beauty, dignity and, above all, permanence. The Egyptian economy, with its dependence on administration, record keeping and labour control, needed an additional form of writing which could be executed with more speed on less valuable material. Already between the 1st and 3rd Dynasties (c. 3000–2600 BC) there appeared sporadic examples of writing on papyrus, potsherds, flakes of limestone or wood, done with a rush pen. This form of writing encouraged a rounding of the angular signs and eventually a loss of detail to encourage greater speed, in short a development towards a more cursive form of writing. In contrast to hieroglyphic, which could be written in either direction or in vertical columns, hieratic (and later demotic) was always written from right to left, at first still in vertical columns. During the 12th Dynasty (c. 1999–1786 BC) scribes began to write in horizontal lines, which allowed the writer to adopt an even more cursive hand, and by the end of the 8th century BC demotic began to establish itself as the new alternative (fig. 39). Speed became the dominant factor; too elaborate hieroglyphs were substituted by an oblique stroke or (more rarely) by some new signs, whole groups of hieroglyphs were amalgamated into one single sign, and abbreviations came into use. Although, as far as the internal structure is concerned, no difference exists between hieroglyphic and demotic, visually they look like two entirely different scripts. The demotic script was if anything more difficult to read; it was not, as its Greek name might suggest, a tool for spreading literacy over a wider spectrum of society. For well over 3,000 years the art of writing was mostly practised by a privileged class of professionally-trained scribes.

An interesting level of development seems to have been reached by the (so far only partly deciphered) Meroitic script (see fig. 33). After c. 850 BC an independent kingdom arose to the south of Egypt. Though the spoken language of the people was in no way related to ancient Egyptian, the script, and the language of official inscriptions, was at first entirely Egyptian. After c. 560 BC the capital was moved from Napata to Meroe and Egyptian influence began to decline. During the 1st century BC a new national script developed which used different styles: a monumental style based entirely on the model of Egyptian hieroglyphs, and a written style based on the Egyptian demotic — at least as far as outward appearance was concerned. Internally however the two scripts differed radically from the Egyptian way of writing; they were both purely phonetic scripts, using only twenty-three different signs, which consisted of consonant signs, two syllabic signs and some vowel signs, though the latter were not always used consistently (there were, it appears, no signs for o and a). The phonetic values of the Meroitic hieroglyphs do not always match their Egyptian models, and the 'demotic' signs do not correspond to the phonetically equivalent (Meroitic) hieroglyphs, but seem rather to have been selected at random from the Egyptian script. Words are for the first time separated, by three dots in the hieroglyphic, and by two dots in the 'demotic', style. The direction of writing is more or less consistently from right to left.

The cuneiform scripts

Unlike Egypt, Mesopotamia, the 'land between two rivers', was during the whole course of its long and often violent history subject to almost constant internal and external pressures. Irrigation was not a matter of course; rivers, especially the Euphrates, were unpredictable. They could erup into catastrophic floods or change their courses altogether, so that whole villages and, later, prosperous cities had to be abandoned. There was never any durable political or racial hegemony; individual cities, each the estate of a different god, led their armies against each other, and foreign invaders appeared with periodical certainty. Whatever cultural hegemony existed began to crumble with Alexander's march through Asia in 330 BC. By then cuneiform writing had already begun to lose its place to the much simpler Aramaic script. Finally, in the 4th century AD, the army of another great conqueror, Chingis Khan, destroyed the irrigation system and returned the once fertile land to the desert.

The people generally credited with the creation of the cuneiform script were the Sumerians, who in the middle of the 4th millennium established a dominant position in southern Mesopotamia. Neither they nor their language have so far been clearly classified. All we know with any certainty is that they were a non-Semitic group speaking an agglutinative language. To begin with their writing was pictographic; but unlike the Egyptians, whose pictograms convey a codified elegance, the Sumerian drawings show a marked tendency towards abstraction: in keeping with their whole attitude to life, utility was more important than artistic beauty. The impetus for the development of writing was an apparent need for a more advanced form of property marks (see fig. 7). Indeed the
carefully executed seals of later periods basically still fall into this category. As the economy (closely connected with the Temple which together with the Crown acted as a major market force) and the socio-political life grew more sophisticated, writing too advanced from a means of marking goods and keeping records to a tool for expressing the phonetic intricacies of the Sumerian language.

At first the Sumerians used a great many (about 2,000) signs (ib. p. 54). These signs were never clearly codified in the Egyptian manner and could thus, by a process of simplification and conventionalization, move towards a more linear script (see figs. 25, 28). The striking change from still-recognizable pictorial signs to the abstract cuneiform (from Latin cuneus – wedge, and form – form) and the change in the direction of writing (from vertical columns running from right to left to a horizontal line running from left to right) was however, as we have seen, at least partly caused by the material and the implements used for writing — soft clay tablets and the reed stylus. The cuneiform script introduced elements of economy, for by around 3000 BC, instead of the original 2,000 signs only about 800 were used. The Babylonians reduced the number to about 570 of which only about 200-300 were in constant use (ib. p. 48); the Assyrians, however, somehow extended the range again by reintroducing many older signs.

The internal structure of the script consisted of three basic elements: pictograms, phonograms and determinatives. A pictogram, that is, the drawing of a particular object, could either represent the object in question (i.e. the Sumerian word for the object), an action associated with this object, or an idea associated with this object. All this is already familiar to us. The phonetic principle, the question of sound, had to be solved in a different way. The Sumerian language is rich in monosyllabic (verbal root) words, but, unlike ancient Egyptian, vowels have an additional importance. Therefore phonograms represented syllables which could either be used directly or like a rebus. Thus the drawing of a particular object could stand for the (word of the) object it depicted or for its homonyms (a sun disk for nine and nine), and also for any other homophonous syllables (to return to our English example: the drawing of a bird’s bill could stand for bill, the name Bil, or it could also be used in words like build, king, a-bi-ity, etc.)

The above sample gives both phonetic signs and ideograms (ŠE – barley, GUR – a unit of capacity, MA – a boat). Determinatives are d (god), GIS (wood), and KI (town). There is also the very complicated ‘ideogram’ KA.DINGIR.RA for Babylon, and the ideogram for the name of the moon-god Sin is the Sumerian form Suen written typically in reverse EN.ZU. The ideograms are all Sumerian but the basic text is Akkadian (specifically Old Babylonian). Two different signs each have been used for li, bi, i, and ma; and the same sign serves for both i and li in the first line.

The Indus script
The third, and in many ways most enigmatic, literary civilization of this period — we are still unable to identify language, script and ethnic affiliations — flourished in the valley of the River Indus (Pakistan) around two large cities, Mohenjodaro and Harappa, with outposts as far south as Kalibangan in Rajastan and the seaport of Lothal in Gujarat.

There were similarities with Egypt and Mesopotamia: the artery of the life-giving river, the use of copper, of the plough and of bricks, well-planned cities with areas reserved for secular or perhaps theological administration, domesticated animals, trade and commerce (reaching as far as Mesopotamia and perhaps Oman). Above all there was the existence of an apparently indigenous script, schematic and rather linear in appearance, consisting for the major part of what could perhaps best be termed stylized picture signs.
There were however also differences: a far less definite form of irrigation (Alb. p. 18), with floodings of the rivers less regular and benevolent than those of the Nile. The cities were comfortable, with a drainage system far superior to that of today's rural India; but they were unimaginatively laid out. The conservatism of the Indus civilization far surpassed that of ancient Egypt; town planning, the layout of the houses — and the outer appearance of the script — did not change for almost a millennium. Documentary evidences, as far as they are available, date the Indus civilization between c. 2800–1600 BC, with a peak period lasting from 2500–2000 BC. The end seems to have been caused by a combination of floods, the silt ing up of rivers and port(s) and shockwaves announcing the coming of barbarian invaders some centuries before their actual arrival.

The script, which despite many determined and imaginative attempts has remained undeciphered (see p. 146), appears mostly in the form of short inscriptions on seals (fig. 40). As such it could hardly have been more than an advanced form of property marking, a tool for identification in relation to commercial and administrative needs, mixed perhaps with phonetically or symbolically represented proper and/or place names. Scholars — and there are many — who call it proto-Indian, see in the variation of basic signs an indication of a syllabic vowel-marking in the manner of contemporary Indian scripts. But speculations of this kind are extremely tenuous since there exists a complete hiatus, as far as writing is concerned, between the end of the Indus civilization and the first written documents using the characteristic syllabic Indian form of script (Brahmi — see p. 106) in the 3rd century BC. Moreover the Indo-Aryans who moved into India in about 1500 BC possessed a civilization, and above all a social structure, which at this stage had no need for writing and was indeed by necessity hostile to it.

40 Seals and sealings from Mohenjodaro; c. 2500–2000 BC. (British Museum: Department of Oriental Antiquities; 1982.12.10.1; 1912.6.29.1; 1947.4–16.2; 1912.5–7.1; 1917.4–16.1; 1947.4–16.3)

**Ancient Mediterranean scripts**

Cretan

For most of the second millennium BC until the focus of power shifted towards the Greek mainland, ancient Crete was the home of a brilliant civilization which drew its vitality from a successful combination of Palace economy and sea trade. It seems that the first Cretans were immigrants from Asia Minor who kept goats and sheep, cultivated olives and stored their grain in large earthenware jars. By 2300 BC they began to show signs of a growing prosperity but it was only after 2000 BC when the island’s political and economic gravity polarized around Knossos and Phaistos that the highly original Palace civilization we associate with Crete, and which still astounds us with its sophistication and elegant affluence, began to evolve. Trade, based on a powerful fleet, further increase in prosperity and a flourishing Palace bureaucracy seem to have stimulated the development of an indigenous Cretan script (influenced perhaps by a knowledge of the Egyptian way of writing) out of earlier cult symbols, and property marks. In fact three different forms of writing, two of them still undeciphered, were used, mostly for commercial purposes, between 2000 BC and 1200 BC.

The earliest script, using pictorial signs, survives in various stages of development in the form of short inscriptions on seal stones, or (rarely) scratched in clay. Most of these inscriptions come from Knossos and have been ascribed to the period between 2000–1500 BC. Sir Arthur Evans lists about 140 different signs representing human figures, parts of the body, domestic animals, religious symbols, ships, wheat, olive sprays and some purely geometrical signs. The number of signs is too small for a pictographic script, and phonetic — most probably syllabic — elements seem to be indicated. Whether some of these pictures were ideograms, used perhaps as determinatives, (Alb. p. 49) is a question for debate. The direction of writing seems to have been left to right, or right to left, as well as beingflexible.

Around 1700 BC linear forms of writing appeared. The first of the two linear scripts, Linear A, is documented mainly in the form of short inscriptions, written on square fields with four to nine lines in each field (ibid. p. 129). The majority of these inscriptions were found at Knossos, some also in the course of excavations around Hagia Triada and at Phalakros, and a few were discovered on at least two Greek islands. The number of signs is greatly reduced; not more than seventy-seven (eighty-five according to some scholars) have been counted, which suggests even more clearly a syllabic form of writing. There are still a number of seemingly pictorial signs.

Between 1450 and c. 1200 BC Knossos came under Mycenaean influence and the Cretan scribes seem to have adapted their syllabic script for the expression of the new ruling class language, namely Mycenaean Greek (ibid. p. 30). Linear B (fig. 41), the only Cretan script fully deciphered (see p. 144), was mostly used in Knossos and has in consequence often been referred to as ‘Knossian court calligraphy’. The texts deal mainly with accounts rendered, lists of goods, statements of weight or delivery and other elements of commercial life. It has been suggested that half the signs are the same as in Linear A, and about twenty
Cypriote

The first Cypriote script, known as Cypro-Minoan, has about eighty-five syllabic signs. It is still undeciphered but is evidently related to the Linear A script of Minoan Crete. The earliest document dates from about 1500 BC, but the script only became firmly established from the 14th century and remained in use until the 12th century BC. The Cypriots had no close links with Minoan Crete at the time of the script's adoption and it therefore seems likely that they learnt it from Creteans in Syria, perhaps at Ugarit where both countries had colonies. To the 11th century BC belongs the first document, a bronze spout recently found at Kouklia (Old Paphos), with a Greek inscription in the Cyriote syllabic script. This script was in regular use from the 7th until the end of the 3rd century BC (fig. 42). It was related in some way to the Cypro-Minoan script and was used to write both Greek and Early-Cypriote, a still unknown language. It has fifty to sixty different signs each denoting a syllable; words can be divided by raised points or short strokes. No distinction is made between long and short vowels and the same sign is used for voiced, unvoiced and aspirated forms.

Hittite

The picture script of the Hittites is generally included in the (eastern) Mediterranean group. The Hittites, an ancient people of differing ethnic and linguistic affinities, began to move into Mesopotamia about 2000 BC; by the 18th century BC they had established a home around the river Haly. They seem to have had contacts with Babylonian culture from an early date, and between 1550–1200 BC (when their political fortunes began to decline) they used, mainly in the area around Boghazköy, the capital of their empire, for purposes of commerce and administration, a cuneiform style of writing obviously borrowed from Mesopotamia. Simultaneously however (and up to c. 600 BC), they also made use of a picture script for a perhaps similar though not necessarily identical language. Most pictorial inscriptions were chiselled in stone or on rock walls, the earlier ones in raised characters (fig. 45), the later incised; some have also survived in the form of seal impressions on clay or on lead scrolls. The underlying objects are no longer always recognizable, and alongside true picture signs, and often in the same inscription, more
cursive forms appear; these may however be technical simplifications and not necessarily a later stage of development (III, p. 146). The script is generally written boustrophedon, with the heads looking towards the beginning of the line (as in hieroglyphic Egyptian). Inscriptions are normally divided by clear horizontal lines and the signs within each section are read from top to bottom. The total number of signs so far established has been estimated as c. 220 (IV, p. 57) or 350 (IV, p. 148) — too few for a true pictographic or word picture script. Although we are still largely ignorant of the actual language of the inscriptions, a syllabic script mixed with some word picture signs seems to be indicated. The normal Hittite syllabary consists, according to some research, of about sixty signs (90, p. 85), each representing a syllable beginning with a consonant and ending with a vowel. In accordance with the principle of economy which we have already encountered in the case of the Cypriote script, no distinction is made between voiced, unvoiced and aspirated consonants.

This still leaves the question of the origin of the Hittite picture script. Was it an indigenous invention (90, p. 85) or merely the further development of an original borrowing? So far the question has not been convincingly answered either way, but Cretan influence, or at least an adherence to some common ancestry, is being advocated.

Lybian

Apart from the mysterious Phaistos disc which will be discussed later (see p. 141), another group of scripts, referred to as Lybian, existed (towards the end of the first millennium BC) in the western region of the Mediterranean, namely northern Africa (Tunisia) and southern Spain. The North African group consists of the so-called Numidian script which has a modern offshoot in the Berber script still used by the nomadic Tuaregs. The Spanish group is generally referred to as Turdetanian. Lybian scripts do not however fit into the predominantly syllabic orientated Aegean cycle of writing. The fact that they are consonant scripts, using in most cases a right to left direction, suggests Semitic connections.

Pre-Columbian American scripts

It is generally accepted that the American Indians are the descendants of Mongoloid immigrants who moved from Asia across the Bering Straits more than 20,000 years ago. Gradually this movement became self-perpetuating and extended over both American continents, creating tribal communities whose economy depended mostly on hunting or a simple form of agriculture. Many of these communities developed effective and original forms of information storage, but only in three areas did urban and literate civilizations similar to those of Egypt, Mesopotamia and the Aegean arise: among the Mayas of Yucatan, the Aztecs of Mexico and the Incas of Peru. Many elements congenial to the development of writing were present in those areas: an advanced agriculture which could support non-producing specialists, an architecture in no way inferior to that of ancient Egyptians which obviously depended on some sort of organized labour, a trained priesthood closely connected with the (elected) ruler (thus interaction between Palace and Temple), widespread trade, and a centralized and efficient form of administration. But there were also puzzling differences. The level of arts and crafts was high, but the skill for handling metal was mainly confined to the jeweller's art — working in gold and copper. In Mexico the tools used for warfare (and by the sacrificing priest performing the ritualistic cardectomy) were mostly stone-age flints and obsidian. Technically the wheel was known, but it was not used, except for toys. The domestication of animals was negligible (the llama for transport in Peru, for example, and a small dog bred for food in Mexico). The various writing systems which developed have at times been labelled primitive or transitory; in the case of Peru, the existence of a 'proper' form of writing is still largely denied. Yet those systems effectively supported complex religious, political and economic organizations, and were indeed vital for the welfare and the survival of the community.

Central America

Writing in Central America was closely connected with the creation and development of a sophisticated almanac based on a remarkably high level of mathematical and astronomical knowledge. The calendar was made up of two cycles operating concurrently. One cycle, the sacred year of 260 days, determined the pattern of ceremonial life. It was formed by joining twenty day names to the numbers 1–13. Another cycle of eighteen 20-day months ran concurrently. To designate a particular day, the positions in both cycles would be indicated. The combined system (which did not repeat a single date) divided time into self-contained (fifty-two-year) cycles, with the uncomfortable possibility that the end of each cycle could mean the end of the known world if proper ritualistic precautions were not observed. To indicate dates beyond the span of fifty-two years, another much larger cycle was used. Dates from this cycle, called the Long Count, were inscribed on monuments. These dates recorded the number of days which had passed since a day in the year 3113 BC; and we are indeed able to correlate dates in this system with our own calendar.

For a long time the Maya civilization, which lasted from 500 BC–1200 AD, with a classical
period of some 600 years between 300–900 AD, was credited with the introduction of both the almanac and writing. But it has now become more and more apparent that much had been handed down by the Olmecs, whom native tradition names as the earliest inhabitants, and who were supposed to have overcome the mythical giants and founded the first sacred cities. Indeed, certain design elements on Olmec clothing, accessories and body may represent embryonic script signs (JSTOR, p. 20). It is not known whether the names and signs for the twenty days (see fig. 18) were already known to the Olmecs, but they are in evidence in the Mont Albin I period (c. 500 BC).

Except for calendar signs and notation symbols, Maya writing has still not been fully deciphered. No doubt the religious fervour of the Spanish conquerors and their accompanying Jesuit priests who indulged in wholesale destruction of carved images and written documents, and who did much to erase the old beliefs from the memory of the people (their dictionaries carefully omitted ritual and ceremonial terms), played its part. But in pre-Columbian America, as indeed in most parts of the ancient world, the knowledge of writing was never democratically shared among the people; it was predominantly in the hands of the priesthood and/or consecrated interpreters.

The Mayas used two styles of script, a monumental and a written form. The monumental script (fig. 44) was hewn in stone, or incised in jade, or moulded out of a kind of stucco. It bears no resemblance to any other form of writing and is characterized by an element of inherent dynamism, a combination of restrained abstraction and pure fantasy. The earliest surviving Maya texts have been dated 200–100 BC. By the end of the classical period (900 AD) the recording of texts on architectural monuments had ceased. The individual script signs look remarkably complicated, but if considered closely they reveal themselves as compounds of simpler signs. Each sign seems compressed into the same rectangular, square or oval space. On stelae, signs are usually arranged vertically and have to be read in pairs (see p. 54); in the case of horizontal inscriptions the direction runs usually from left to right.

The Mayas knew the meaning of zero, and their complicated mathematical system depended on the use of only three symbols: a stylized shell for nought, a dot for one and a bar for five. The position of a number symbol determined its value, with values increased by a factor of twenty from bottom to top in vertical columns. The first and lowest place has a value of one; the next, twenty; the next, four hundred; the next, eight thousand; and so on.

They did in fact use a binary code of astounding efficiency which allowed them to deal with periods of over five million years.

The written form of Maya glyphs differed considerably from the carved signs of the classical period, but how far this is the result of the difference in writing material (long strips of bark paper or deerskin folded accordion-wise — as opposed to stone), and how much represents genuine development, is difficult to assess. The only three surviving manuscripts, the Codex Dresden, the Codex Madrid (fig. 45) and the Codex Paris (named
after the cities where they are now preserved), are thought to have been composed between 1300–1450 AD, though some scholars suggest slightly earlier dates. Illustrations standing below the passage to which they refer aid in the identification of subjects. According to earlier sources Maya manuscripts covered subjects as diverse as history, prophecies, songs, traditional science and genealogy, but the three surviving manuscripts limit themselves mainly to divination in relation to astronomical events, ritual and ceremonies.

In 1320 AD the Aztecs, who according to their own tradition came from the north-west, a land called Aztlán (from aztlan + -tlan, a suffix for place names: i.e. 'heron-land'), consolidated their position in northern Mexico. Their advanced civilization, which two hundred years later astounded the Spanish conquistadors, was to a large extent the modification of an inheritance left behind by previous civilizations. Their most spectacular achievements were perhaps the lake city of Tenochtitlan (now Mexico City) and a highly effective administration, supported by a well-developed legal system and excellent methods of communication (trained runners and post houses every five or six miles) which treated the Palace as the centre of the Aztec world. In organization the army could match that of ancient Rome, but there was a fatal flaw which eventually contributed much to the destruction of the Aztec civilization: though highly organized, war was more a religious rite than an exercise aimed at gaining secular power, with the result that military success was hardly ever sufficiently consolidated by the incorporating of new territories and new people into one single Empire.

It is highly probable that the Aztecs received the idea of writing from the Mayas, but as far as appearance is concerned there is no recognizable likeness between the two scripts. Altogether, twenty Mexican manuscripts have survived, most of historical–mythological and calendrical–astrological content. Like Maya manuscripts, they consist of long sheets made of bark paper or deerskin, covered with a thin white coat of lime plaster, with writing on both sides. The individual signs are executed in a wide range of colours: black, white, red, yellow, blue, green, purple, brown, orange — each sign being encased in a black outline. The term codex which is generally used for Maya and Mexican manuscripts is a misnomer; the sheets could, opened up, serve as wall-hangings, but folded accordion-wise they formed a compact pile of pages where the beginning was placed next to the end. The text had to be read in a meandering, boustrophedon fashion, starting from the right-hand top and following vertical guide-lines in red (see Plate I). Aztec writing is highly pictographic and is served, up to a point, as a form of memory aid for the priests who knew how to write and read the manuscripts. Structurally, the script consisted of a mixture of logography (sometimes mixed with iconographic elements), ideography and rebus writing. The rebus writing — the phonetic element — was mainly used to reproduce names of places and persons. During most of the 16th century Spanish officials made use of this phonetic element for administrative purposes, just as missionaries tried to convey the Creed or the Lord’s Prayer in Latin by writing of the native script. This was not always an easy task, since there exists little correspondence between Latin and the sounds of the Aztec language. In most cases rather doubtful approximations had to suffice. Thus Pater noster was represented by pa-te na-te, and this too in a somewhat tortuous manner —

\[
\begin{align*}
\text{pami-tl} & \quad \text{(flag)} \\
\text{na-tl} & \quad \text{(stone)} \\
\text{nox-tli} & \quad \text{(fig thistle)} \\
\text{te-tl} & \quad \text{(stone)}
\end{align*}
\]

Whether without the Spanish conquest, which put such a sudden end to the Aztec civilization, Aztec writing would have developed into a syllabic script — as has been suggested — is difficult to assess. As we have seen, this step was not taken in Mesopotamia, just as the Egyptians never moved towards a pure consonant script. As far as information storage and the ability to communicate information is concerned, Aztec writing was already effective: two days after Cortez landed in Vera Cruz, Moctezuma received a written account of the arrival of the Spaniards, describing their ships, their horses (unknown in Mexico) and their weapons (ca. p. 409).

Peru

The Inca Empire, stretching from Ecuador in the north to Chile in the south, which Pizarro encountered in 1531 AD, had reached its peak barely a hundred years earlier. Many of its most characteristic elements, such as the technique of building with interlocking stones, the advanced level of irrigation, weaving and metal work, or the meticulously controlled administration, were in fact a legacy of the Chimú or other earlier civilizations. The real contribution of the Incas was a strong expansionist urge, a natural flair for organization and the ability to enforce and submit to the strictest discipline. They had a large army of conscripts (with officers from the Inca’s own household), an efficient way of enforcing their pattern of society on each newly-conquered province (if necessary with the aid of large-scale resettlements) and an almost foolproof system of taxation which required an awesome bureaucracy (c. 1,331 officials per 10,000 head of population). Taxation was not however based on mindless exploitation (always counter-productive in the long run), but on a centrally planned increase in overall productivity. Great care was taken to ensure that everybody worked to the limit of his or her ability, but nobody was left unprovided for in times of emergency. As a whole the Inca empire can perhaps best be described as a totalitarian welfare state.

Such a society depends heavily on communication, and this the Incas had perfected. They had 3,250 miles of road running from north to south spanning 35° of altitude, posthouses every five miles (some of them fortified army magazines) and runners could relay despatches at a rate of 150 miles a day. Above all, the Incas had the actual means of storing and transmitting information — the quipus (see fig. 6).

Quipus were korded cords, some of them up to four kilograms in weight. Various means by which data were conveyed included the type and number of knots (from one to nine), the position of each knot (decimal place value), the colour and ply of each string and the position of a string along the main cord. It is generally believed that a special type of interpreter called a quipu master (quipus-cumayac) read and interpreted the strings, often in conjunction with abacuses like boards; verbal messages could also be sent with the runners who carried the quipus. Pedro Cieza de León, writing immediately after the Spanish conquest, gives an impressive eye-witness account of the way in which quipus were used:

'... in the capital of each province there were accountants whom they called quipus-cumayacs, and by these knots they kept the account of the tribute paid by the natives of that district in silver, gold, clothing, flocks, down to wood and other insignificant things, and by these quipus at the end of the year, or ten or twenty years, they gave a report to one whose duty it was to check the accounts so exact that not even a pair of sandals was missing ... and I was much amazed thereby ... the wars, cruelties, pillages and tyranny of the Spaniards had been such that if these Indians had not been accustomed to order and providence they would all have perished ... and after the Spaniards had passed through, the chiefains came together with the keepers of the quipus, and if one had expended more than the others, those who had given less made up the difference, so that all were on an equal footing.'
Besides recording numbers, quipus were also used as a memory aid in reciting narrative verses, genealogies and liturgical material. In addition, the knot and string arrangements may have been adapted to the phonetics of the Inca language. Nowadays quipus are still used in certain parts of Peru, but solely for recording of numerical data.

Sending runners to convey (written) messages was already a practice among the Moche people (200 BC–900 AD) whose life and customs can be partially reconstructed from scenes painted (or modelled) on pottery. An important category of Moche pottery decoration shows runners, often with animal, bird or insect heads (or sometimes bean-shaped heads) wearing military dress, and carrying small bags containing painted (or marked) beans (see fig. 2), obviously meant to transmit messages. Such decorated beans (see p.18) have also been found in archaeological excavations and the suggestion has been made (though not yet proven) that the parallel lines, dots and combination of dots and lines might constitute a system of writing comparable to that of the Mayas of Central America (Green, p. 83). The beans may also have been used for the purpose of calculation (Spanish chronicles refer to piles of pebbles or grain), or together with counting boards like the ones used in later times by the quipu-camayoces.

It has been suggested that in addition to quipus the Incas had already developed other means of information storage. Wooden cups, or kenic, (fig. 46) and certain textiles (fig. 47) are covered with geometrical designs, or tucapu, which may have had specific meaning. In 1970, at the International Congress of Americanists in Lima, the German scholar Thomas Barthel claimed that he had identified four hundred script signs and deciphered fifty of them (Barthel, p.412), with the help of notes made by Spanish missionaries. Since then nothing further has been heard about this discovery. It is in fact somewhat improbable that tucapu constituted a specific script where each individual design equalled one particular character. Tucapu may however have contained phonetic elements similar to those found in many forms of memory aids: Ashanti proverbs, Mende song-boards, Yoruba love-letters, or indeed the embryonic script signs found on some Olmec clothing.

46. Kerens, wooden drinking cups from Peru; the cup in the middle shows a band of geometrical decorations (tucapu). (British Museum, Department of Mankind, 1950 AM 22-2)

47. Post-colonial textile from Peru showing bands of geometrical designs in tucapu style. (British Museum, Museum of Mankind, 1980 M)
Writing in the Far East

China

During the 4,000 years of its estimated history the Chinese script has undergone only comparatively minor remodelling. The actual nature of the script has remained more or less unaltered. It is still basically a word, or perhaps better, a concept, script with all the disadvantages and advantages such a system entails. The disadvantages are the large number of signs necessary — 50,000 altogether, though for more mundane and everyday use 2,000 to 4,000 may suffice. The advantages are that as a concept script Chinese does not depend on the spoken word; it can be read without regard to, or even knowledge of, the spoken language. This made it, throughout Chinese history, an ideal means of communication in an empire whose people spoke a large number of different dialects, yet were all ruled from the same centre. For administrators and scholars alike, the Chinese script was the least ambiguous (and therefore simplest) form of communication. It was also unnecessary for the written language to follow the development of the spoken language; indeed, modern Chinese do not need to know the ancient pronunciation of words to read the classical texts. On the other hand the many homophonous (monosyllabic) words of the Chinese language make it sometimes necessary to refer to a written character for clarification. For example the word fu can mean: to return, to send, kingdom, father, woman, skin — but a different written character is used for each meaning. (This is very different from Mesopotamian usage where one single cuneiform character can be used to form the syllabic component of a number of different words.)

Some of the earliest Chinese inscriptions, found either on animal bones or tortoishell from the Shang period (c. 1766–1122 BC) or on bronze vessels from the Zhou period (c. 1134–250 BC) are already written in a highly developed and stylized form (fig. 40), which would imply a period of development prior to that date. In some, though not in all characters, the original picture-sign is clearly recognizable. Chinese tradition itself offers various explanations for the origin of writing. Besides the usual accounts of legendary or semi-divine beings who acted as ‘inventors’ there are also written traditions which deserve perhaps more serious consideration. The Dao de jing of Lao Tzu and also the supplement to the Yi jing (the ancient books on soothsaying) refers to knotted cords which in antiquity were used for information storage. The lexicographical work Shuo wen seen in the eight trigrams (representing sky, wind, moisture, water, fire, mountain, thunder and earth) a reproduction of these knotted cords in the form of lines; but some western scholars have been inclined to treat these trigrams (and hexagrams) as true script signs, used perhaps as some kind of local script (ii), p. 164. Other elements of origin may have been the ‘staffs of office’ — the insignia of rank and position which were usually worn as belt ornaments — and also tallies, tokens of royal command, and authorizations. The sign language, which because of the great diffusion of dialects has always played an important role, has been accorded similar rank. For example, a sign representing two hands turned away from each other can be read as fei (wrong); a sign representing two hands stretched out in greeting as you (friend, friendship); two hands raised above the head, perhaps in a gesture of obeisance, as jun (sovereign), and so forth.

Chinese tradition divides the script signs into six groups:

1. Pictures of objects (xiang xing): about some 600 signs which all form the most basic element of the Chinese script.
2. Symbolic pictures (zi shi): representations of abstract words by signs borrowed from other words related to them in meaning (i.e. the ‘half-moon’ for ‘evening’), representations of gestures, of crafts by their tools etc., and metaphors. Not many Chinese characters fall into this category.
3. Symbolic compounds (hua yi): which can be achieved by a two- or four-fold repetition of the same sign (for example, twice the character for ‘child’ = ‘twins’) or by an ideographic combination of the components which make up a particular concept (for example, sign for ‘tree’ plus sign for ‘hand’ = ‘to collect’).
4. Signs that have arisen from ‘delections and inversions’ or from a significant rotation of other signs (shou shu). For example, ‘child’ written upside-down = ‘childbirth’ (relatively rare).
5. Sound-indicating signs (xi sheng) — now the most important group. They were especially developed during the Han Dynasty (206 BC–221 AD) and consist of two elements: a determinative element indicating meaning and general concept, and a phonetic element which provides the sound for the whole sign (for example, to express ‘shining’, which already consists of the two signs ‘sun’ plus ‘earth’; the sign for ‘fire’ is added).
6. Borrowings (jia jie) show certain similarities to elements discussed under (5) and are often ambiguous (the character for zu — to ‘sacrifice’ is used for zu — ‘foot’ etc.).

40. Inscrribed Chinese bronce vessel from the Western Zhou period, 1050–771 BC. (British Museum: Department of Oriental Antiquities, 1950.11.8-2 (11))
Although the internal structure of the Chinese script has remained unaltered the appearance of the individual script signs has changed considerably; the original pictorial element is still recognizable in a number of signs, however.

<table>
<thead>
<tr>
<th>Old form</th>
<th>Modern form</th>
</tr>
</thead>
<tbody>
<tr>
<td>child</td>
<td>子</td>
</tr>
<tr>
<td>tree</td>
<td>木</td>
</tr>
<tr>
<td>gate, door</td>
<td>门</td>
</tr>
<tr>
<td>arrow</td>
<td>弓</td>
</tr>
<tr>
<td>word, to speak</td>
<td>言</td>
</tr>
<tr>
<td>rain</td>
<td>雨</td>
</tr>
<tr>
<td>dog</td>
<td>犬</td>
</tr>
<tr>
<td>large snake</td>
<td>龍</td>
</tr>
<tr>
<td>hand</td>
<td>手</td>
</tr>
<tr>
<td>field</td>
<td>土</td>
</tr>
</tbody>
</table>

The reasons for these changes vary. For example, a change in writing material (from stone, bone, metal, to silk or paper) was often accompanied by a change in writing implements (from metal or bamboo stylus to brush). Or the change arose from purely calligraphic considerations which were enormously important and produced visually completely different forms of style.

A characteristic element of the Chinese script, noticeable from earliest times onwards, is the square arrangement of the individual elements in each character (see fig. 50). The script itself runs in vertical columns from the top of the right hand side downwards with the columns following each other from the right to the left. Graphically, Chinese characters can be reduced to nine strokes, but some of these strokes can have several variants so that there are characters with as many as seventeen different strokes.

Unlike other systems so far discussed which moved towards a reduction in the number of script signs, Chinese writing seems to have taken exactly the opposite course. The 2,500 characters of the Shang period increased to 9,000 by 100 AD, and about 18,000 by 500 AD and to 27,000 by 1000 AD. Comprehensive modern dictionaries number some 50,000 different characters, arranged around radicals or categories, 214 in number. Chinese characters consist usually of a radical and a complement made up of a certain number of strokes — though characters can also be formed by radicals alone or a combination of radicals. Generally the radical indicates the overall sphere of meaning (for example, radical 85 means ‘water’); the complement supplies the phonetic element (radical 85 plus a complement consisting of five strokes becomes ‘to anchor’).

The way radicals act is similar, though by no means identical, to the way determinatives operate in Egyptian and cuneiform writing. Since the Chinese language is based on syntax (the order of words in a sentence) and not on what we would normally call grammar, it is possible, despite the large number of different signs with their complexity of strokes, to look up each character and to understand (up to a point) a Chinese text, without actually knowing the language. Once we appreciate this, we shall also realize how effectively the Chinese script served administrative, religious and political institutions throughout Chinese history. Far from dividing the country it helped to unite it. Admittedly there was, by necessity, a wide gap between those who could read and write and those who were illiterate, with literacy being accessible only to a relatively small portion of the total population. But this was a situation not in any way different from that of pre-industrial Europe.

China’s cultural influence on the rest of the Far East can hardly be overestimated. Together with Buddhism, Chinese script, Chinese language and Chinese culture spread to the non-Chinese people of the south-western interior — to Korea, Vietnam and above all to Japan — similar to the way in which Christianity had at first introduced Latin and the alphabet to the countries of Europe and, after the 15th century, Christian-European culture had provided the inner drive for what was to become a political (and linguistic) domination of large parts of Africa, Asia and the Americas. The initial impact of the Chinese script was considerable; it was above all unopposed since none of the countries concerned possessed an indigenous form of writing. The fact that structurally the Chinese script was completely unsuited for many of these languages was not too great an obstacle, just as in Mesopotamia the Semitic Akkadians had accepted the cuneiform script originally designed for the agglutinative Sumerian language. However, after a period of acceptance, indigenous elements began to reassert themselves and local inventions, or better, local re-modelings based on a knowledge of the Chinese writing system, produced modifications which were simpler and on the whole more suitable for local information storage.

It is interesting to note that nearly all these ‘inventions’ moved towards syllabic script systems. Exactly the same thing happened when in the 19th century attempts were made to create indigenous forms of writing in Africa and among the Indians of North America by persons who knew the Roman (or Arabic) script. In the Far East an additional element was at the disposal of the script-creators: since the Buddhist scriptures propagated by the Chinese were translations of Sanskrit texts, elements of Sanskrit phonetics and of the Indian mode of writing — especially the order and the use of letter signs — were also passed on.

Korea

In 109 AD the Chinese (Han) Emperor Wu Ti conquered most of Korea. As a result many Chinese emigrated to Korea, taking their advanced culture, their language, literature, script and religion with them. Although about 40 years later the Koreans succeeded in readjusting the political balance in their favour, Chinese culture continued to thrive on Korean soil. From the 1st century AD to the end of the 7th century Chinese was the 'official script' (heoan-mun) and the only form of writing used in Korea. The unsuitability of Korean — a polysyllabic, agglutinative language — for the use of a concept script (and the fact that Korea was politically independent) encouraged experiments towards more acceptable alternatives. According to tradition the first serious attempt at creating a syllabic script based entirely on Chinese script signs was made in 690 AD by a scholar at the court of King Suroinn. Yet the difficulty of outwardly distinguishing the (thirty-six) syllabic signs from the Chinese ideograms, and the many new syllabic signs which in the course of time were added to it, made the system both confusing and inadequate.

This inadequacy became painfully apparent when, in 1403 AD, probably under Chinese influence, printing with movable metal type was introduced in Korea. Eventually, in 1446 AD, King Sejong of Korea promulgated, not without resistance from scholars and the ministers of his court who saw in it a threat to their privileged position, the 'script of the popular idiom' (on-mun), consisting basically of eleven vowel and seventeen consonant signs (fourteen basic consonants and ten single vowel signs according to some scholars),
which were arranged in syllabic units. The king is often credited with having invented the new script himself, but such attributions are more often than not a mixture of courtesy and political shrewdness designed to give added authority to a new convention.

Three elements contributed to the creation of the Korean script: the existence of the Chinese model (the direction of writing remains the same), a knowledge of the Indian (Sanskrit/-Tibetan) order and use of letters brought to Korea through Buddhist/Chinese intermediaries, and, finally, the invention of the external form of these signs. These signs, simple and regular in shape, were designed on the basis of phonetic principles. The individual consonants are graphic representations of the way that the organs of speech are used in articulating them; while the vowels consist of different arrangements of one long line joined at right angles at the centre by one or two shorter lines. Syllables are formed on the bases of consonant plus vowel plus consonant.

The new script did not replace Chinese completely, but was used side by side with Chinese characters (fig. 49) as an aid to pronunciation, for grammatical words or to clarify ambiguities, in a way similar to the Japanese use of the syllabic kana signs. Indeed as in Japan the knowledge of Chinese, and the ability to write the Chinese script, were considered a sign of social elevation; popular literature, as for example historical novels written in the Korean script, was for consumption by women or people of low rank. Today the mixed script (interspersed with European loan words in Roman script) is still used in the south. In the north all literature is written in the Korean script.

Japan

Whether writing existed in Japan before the introduction of the Chinese script has been much discussed by both European and Japanese scholars. Local traditions cite a knot device, similar to the one used on the Ryukyu islands (H., p. 163). Literary traditions such as the Kogoshu (807 AD) deny the existence of a pre-Chinese script, but the historical commentary Shobunzoki (c. 1280 AD) takes exactly the opposite view. In 1770 AD a Buddhist priest claimed to have discovered the original pre-Chinese script, the ‘signs of the gods’ (shinto or kami no mo no) which however, on close inspection, betray clear affinities with the Korean script.

According to archaeological evidence, Japan—still in the stone age in the 3rd century BC:—first came into contact with the much more advanced Chinese civilization during the Han dynasty (206 BC–220 AD). From the beginning of the Christian era the Chinese script was known in Japan, though at first only to a very small circle of people. No direct sea trade seems to have existed between Japan and China in ancient times, and contacts were made via Korea. After the Chinese invasion of Korea in 109 AD Chinese immigrants reached some of the Japanese islands, together with elements of their superior culture such as the use of the horse, various tools, a knowledge of rice cultivation and the use of (inscribed) metal mirrors and swords. In 370 AD Japan invaded Korea and successfully held some of the newly acquired territory until 562 AD. In consequence the so far tentative contacts between Japan–Korea–China increased and became more stabilized, and in 285 AD:—or, according to some scholars, in 405 AD (DC, p. 16)—the Japanese Emperor Ojin is supposed to have brought two Korean scholars, well-versed in Chinese writing and Chinese literature, to his court to act as tutors to the Crown Prince. In the middle of the 6th century Buddhism became the official religion of Japan, with the result that a larger, though still strictly limited, section of society was now ‘Chinese-educated’. From then on Japanese scholars went regularly to China for further studies, and in 645 AD a centralized administration based largely on Confucian ideas was installed in Japan which lasted until the end of the Heian period. Chinese writing techniques too were adopted: the brush, ink, the ink-stone and, after 600 AD, the manufacture of paper.

With no writing system of their own, the wholesale adoption by the Japanese of Chinese writing and Chinese literature was a shrewd political move which accelerated the development of Japanese civilization. A similar move was made in the 19th century when, after a period of resistance, Japan accepted western industrialization almost in toto. In both cases the alien elements were quickly assimilated, and far from weakening the national character they in fact greatly strengthened it. How then was the Chinese concept or word script adapted to the polysyllabic, agglutinative Japanese language full of formal words? Again, basically with the aid of a syllabic system which supplemented the script, not by the use of newly invented signs (as in Korea), but by the addition of simplified Chinese characters used in a syllabic manner. It is true that in a concept script Chinese could simply be read in Japanese; for example, ‘human being’ (hitotsume Japanese and in Chinese) could be represented by the same (Chinese) character. But the Japanese syntax is vastly different from, in fact often exactly the opposite of, Chinese. This difficulty was overcome by indicating, through special notations, the order in which characters had to be read. But this alone did not solve the problem; to express the Japanese language fully and satisfactorily, proper phonetic elements had to be added to the Chinese script. The first step in this direction was to transfer the phonetic value of certain Chinese characters to represent the syllable of certain Japanese words — the already familiar rebus-like principle. This was a somewhat unidy solution (for example, the Japanese ending –na had to be represented by the Chinese character for liu) which needed further refinement. The next step was the modification and simplification of these ‘phonetic’ characters to form a systematic
Non-Chinese people of south-west China

The mountainous regions of south-west China have for long been an area of refuge for non-Chinese tribes, who, though nominally subjugated, preserved much of their cultural independence. Their languages, belonging mostly to the Tibeto-Burman group, differ greatly from Chinese, but the majority of their scripts, though in part the result of independent inventions, betray allegiance to, or at least a knowledge of, Chinese (in some cases also Indian) models. Some scripts are still used, or at least known, as for example the scripts of the Lolo, Miao or Yao; others have, despite considerable temporary and local importance, long vanished and are partly still undeciphered (the most prominent example in this category being the script of the Tunguit). Many of these scripts combine the characteristics of a concept script with syllabic and ideographic elements. The outer appearance of the individual signs is either modelled on that of Chinese characters, or in some cases the script signs show considerable linear simplicity. None of these scripts was known to European scholars before the latter part of the last century.

An interesting, and in many ways unique, example is the Moso script (fig. 51) of the Nakh people, a tribe speaking a Tibetan dialect who settled in north-western Yunnan. Moso manuscripts are written with a bamboo stylus on paper, and the script is almost completely ideographic, supported by only a relatively small number of phonetic (i.e., syllabic) signs. Only words absolutely necessary are written down, the rest being supplied by the hereditary Nakh priests who each train their first-born son from childhood to memorize the stories and ritual texts, and to interpret the meaning of the written symbols.

Thus the Moso script acts partly as a memory aid, in a way similar to the hekewacan of the North American Indians (see p. 131). According to the genealogical records of the Nakh rulers, the script was invented by Mou-pas A-tsun some time between 1200 and 1253 AD. But internal evidence and indeed the Nakh name for the script (si dgu or ko dgu – wood record, stone record) suggest a much earlier date. Moso script signs show no connection with Chinese characters, even in their earliest form, nor with any other kind of script so far discovered in the interior of southern China.

51 Magical invocations and prayers in the Moso script of the Nakh people of south-eastern China; 19th century. (British Library; Oriental Collections, Or. 11598)

Vietnam

Altogether three different forms of writing exist in Vietnam. Since the Vietnamese language is predominantly uninflected, monosyllabic and full of tonal accents, the introduction of the Chinese script in AD 116 by King Siyoung presented few difficulties — Chinese characters were simply read in Vietnamese. A second type of script, mainly known from inscriptions after the 14th century, used Chinese characters in a more modified way. The third script, still in use today, consists simply of the letters of the Roman alphabet extensively supplemented by diacritics. This script was first introduced by Portuguese missionaries, and has been used in dictionaries and grammars from the 16th and 17th centuries onwards.
Semitic scripts

Semitic scripts are consonant scripts; they are neither alphabets nor syllabaries as has often been suggested, or at least implied. It is true that when adopted by non-Semitic people they developed into both: the alphabet in Europe and syllabic script forms in South Asia, with variants along the old trade routes which connected Central Asia and China with the West.

The characteristics of the Semitic script are those of the Semitic language: the meaning of a word is borne by the consonants (usually three), vowels play a secondary (although important) part and serve mainly to fashion grammatical forms. Thus k – t – b, depending on the interpolated vowels, can stand for ‘book’, ‘to write’, ‘writer’, ‘written’, ‘wrote’, ‘to read books’ etc. The absence of vowel signs was to some extent rectified, quite early on, by the use of consonant signs such as j and w for the representation of long vowels (ə) and ə (ə) and the sign for the glottal stop (<ā> for a). Though this convention was retained it was rarely used consistently. Only at a much later date — the middle of the 1st millennium AD — was the possibility of indicating vowels by diacritical marks introduced for languages such as Arabic, Hebrew or Syriac, but this convention remained strictly optional.

The advantages of the Semitic scripts over those discussed in the previous chapters are twofold: writing can be done more quickly (demanding less skill), and less space is required for information storage. Whether the Semitic (or alphabetic) script is in itself an easier or simpler form of writing is less certain; after all, considerable powers of abstraction are needed to break down a language into its smallest possible components (phonemes) — in the case of early Semitic scripts not more than twenty-two different signs (representing consonantal phonemes). Indeed neither the Semitic consonant script nor the Roman alphabet has been a panacea for abolishing illiteracy. They provided the possibility but this possibility was not used before economic conditions arose (with the Industrial Revolution, colonial expansion and administration etc.) which created a definite need for literacy in a wider spectrum of society. In Europe and in the Western countries this did not happen before the 19th century. In Africa, Asia and Latin America this need is still largely absent and literacy is therefore as far removed from the majority of the people as it was in ancient Egypt, Mesopotamia, China, pre-Columbian America or medieval Europe.

The question of the origin of the Semitic script is one of the most debated subjects in the history of writing, and one that has occupied writers and scholars from antiquity to the present day. Was it an independent invention of the Semitic people, or an adapted borrowing from one of the prevailing scripts of antiquity — Egyptian, Cuneiform, Cretan, Cypriote, Hittite? All that seems reasonably certain is the fact that a consonantal script developed among Semitic people on the eastern shore of the Mediterranean some time between 1800–1300 BC. The use of single consonant signs however was, as we have seen, considerably older (see p.62).

The eastern shore of the Mediterranean was a highly cosmopolitan area, a meeting place between Egypt, Babylonia, the Aegean and the rest of western Asia, and as such subject to much political pressure. The international character of the coastal towns required a knowledge of several languages and made much demand on scribes, who had to be conversant with different systems of writing. This was especially true for scribes in the employment of traders — for traders want to be understood, unlike politically dominant priests and administrators who can put the onus for understanding on others. Judging from archaeological evidence, some only discovered in the last few decades, several attempts at creating a simpler, basically consonant-oriented form of writing seem to have been made towards the middle of the 2nd millennium BC.

But though it is undoubtedly true that the change to a consistent and exclusive use of a phonetic script system occurred in this area at a certain time, it would not be correct to equate this development with the actual invention of the phonetic principle as such. Nearly all systems so far discussed included and made use of phonetic elements; in most of them phonetic elements represented an integral, and in some the dominant, element. What must also be borne in mind is the fact that though the consonant script was a more economic way to express language, by being so it irreversibly interpolated the sound element between the thought, the storage of thought, and again, the retrieval of thought.

Among the many theories concerning the origin of the Semitic consonant script, the one claiming Egyptian connections has for long been the most popular — despite the fact that the factual (archaeological) evidence on which this theory rests is decidedly slender.

In the winter of 1904–5 the British archaeologist Flinders Petrie found in the ancient malachite and copper mines of Sinai (worked for many centuries by Semitic slaves), and above all in and around the ruins of the temple of the Egyptian goddess Hathor, a number of short inscriptions which he dated c.1500 BC. He abstracted thirty-two different letter signs from these somewhat carelessly written hieroglyphs. In 1916 the British Egyptologist, Gardner, after attempts at reading the script by inserting Egyptian values had failed, tried (inspired by possible connections with Phoenician script forms) to read the inscription in Semitic and succeeded, to begin with, in identifying a frequently recurring group of four signs, namely b – t – l – t, as be’alat (fig. 52), which he interpreted as the Semitic name for the goddess Hathor. Based on this assumption he drew up a table for what was to become known as the Sinai script, which many scholars equated with proto-Semitic.

S2 Sandstone sphix inscribed with the name of the goddess Be’alat. From Serabit el Khadem, Sinai, 15th century BC. (British Museum; Department of Western Asiatic Antiquities; 41748)