a small ideographic sign is added. These "keys" form part of the whole character but are not pronounced. In the examples shown on left, character 3, pronounced *sang*, means mulberry bush or tree. It is made up of *yu* (1) which formerly meant "hand" and of *mou* (2) which means "wood" or "tree", and which serves as a key. *Sang* can also mean "throat" (4) when the character *k'ou* (5), "mouth", is added to it as a key. *Fang* (6) means "square". It becomes "plank" (7) when the key *mu* (2), meaning "wood" or "tree", is added. *Fang* also means "to spin" (8) when the key *mi* (9) indicating "silk" or "textiles" is added. Character 10, *Fang*, means "to ask about" when the key *yan* (11) "words" is added. The character for "words" is simply "mouth" (5) with several additional strokes.



好 = GOOD



Unesco

### SHOP SIGNS IN HONG KONG

Shop signs in Chinese characters are a strikingly decorative feature of this Hong-Kong street. The graphic beauty of the characters used both in China and Japan have enabled writing to evolve as a work of art. Those of particular grace and beauty are used to decorate even the most everyday objects. Chinese decorative script is a specialized branch of study.

**N**EARLY one-quarter of the world's population still uses a form of writing which originated in China over 3,000 years ago. Chinese writing is in a class on its own. It is not an alphabetic script and each character represents a complete word. As a symbol and as an image, each character also has artistic and philosophical significance.

During its evolution, however, this script has long ceased to be figurative. It has become a stylistic expression of the material to be communicated.

Since the completion of its development, however, it is no longer figurative. It simply indicates stylistically the essential of what it has to express.

Indeed, it is not even possible to say whether it was ever entirely figurative in origin for no document has ever been found that would confirm this. The oldest examples are the "oracle bone" inscriptions dating from about 1400 B.C. Animal bones and tortoise shells were suspended over a fire until cracks appeared and these were then fashioned by soothsayers into signs which they "read." Already at that time, the signs had an abstract linear construction.

It is probable that up to the 8th century B.C. the sole users of writing were scribes versed in magic and soothsaying. Then, some two centuries later, the concentration of power and increased authority of the State brought many changes to the Chinese world. Knowledge and use of writing now passed to government officials and the "technicians" of that time. Writing thus tended to become a simple method of communication and of recording ideas.

In 221 B.C. the Chou Dynasty, which was based on Confucianism, was eliminated by the rulers of the

CONT'D ON NEXT PAGE



# Chinese ideograms (Cont'd)

Unesco photos

Ch'in Empire. The new sovereign, Ch'in Shih Huang-ti, a despotic ruler who united China, devised a form of writing far simpler than the one used under the Chou Dynasty. The new writing, known as Small Seal, or *hsiao chuan*, had 3,000 characters and was primarily designed for use by students and schoolchildren.

But the seal characters in Chinese writing, with their sinuous ornamentation, were still too difficult for everyday needs. During the Han Dynasty (206 B. C. - 220 A. D.) a superintendent of prisons invented official *li shu* writing, in order, it is said, to simplify prison administration. It is from *li shu* that the basic forms still in common use derive. These forms underwent changes down the centuries, the trend being towards a greater systematization and stylization. The invention of paper in China in the 2nd century A.D. did much to facilitate the advancement of writing.

**B**ECAUSE of its graphic wealth and its stylized forms, writing quickly gave birth to a new form of art, calligraphy. As an early Chinese author wrote: "Speech expresses what is in the mind, and writing portrays it." It was this principle which guided the calligrapher in his aim of combining the strokes of a character into a complete and harmonious whole.

Many peoples in the Far East adopted the Chinese characters in whole or in part, or drew upon them in evolving their own script. The Japanese may have adopted them as early as the 4th century A.D., but the first known example of Japanese writing dates from 712 A.D. This is the *Kojiki*, the oldest Japanese historical work. Because of the polysyllabic structure of the Japanese language syllabic characters had to be added to indicate grammatical inflexions phonetically. The first attempt in this direction was made in the 8th century.

In the following century the Japanese adapted from Chinese characters a set of phonetic syllables for inflexions, the *sogana*, later called *hiragana*. Another more angular form of writing, *katakana*, was invented at the same period and is nowadays used mainly for the transliteration of foreign words.

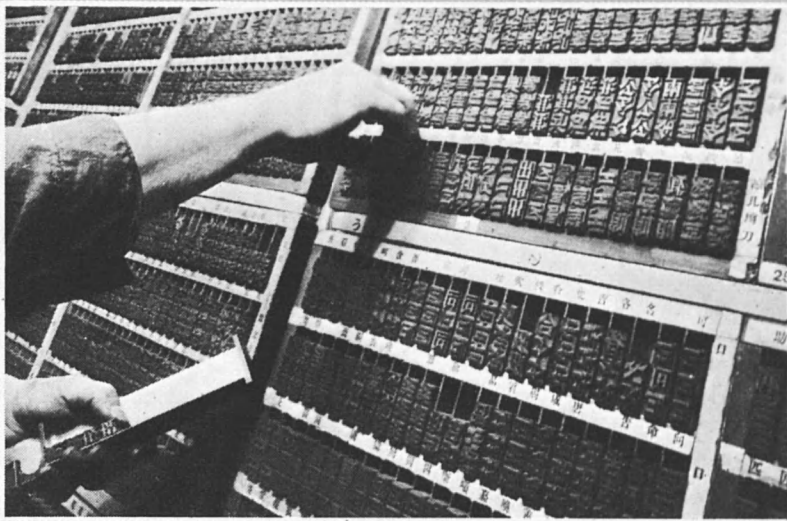
The Koreans also tried to use the Chinese characters phonetically and this led to the invention of the Idu script of which very few traces remain. In the 15th century a phonetic alphabet covering all the sounds in the language was invented.

But even earlier, in 1403, the Koreans had already invented printing with movable type: (Gutenberg, the "father" of printing in Europe was only a few years old at the time).



Calligraphy, in the eyes of the Chinese, is just as much a fine art as painting. Writing is so close to painting that many Chinese artists are also authors. Text and image is often combined to form a single work of art. Above, text and figurative drawing on the page of a manuscript by Tsen Yen-tung.

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 Fontenoy, Paris 7<sup>e</sup>, France）で統一編集されて  
 いる。



The Japanese make simultaneous use of three forms of writing : *hiragana*, a phonetic syllabic writing which indicates grammatical inflexions, *katakana*, whose angular characters are mainly used for foreign words and Chinese characters, called *kanji* in Japanese. Above, text taken from the Japanese edition of The Unesco Courier includes all three forms of writing, plus the Latin letters used to indicate the magazine's editorial address in Paris.

## FROM CALLIGRAPHY TO PRINTING

To compose a newspaper in Chinese a printer needs a case of 7,000 characters, and composition is done by hand. In Japanese about 2,000 characters are required and the work can thus be done by a monotype composing machine. Efforts are now being made to develop a composing machine capable of dealing with texts in Chinese.

Kneeling in the traditional posture of ancient scribes, girls in a Tokyo secondary school paint banners for New Year celebrations. In Japan and China, calligraphy, is taught in school and in Japan magazines are devoted to this art.



Unesco-Tamagawa Gakuen, Tokyo



# Letters to the Editor

## FIRST GLOBAL VOYAGE

Sir,

The article, "A Portuguese Sancho Panza in the Far East" (April 1963) states that "in 1522 the world was first circumnavigated by Ferdinand Magellan, a Portuguese." This is not so. Although Magellan conceived and organized the enterprise, he, like Columbus, turned to Spain for means to finance it. During its course he was killed by tribesmen in the Philippines. Juan Sebastian del Cano, a Spaniard, completed the voyage.

P. Valenciano Martin  
Madrid, Spain

## UNIVERSALISM AND NATIONAL CULTURES

Sir,

In the article "Uncharted Lands" (February 1963 issue) we read: "...the ties which bind us to our cultural background remain strong. We may even think of this culture as universal and world-embracing. But we know it can only lay claim to such resounding titles in so far as it has drawn upon all the world had to offer and if it gathered this nourishment in almost every corner of the globe."

I support this statement, although I think (and I hope you agree) that universalism, or global culture, does not preclude the national or concrete, social character of that culture.

THE UNESCO COURIER has paid extremely little attention to "cultural relations" between countries in the past. We know that until comparatively recent times, historians devoted considerably more time and effort to the study of social and political ties and relations than to cultural ties, and that it is only in the last decades that a more important place in history has been allotted to the study of international cultural relations.

I should like to see this type of material in your magazine. Personally, I devote a great deal of my time to the study of Russo-American relations (prior to 1917) and have some valuable and interesting material on this subject.

Z. Dicharov  
Leningrad, U.S.S.R.

## WATER, A WORLD PROBLEM

Sir,

Thank you for the wonderful, and informative October 1963 edition of THE UNESCO COURIER. (Probing the interior of the Earth). Now for more editions of this nature and quality. I think that a topic which could be handled well by your magazine and which would be of interest to the layman and the professional is the Water Problem in the world today. Water is the concern of such contrast-

ing countries as Great Britain and Egypt, and it would prove a valuable subject for discussion.

Is there an adequate water supply for the world's expanding population? How far will sea water aid man's fight against the shortage of crops? Is man at last making an all-out effort to solve this problem of water supply for domestic, industrial and agricultural uses the world over? Surely such a magazine of the quality of THE UNESCO COURIER could answer these questions and other problems which inevitably result when discussing this topic.

W. L. Robling  
Cardiff, Wales

*Ed. note: A special issue on hydrology will appear later this year or early next year.*

## ROUSSEAU REVIVAL

Sir,

I particularly appreciated your special issue on Jean-Jacques Rousseau (March 1963). At a meeting held in Melilla for discussions on Rousseau's famous work, *Emile*, a young writer from Tangiers, Enrique Jimenez Gross, proposed that youth organizations be formed in all countries to study Rousseau's ideas and when possible to apply them within the individual frameworks of national customs and beliefs. What do your readers think of this idea? Disillusioned young people of today need to be reminded of the noble ideas of which man is truly capable.

Antonio Garcia Marin  
Melilla, Spain

## SPORTS FOR THE DISABLED

Sir,

I have just seen the article "What Makes the Athlete Run?" in the Jan. 1964 issue of THE UNESCO COURIER. This is indeed an interesting presentation and I wish also to acknowledge with appreciation the fact that you have made reference to the role of disabled persons in sports events.

You may be interested to know that the Working Group in whose name I am writing organized, in July of 1963, the First International Games for the Disabled at Linz, Austria. There are a number of important and interesting aspects of specialized sports for the disabled which we are seeking to clarify so that this activity may be of benefit both in the rehabilitation of the disabled and in providing lifelong recreation and exercises for disabled persons.

Norman Acton  
President, International Working Group  
on Sports for the Disabled  
Paris, France

## POPULATION PROBLEM

Sir,

I have just seen the pamphlet on the "Anatomy of Economic Development," reprinted from THE UNESCO COURIER, I must say I was shocked that the whole emphasis was on agricultural and technological development, without any reference to the difficulties caused by the growth of the population. These are especially great in already heavily populated under-developed countries like India. As is now perfectly clear, if the rate of human increase is not rapidly brought down—for India, Cole and Hoover said about 50% in about 40 years—a point of no return will be passed, and viable industrial and scientific-agricultural economy cannot be set up. I feel very strongly that the time has come for UNESCO to consider the problem of population increase with the utmost seriousness, and then publish its findings (rather as it did with the matter of race). The fields where research is perhaps most urgently needed is that of human reproduction and its control, and that of the dissemination of information on the subject, how to persuade people of the need for a population policy, and the position of family planning in national activities. Many of us believe that it is quite essential that family planning should become the official responsibility of the Ministries of Health of the countries of the world.

Julian Huxley  
London, England

*Ed. note: For an article on the problems of population and food supply see our special issue on "Freedom from Hunger" (July-August 1962).*

## 400 MILLION RADIOS

Sir,

M. Muller does not want 400 million needy families in Africa, Asia and Latin America to have low-cost radio sets because she hears nothing but rubbish from the Paris radio service (December 1963, Letters to the Editor). What kind of logic is this? Is she so sure that the developing countries can do no better than Paris?

James Cunningham  
Paris, France

## SPELEOLOGISTS OF CUBA

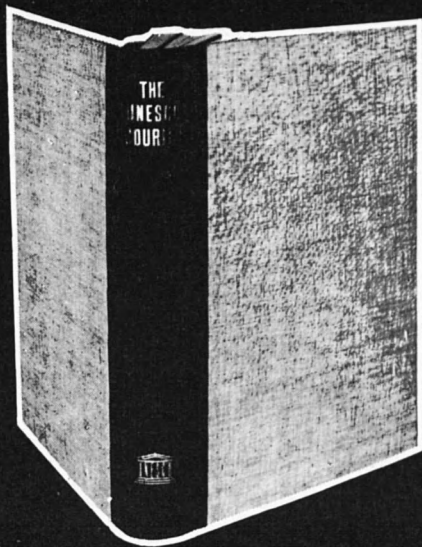
Sir,

Some members of our organization, which is concerned with the study and exploration of caves in Cuba, subscribe to your magazine, and at our meetings we often read your articles. We have noticed, however, that no study on speleology or related sciences has appeared. May we suggest that you devote an entire issue to this marvellous though little-known science?

Manuel Iturralde Vinent  
Secretary, Martel Speleological Group  
Havana, Cuba

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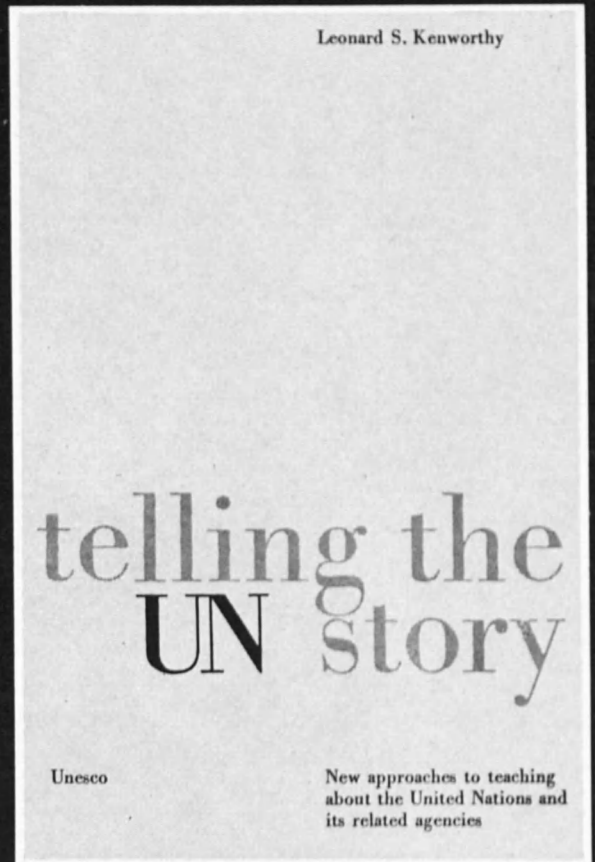
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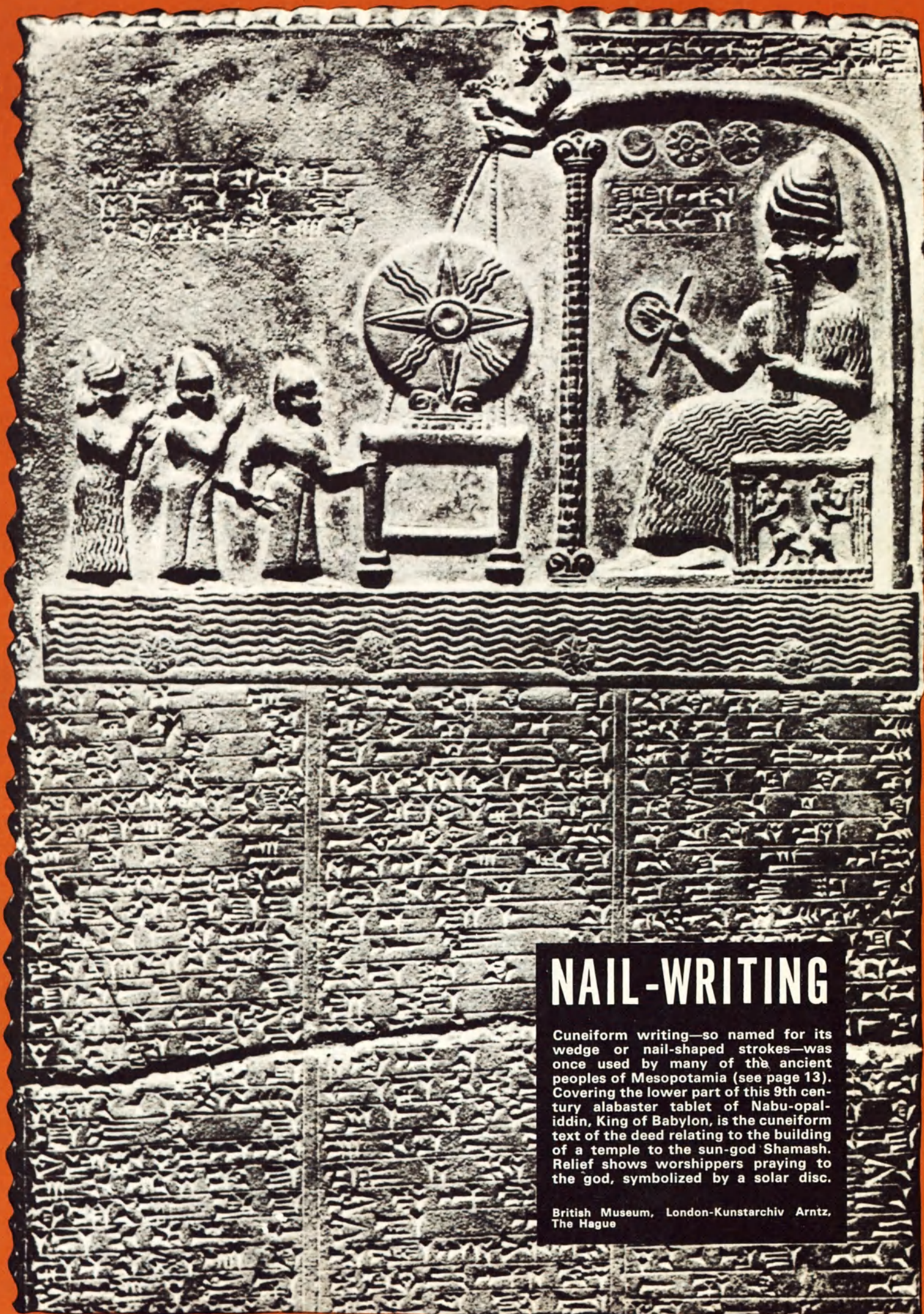
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## NAIL-WRITING

Cuneiform writing—so named for its wedge or nail-shaped strokes—was once used by many of the ancient peoples of Mesopotamia (see page 13). Covering the lower part of this 9th century alabaster tablet of Nabu-opaliddin, King of Babylon, is the cuneiform text of the deed relating to the building of a temple to the sun-god Shamash. Relief shows worshippers praying to the god, symbolized by a solar disc.

British Museum, London-Kunstarchiv Arntz, The Hague