THE WAYS OF WRITING

LITERACY, THE ART OF READING AND WRITING

It would be very difficult for you to live in the modern society if you did not know how to read and write. Reading and writing are basic skills which you learn in the school. Every child has the right to schooling. But this idea that all children should go to school is a rather new one. Before this century, many children had to help their parents in the farm, or in the house looking after their younger sisters and brothers. They never got any chance for education, and many of them remained illiterate all their lives. Even today, education is a luxury in poor countries, and thus there still are millions of illiterate people around the world.

When someone who cannot read wants to learn songs or stories or religious teachings, he has to learn everything by heart. Some people develop an outstanding memory so that they are able to recall a great number of stories accurately. Old myths and stories were often composed in verse in order to make them easier to remember. The stories were recited like a song. The best storytellers had a large repertoire of stories, having learned many already when they were small kids and had a sharp memory. They could continue storytelling for hours and hours, and people sat listening and doing small chores - not very different from modern day television watching.

Many old stories have been collected and written down as books. The Greek myths Iliad and Odyssey have been translated to many languages, and so are the Norse sagas, the Mesopotamian story of Gilgamesh, and the great Indian epics Ramayana and Mahabharata. Mahabharata contains over ninety thousand couplets which as one book would be more than 6,000 pages long. The translations of these great stories are usually shortened because modern people seldom have patience and time for such a long book. In India these epics continue being very popular, and people know them well. Parts of the epics have even been made in to movies. During religious festivals, the stories are played by theater groups many nights in succession, five or six hours at a time.

Three couplets from Mahabharata (translated by Romesh C. Dutt, p 230):

Then she rose and tied her tresses, gently helped her lord to rise,
Walked with him the pathless jungle, looked with love into his eyes.

On her neck his clasping left arm sweetly winds in soft embrace,
Round his waist Savitri's right arm doth as sweetly interlace,

Thus they walked the darksome jungle, silent stars looked from above,
And the hushed and throbbing midnight watched Savitri's deathless love.

PRACTICE

Imagine yourself as a storyteller. How many stories do you know by heart? What about songs or poems? Did you hear them from someone or did you read them? Make an experiment of learning stories by heart: select a short story, a poem and a song. Try to memorize them. Which one was easiest and which one most difficult to remember? How much time did it take to learn them? For some people, learning stories by heart is easier than for others. Do you think you have a storyteller's memory?

SCRIBES

Illiterate people also have to sign contracts and official papers. How is this done? Somewhere people draw a cross instead of the signature, elsewhere they put a fingerprint. For longer texts like letters they go to a professional scribe. School teachers or public notaries often act as scribes in poor countries. But in earlier times, literacy was even less common, and one could say that all of the old scripts were in a way "secret writings" because so few people were literate.

Many old scripts were extremely complicated. First of all, they were not alphabetical like the modern European writings but they had hundreds of different characters. In addition, many of those characters looked complicated, and great mastery was needed to draw them neatly. They were so difficult, indeed, that only professional scribes had time to learn reading and writing the characters. The scribes did not mind that complexity too much as it did grant them a special position, to the contrary, they guarded their privileges jealously.

Indeed, the scribes were highly respected and powerful people in many historical societies. In some societies, like among the Maya Indians of Mesoamerica, scribes came from the highest class, even the brothers of a king selected to become scribes. In China and in Egypt, on the other hand, becoming a scribe was the only way to start a career in administration and to rise to high positions. The wealth and importance of scribes can be seen from the richly decorated tombs of scribes in Egypt, among them the tomb of Hesire, the chief of royal scribes and chief dentist, and that of Nebmertof, a royal scribe, archivist and priest.

Skillful scribes also earned well: Let us compare the salaries of professionals in ancient Sumer, in Mesopotamia, five thousand years ago. An ordinary workman earned only 60 liters of barley in a month, and a boat captain's pay was 510 liters. But a scribe could earn from 300 liters to as much as 5,000 liters of barley in a month. No wonder that the writing was kept too complicated to be learned by ordinary citizens!

WRITING MATERIALS

The oldest texts which have been found were carved or painted on materials which last "forever". They are inscriptions on stone, on hardened clay, or on bones. Before this people must have used other materials to develop the script, and to make drafts of the inscriptions. Also for writing everyday texts and letters they probably used wood, cloth, hides, bark and bamboo. But those materials disappear and perish easily, and that is the reason why the first efforts for writing have been lost. Egyptians started manufacturing writing sheets from papyrus reeds, and finally papyrus became very popular in ancient Egypt, Greece and Palestine. Even though papyrus is fragile, many rolls have been preserved in the extremely dry conditions of the desert thousands of years! Using papyrus had its problems, though: it had to be kept in scrolls which are difficult to handle. It was also expensive because it could be manufactured only from papyrus reeds which grew in the Nile.

Other areas started to develop their own writing media: treated animal hides, linen cloth or waxed tablets. Parchment was made of sheep, calf or goat hides, which were treated to became thin, flexible and odorless. Parchment was the main material used in Europe until paper manufacturing was learned from the Arabs in the late Middle Ages. Hides and skins were so valuable that the same page was used again and again: the old text was cleaned out when no longer needed, and a new text was written on top of it. Erased texts can be seen in X-ray, however, which is very interesting for modern historians: they are now able to find many texts in the same page, and more older texts, which also were written in older forms of writing, and sometimes also in languages or dialects which have later disappeared.

Paper was developed in China about two thousand years ago. Originally, it was a recycled material: the first paste ever used to make paper was produced from the fibers of used textiles. They were ground down and then molded into fine sheets. The Chinese experimented with different raw materials: silk and flax from rags, vegetable fibers, old fishing nets, and bark of trees.

The secret of papermaking was guarded well, but still, around AD 600, it spread east into Korea and Japan. About 150 years later, the Persians at Samarkand learned papermaking from

Chinese prisoners. The Arabs then spread the knowledge to Middle East, North Africa and finally to Spain. In AD 1154, first paper manufacturing center was established in Spain, and soon there were paper factories everywhere in Europe.

The Indians of Mexico made brown paper from beaten bark of certain trees, for example the fig tree. The paper was covered with a thin layer of plaster to make writing surface smooth and durable. Books were also made of deer skins. The books were folded like an accordion. Unfortunately, only a few copies of Mexican books were saved from the Spaniards, who wanted to burn all "pagan books" when they conquered Mexico.

Graffiti

Graffiti art soon appeared on the side of official texts: it has been discovered in Egyptian tombs, in Greek temples, and on Maya buildings. Graffiti may be even older than writing. Stencils of hands were printed on walls already by Ice Age people. Hand stencils of great age have been found on cave walls in France and in Australia, and some are estimated to be twenty thousand years old. We do not know the exact meaning of those hand stencils, but it could have been an Ice Age statement "Kilroy was here".

PRACTICE 1:

Design a book on a scroll of paper. How is it different from a book with leaves? How easy is it to handle?

PRACTICE 2:

Because paper used to be expensive a hundred years ago, kids had to use other materials for writing exercise in the school. There is still a scarcity of paper in many places in Africa. Try to imagine a school without paper: how can kids practice writing and math?

PRACTICE 3:

Do you know how paper is produced these days?

Make an estimate how much paper your family uses each day (including newspapers, packing materials etc.).

THE ORIGINS OF WRITING

Writing was developed thousands of years ago, in many different places. It seems possible that the uses of early writing systems were different in different places. Some ancient societies

needed a symbol system for record-keeping and inventory of goods. Surprisingly, knotted cords were popular in keeping tallies in many parts of the world, from ancient Chinese farmers to the Inca empire in Peru. Knotted cords were also used in Tibet, in some Japanese islands, and in Africa! But most probably they nowhere developed into a writing system as opposed to another bookkeeping system, the Middle East clay tokens which resulted in the Mesopotamian cuneiform writing.

ORIGINS OF WRITING IN COUNTING

In the country of Sumer, where there now is Iraq, writing came to full existence 5,000 years ago. This script was made with a sharp stylus on clay tablets. Because the wedge-shape of basic forms which constituted characters, it is called cuneiform-script ('cuneus' is Latin for a wedge). The writing medium, hardened clay, has preserved well through millennia. Archaeologists have found libraries full of clay tablets which tell much about the history of Mesopotamia in many different languages.

The history of cuneiform can be followed to a much earlier time, up to the eighth millennium BCE. The ancient Middle East, the area where the modern countries Syria, Turkey, Jordan and Iraq are located, was the first birthplace of agriculture. That area was less dry than today ten thousand years ago, and wild wheat and barley grew there. People learned to cultivate those grains, and they also were able to domesticate pigs, sheep and cattle. The products of fields and animals, as well as olives and fruits, were so plentiful that there was enough to store them. So much food was produced that some people could specialize in other activities: the villages had leather-workers, blacksmiths, potters, priests and chiefs who did not work in food production. They traded their skills for food, or they got the food because of their high position.

Products were collected into store-houses, and they were redistributed among the population. People developed a system for keeping inventory: they made small counters, or tokens of clay in different shapes. Tokens were put in clay "envelopes". Those were simple hollow clay balls in which the tokens were placed and sealed. A small cone could represent one container of grain, and a disk with a cross meant a sheep. This idea of record-keeping was known in a wide area, with local variations.

After several thousand years, the use of tokens finally resulted in the invention of writing in the city of Sumer. The tokens had first been replaced by imprints of their shape on the envelope. Then the envelopes were followed by clay tablets, and other symbols were added. The long history of the inventory keeping points out that when writing began in Mesopotamia it was not a sudden,

spontaneous invention. The was no single genius who invented writing but it was the outgrowth of many thousands of years worth of experience at manipulating signs.

Theoretical discussion

Because tokens were hidden in the envelope and could not be seen from outside, the accountants solved the problem by imprinting the shapes of the tokens on the surface of the envelopes prior to enclosing them. Later substitution of signs for tokens was a first step towards writing: the tokens were simply not needed anymore. The envelopes with tokens inside and their impressions outside preceded the first clay tablets. Thus, the pictographs on clay tablets represented tokens, not the objects counted. The sign for 'five sheep' was not a picture of five sheep but the picture of token for 'five sheep'.

The tokens represented "concrete" counting contrasted to abstract numbers: two cones meant exactly two containers of grains in the storage and not 'two' in general, or two of anything else. There were different systems for measuring length, area, separate items, type of grain, and so on. Writing resulted from the invention of abstract counting; the item counted and the number indicating pure quantity were separated from each other:
five jars of oil = one incised oval (meaning jar of oil) and five impressed wedges (meaning five).

ORIGINS OF WRITING IN SACRED SYMBOLS

There is a Chinese legend about the birth of writing. Emperor Huang Di who lived during the 26th century BCE, had a minister called Chang Jie. He discovered the gift of writing after studying the heavenly bodies and objects in nature, especially bird and animal footprints, and shades of trees. It was the worst of all possible discoveries, if one is to believe the poet Wu Weiye: 'Chang Jie wept throughout the night, with much cause.'

Actually, the oldest texts in Chinese characters were carved on bronze vessels and oracle bones around the 14th century BCE. In ancient China, writing was used to send messages to the gods and to the spirits of the ancestors, and to read their answers. The emperor once asked if his wife's childbearing will be good or bad. Another time he wanted to know about the coming of rains which was very important for the planting of crops. Questions were carved on turtle shells or cattle bones. These were then put into a fire, and the bone cracked in the heat. The location and shape of the cracks was believed to show the answer and the will of gods. Priests were trained to read and interpret the results. The texts in bronze vessels included calendar dates, and emperor's actions like starting a battle or giving a gift to a temple. A huge number of oracle bones and bronze vessels have been found, and the amount of different characters on them was already 3,500.

The Chinese characters developed into more fluent and abstract forms. When the country was divided into small kingdoms, the writing developed into many different directions. The Qin dynasty unified China in 221 BCE under one ruler who standardized the writing system. 3,300 most common characters got their standard shape, and the size of characters was defined to be the same for all. Of course, many styles of writing have been created since that time but the basic forms of characters are still the same.

All religions make use of a large number of sacred symbols. The cross in Christianity, the moon crescent in Islam, David's star in Judaism are some of the best known symbols. Can you think of some more?

The traditional healers and priests, the shamans, in Siberia, in the Arctic areas, and by Mapuche people of Chile, used sacred symbols on their drums. In some places like among the Cuna Indians in Panama it developed into a pictographic writing. Their medicine men have formulas recorded in picture writing which works as a memory aid when they sing chants during a healing ceremony.

THE ORINGINS OF WRITING IN ROYAL RECORDS

Very little is known about the creation of the Egyptian hieroglyphs. The oldest texts which have been found inscribed on stone already show a fully developed system. In the oldest texts, the pharaohs recorded their achievements and conquests. In the early period, the Egyptians used the writing mainly for certain purposed, namely to record stored products (like in the Middle East), for royal records, and also in an effort to communicate with their gods. The Egyptians were worried what would happen to them after the death. They wrote long stories about their good deeds to be placed in their tomb together with their mummy. They hoped that the gods of afterlife would read and believe those stories and give them a new, good life.

The oldest Mesoamerican texts seem to have served the same function as in Egypt. Stone carvings from Mexico tell about kings and their achievements. Because there are numerous calendar dates in the inscriptions, it was thought a long time that the texts were sacred astrological and astronomical records. But new research has shown that there are also names of nobles and their actions in the texts. Still, it may be that the calendar was developed first, and then used for 'propaganda' purposes by the ruling class. There were actually many different writing systems: the Olmec script was the oldest, then came Zapotec, Maya, Mixtec, and finally Aztec scripts. The characters look similar in style even though the scripts are completely different. The purpose of official inscriptions seem to have been the same all over: to record the deeds of the ruling noble

class. If some facts were not pleasant they could be changed: if a child was born on an unlucky calendar day, a better official birthdate was selected to make her future luckier!

HOW A WRITING SYSTEM CHANGES IN TIME

As we saw, the origins of writing are not well known. But the art of writing was certainly appreciated among all the people as it was commonly believed to be of divine origin. The ancient Egyptians believed that the baboon god of wisdom, medicine, and magic, Thoth, had presented writing to the world. They called their writing 'medou netcher' or gods' words. Translated into Greek it became 'hieroglyphs', sacred inscriptions. The Maya had a similar view about the origins of writing: the howler monkey was their patron god of the scribes.

The Muslims believe that the God, Allah, gave the holy book Qur'an to prophet Muhammad. Writing was the creation of the God. Qur'an is always taught and recited in the original Arabic, and it is not translated into other languages for religious use. The Christians and Jews also thought that writing was given by the God but there has been some confusion about the time it happened. Hebrew was believed to be the first language, spoken already in Eden, but writing was given later to Abraham or Enoch.

When the modern science began to trace the development of writing, the first assumption was that it has developed from picture writing. From pictures or so called pictograms, it was supposedly developed into word signs, which are called logograms or ideograms, then to phonetic signs which represent sounds, and finally into an alphabet. But this idealized history was based more on theory than actual observation, and facts indeed show it to be wrong. No writing system has been found which clearly had a purely pictographic origin.

There is no evidence that drawing precedes symbolic expression in general: already in the Ice Age, people drew symbols next to drawings of animals in the cave paintings. These were clearly not writing but they certainly were abstract symbols and not pictures. It shows us that manipulation of symbols is a very old human ability which finally lead to the arts of writing and mathematics.

EXAMPLE:

One of the oldest symbols of humankind is a spiraling circle, or a labyrinth. It has been found in Siberia, in India, in the American Southwest, in Sweden, in the British and Greek islands, and in Australia. For the Hopi of Southwest it is the symbol of the Earth Mother, the navel in the earth from where the first Hopi came. It is the golden spinning earth, or a coiled goddess.

What is the difference between a writing and a symbol system? Some symbol systems

have a large number of symbols which represent many different concepts. Why are they not called scripts? Despite the fact that each symbol stands for one idea, it is not clearly distinct but can be articulated in many differing ways, even in different languages. There is no direct connection of symbol and sound, only a connection of symbol and meaning. This kind of system is not usually called writing even if it looks sophisticated. A 'real' writing should have enough symbols to express whatever is said in the language in use. And when the text is read, the result should always be the same: a phonetic connection is required.

One of the ancient Mexican scripts was rather peculiar, namely the Aztec pictographic writing. The Aztecs had a powerful empire around the area of present day Mexico City. They ruled many peoples, and many languages were spoken in the empire. The Aztecs did not try to impose their own language, the Nahual, on other peoples, instead their pictographic writing could be read in different languages. It was a multilingual system. The text was composed of images, and names of places and nobles, and commonly known symbols. The reason that this script was not phonetic was not ignorance as 'real' phonetic characters were well known in Mexico. For example the Maya and the Zapotec had used writings with phonetic values already for centuries. But obviously it was regarded more convenient to use picture writing!

The pictographic writing looked like a comics book: a series of pictures told the events, and a red line indicated the correct order. This pictography included some standardized signs like a scroll for speech and name glyphs. The footprints in the picture indicated how the story went on. The writing was not well suitable for exact recording of events, but this may not have been always desired, either. A typical text told which towns had been attacked, the result of the war, and what were the boundaries between states. When the story was written in pictures, it could be interpreted in slightly different ways. Competing rulers could read the story in a way that showed them in the best light.

To conclude, very little is known about the creation of the old writing systems. We do not know how long it did take to develop them. Or how many people were involved. What kind of signs did they try first? No document about the creation process has survived. The first trials and phases of those systems are lost to us. The Mesopotamian and Chinese systems are maybe the best documented from very early times. But even the earliest forms of these writings were already mixed systems which had a strong phonetic element: in that sense they were real writings and not pictographic symbols.

Even though the beginnings of writing were obscure, western scientist used to believe that

they know which is the highest and most developed form of writing, namely the alphabet. This view was not disputed for a long time because Europeans themselves use alphabets. But there is no factual reason which would make the alphabet superior. For example the Chinese system, despite its complexity, has several advantages for writing the Chinese language.

Example:
The spoken variants (dialects and sister-languages) of Chinese are not mutually intelligible, that is, people who speak different dialects do not understand each other. The written form is common for all of them because it is a concept-script. If the Chinese would shift to a purely phonetic system, either all Chinese would have to learn one standard dialect, or the dialects had to be written in differing ways and the unity of written language would be lost. There would be a break in historical continuity: new generations would be unable to read old texts unless they were transcribed into the new form of writing. By the way, these are exactly some of the reasons given to explain why the English spelling has not been modernized to be closer to the spoken language.
Another important aspect of Chinese characters is aesthetic: Chinese writing is art as well as technology. The characters are designed to look harmonious, and they can add beauty to paintings, or they can be works of art as such, see: 令亦中丞

EGYPTIAN HIEROGLYPHS

The Egyptian hieroglyphic writing was one of the earliest writing systems in the world. It was in use a very long time, starting from more than 5,200 years ago till 1,800 years ago. After that it was replaced by the Greek alphabet when Egypt was ruled by Greek kings and later by Romans. Eventually the hieroglyphs were completely forgotten. Modern Egyptians write Arabic.

During a long time, people who saw the hieroglyphs did not even know if they were real writing or not. Then, in 1799, a stone slab was found in Egypt which had text carved on it in three different scripts: in hieroglyphs, in the Egyptian Demotic script, and, fortunately, in Greek. Because the Greek text could be read and understood, the decipherment of the hieroglyphs started. The names of the rulers, pharaohs, were understood to be the same in each of the texts. It was soon concluded that the words which were carved inside frames were names of pharaohs. The famous decipherer, a young Frenchman Jean-Francois Champollion, was able to find out how to read them and decode the first hieroglyphs. A complete understanding of all hieroglyphic texts has never been achieved but most of the characters have been deciphered after years of hard work. Because hieroglyphs were used such a long time, they also evolved during that time, and the language changed.

Egypt is in North Africa, in the corner of the Mediterranean Sea. The people live on a narrow strip of land on both sides of the great river Nile which flows through the country. The fertile river bed is surrounded be dry desert on both sides. In the ancient kingdom of Egypt, most people were farmers who cultivated wheat, and kept animals. They were ruled by a pharaoh who had a court of servants and administrators. The Egyptians loved arts, music, and religious festivals. But the main reason that we know so much about them is because they built huge tombs for the kings and nobles, and filled the tombs with pictures, writings and everyday objects.

The Egyptians were very much concerned about their fate after death, and they preserved the bodies by mummifying them. Tombs were prepared to contain everyday objects, or miniature sculptures or pictures of their life. The walls of tombs and the coffins were decorated with texts and pictures. The pictures were realistic descriptions of daily life, for example in one mural there is a party scene. One woman at that party requests from a servant another drink of wine, claiming that her throat is as dry as straw. She complains further that another guest has had more wine.

It was believed that whatever was inscribed with writing would be eternally alive. Writing converted an inanimate, lifeless, object into an animate one. Writing someone's name meant that that individual would live forever, and writing 'bread' on a stone box placed in a pharaoh's tomb meant that the container would always have bread. On the other hand, it happened a couple of times that angry kings ordered the names of their hated predecessors to be destroyed so that they would be forgotten and they would not get eternal life.

The Egyptians wrote on many kinds of surfaces: they painted on the walls, they carved in the stone and wood. But for daily use like for official letters and documents they had papyrus. Papyrus was obtained from a reed which grows in Nile. It could be made into sheets like paper. It was folded in a scroll, and painted with a brush and "ink". Some of the papyrus scrolls have lasted in the dry air of the tombs, but many more texts have been preserved as wall paintings. Because papyrus was expensive, the drafts were made on sand, stones or wooden boards. Students were not always given such a valuable material as papyrus but they had to practice on wooden boards where the text would be wiped out again and again.

Literacy was not common among the population, and most of the people could not read or write. Writing was a specialized skill which was needed if someone wanted to make a career in the administration. Training of scribes took many years. Young boys went to elementary school where the students were harshly disciplined. Later they could become apprentices for an official. A scribe who fully mastered his art could gain much influence in the administration of the country and

acquire great wealth. The schoolbooks stressed the influence and good life of scribes to motivate children in learning. It is difficult to know if scribes really were as much appreciated as they themselves claimed. Nobody else was able to write one's opinion about them!

Hieroglyphic texts were as varied as modern texts: the were royal records, inventories and accounts, diplomatic correspondence and religious texts. But there were also fairy tales, love poems, songs, maxims, and other literary texts. People wrote letters to each other, and doctors had handbooks of medicine.

The total number of hieroglyphic characters is more than 6,000 but only about 700 were in standard use. The characters had different functions: some were just like alphabets, some others were used for a whole word. The hieroglyphic system was a mixture of phonetic and picture writing. Sometimes a word was spelled phonetically, and to make the meaning clearer, a pictogram was added.

THE ALPHABET

How did we get our alphabet? It was not one of the first writing systems but, in a way, a result of the development of other systems. How it exactly was created is not known, at least not yet. There are actually some heated scientific arguments about the origins of alphabets. Anyway, it is known that people who lived in the Syria - Palestine area about 3,800 years ago tried several kinds of writings, including some alphabetic scripts. They had contacts and trade with Egypt and Mesopotamia, and they had scribes who were familiar with cuneiform and hieroglyphs. Somebody got the idea of using certain hieroglyphs as alphabetic (consonant) signs, and discarding the rest of hieroglyphs.

The speakers of Semitic languages in Palestine were mainly happy with a consonantal alphabet. Even today, Semitic languages, like Hebrew (שם) and Arabic (وش), are written with consonants only. When the alphabet became known through traders and seamen in a wide area in the Mediterranean it was modified for other languages. The Greek needed vowels which they added to their alphabet. So did the Romans some centuries later, and the Latin alphabet was born.

It has been estimated that only one percent of ancient Egyptians could read hieroglyphs. Literacy became more common in Egypt under the rule of Greek kings, when Greek was the dominant language of administration. Maybe even ten percent of the population was literate around 100 BCE. All over the Greek cultural area, sons and daughters of wealthy families attended school as part of their education. Sciences flourished in Greece, for example philosophy, history, medicine, geometry, arithmetic, and geography.

After the Greek period, there was much less interest in learning and sciences. Christianity spread to Europe, and monasteries were the centers of learning in the Middle Ages. Religious teachings had more importance than anything else. Only few lay people could read, not even all kings or nobles. Latin was the language of learning and books. To be literate meant that a person could read and write Latin, not her own mother tongue. Monasteries had copy centers where monks and nuns produced books. Books were beautifully written by hand and illustrated with small colorful paintings. Sometimes many copyists worked with the same book: one person dictated it to many scribes. Books were very expensive, of course, because it took so long time to produce them.

The situation finally changed in the thirteenth century with paper manufacturing. Universities replaced monasteries as centers of learning, and literacy spread among wealthy people. People started writing in their own languages, and some great literature was composed like the Divine Comedy by Dante. Finally, with the arrival of an other great Chinese invention, the book printing, books and literacy came within the reach of the common people.

The main argument in favor of an alphabetic writing is the short time needed to learn them compared to other systems. It has even been claimed that only alphabets make a universal literacy possible. But there are very important contradictory examples: literacy has been common in Japan already a long time even though it is hard to imagine a more complicated system of different character types!

Alphabetic writing is actually not as simple as it first seems to be. There are problems which are easily illustrated by the difficulty to learn English spelling. Children are first taught easy, phonetically spelled words, like 'cat, hat, dog, boy'. But soon they encounter words which do not always follow same spelling rules: compare 'IR' in mirror, weird and girl. Spelling has to be learned word by word which, after all, is the case in Chinese as well.

Why is English spelling irregular? One reason is the number of different sounds in spoken English: it is much larger than the number of characters in the alphabet. English language has changed a lot during centuries, and it has received words from many different languages like Latin, Greek, Norse and French. Spelling rules in those languages were different which is one reason why English spelling never was regular. There has also been a change in pronunciation of many words but their written form remained the same. The basic idea of alphabetic writing, namely the close correspondence of sound and character, was never achieved. Think about the character 'A' which can indicate no less than six different sounds, as in the words 'hat, arm, saw, ago, page,

hair.'

Still, it is sure that a pure alphabetic system is by far the easiest for children to learn to read and write. This is the case in for example for Finnish, the language of Finland, which is written almost exactly the way it is spoken. No spelling bees are needed! Czech and Korean are very near the phonetic ideal, as well, and even Spanish which is spoken in many countries comes quite close to it.

PRACTICE:

Here are some texts in simplified systems of English spelling. Read them.

"Regularized Inglish iz a system ov spelling which lays down definit rules ov pronunciation which wood make it eazier for aull children to lern to read and write. In aull probability it wood lead to a saving ov at least wun year's wurk for aull schoolchildren."

"Forskor and seven yeerz agoe our faadherz braut forth on dhis kontinent a nue naeshon, konseevd in liberti, and dedikaeted to dhe propozishon dhat aul men ar kreeaeted eekwal. Nou we ar engaejd in a graet sivil wor, testing whedher dhat naeshon, or eni naeshon soe konseevd and soe dedikaeted, kan long enduer. We ar met on a graet batlfeeld ov dhat wor."

CHINESE: THOUSANDS OF CHARACTERS, HUNDREDS OF WORDS

Chinese is the oldest writing system that is still widely used. Even though there are 50,000 thousand characters, the writing system in many ways fits well to the language. Chinese words are typically short consisting only of one or two syllables. Words are not inflected, either, which means that there are no endings or different word forms. The language has a great amount of homonyms, as there are only about 600 different syllables. Spoken Chinese has many tones which change the meaning of the word. The tone system is like singing: there is a high pitch and a high-rising pitch, a low-falling-rising pitch, and a high-falling pitch. A Chinese word written with the Latin letters 'shu' has at least 25 different meanings, including a center, a private school, a potato, a rat and talent. When written with Chinese characters, every meaning has its own particular character.

Chinese characters are drawn to fill an equally large space. They are drawn in certain order: a horizontal line before a vertical line, the left part before the right part, and the upper part before the lower part. The characters may look very confusing for an untrained eye, but once a person learns about the basic components of the characters they become easier. (You can see the drawing order animated in the Wikipedia article about Chinese writing.)

The Chinese word 'shu fa', method of writing, means in fact calligraphy. A Chinese

character is to be created using brush and ink to look elegant, aesthetically attractive and lively. Calligraphy and painting are closely related forms of art: the brush techniques are basically the same, and a good painter is also a good calligrapher. The basics of calligraphy are taught in the upper grades of elementary school. One has to sit straight, in good balance, and hold the brush vertically with fingers. Retaining a correct breathing is essential, since any hesitation or shaking of the arm will appear in the line. For many people calligraphy is a form of physical exercise and meditation. The main method of learning is by studying works of famous calligraphers and copying them. Products of calligraphic art are seen everywhere in Chinese cities: shopkeepers hire calligraphers to paint their signs, and people hang calligraphic works on the walls.

KOREAN WRITING

Korea is a close neighbor of China, and it got its first writing system from the Chinese. By the 15th century, the Koreans were familiar with the Indian Devaanaagari script as well. Their king Sejong was a learned person who was not satisfied with the use of Chinese characters to write Korean which is a different kind of language. He set up a committee of eight learned persons to draft a writing perfectly suitable to the Korean language. The committee worked for three years and it did its job well: it developed the most scientific writing ever used called Hangul.

It is based on 5 consonants and 3 basic vowels which are combined to phonetic units, syllables. The shape of consonants is derived from the shape of mouth and throat when they are said. The vowels, on the other hand, are derived from cosmology: 'O' is the symbol for the sky, 'ü' is for the earth and 'i' for the human being. 'A' is a combination of human and sky which gives a tree, and 'u' is sky under the earth, which means 'fire'.

Hangul characters: 배 ㅇ ㅉ ㅚ

The total number of combination characters or syllables in the Korean language is 2,300 (this is much more than the Chinese 600). But instead of learning the combinations by heart, Koreans need only to understand the combination principles.

HOW OLD TEXTS CAN BE DECIPHERED

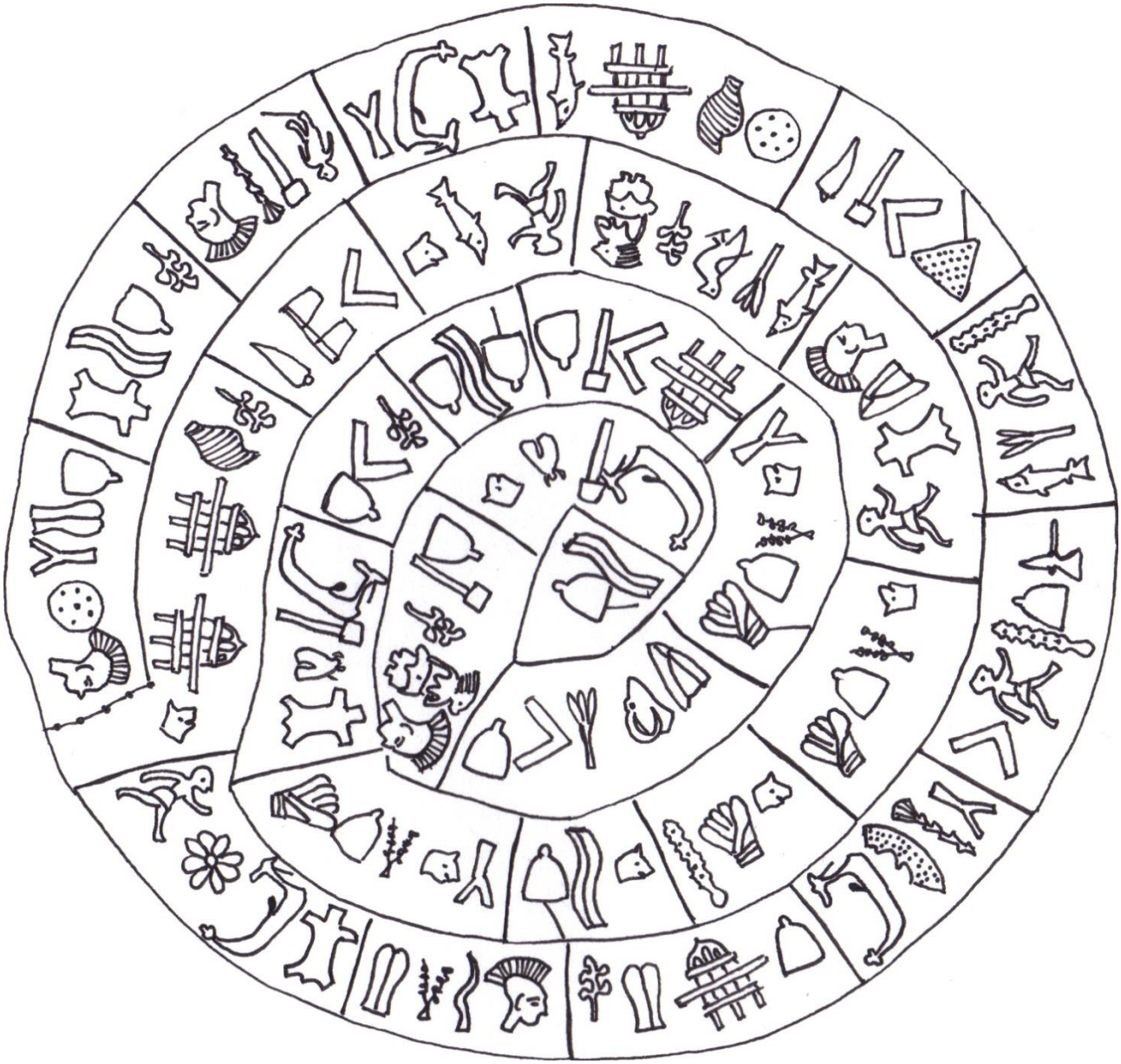
There are numerous old scripts which have been long forgotten. Even the famous hieroglyphs and cuneiform script were totally unknown for European science only two hundred years ago. At first, they were not even recognized as scripts. Many other scripts have been found in archaeological excavations since then. How is it even possible to understand an unknown script? The problem can be compared with cryptography even though there are certain differences.

Many of the old writing systems have been difficult to decipher for two main reasons. Firstly, they are not alphabetic, and the exact nature of the writing has not been known. Epigraphers and decipherers have to find out what is the basic idea of the script: if the writing uses one symbol for one word, or maybe one symbol for one syllable, or something in between. The number of different characters gives a clue to this: alphabets have twenty to fifty characters, and syllabic systems about twice as many. Logo-syllabic systems have hundreds, or even thousands of characters. It is not always easy to determine which are separate characters and which signs are just variants of the same character. Take the Maya hieroglyphic writing where any one sound and meaning can have many written variants. The system is very challenging for decipherers as the final product always depended on the creativity of the scribe.

Even the direction of the writing may be hard to conclude. Some languages are written from left to right (like English), some from right to left (like Arabic), some are written vertically from top to bottom in one column like Chinese and Japanese, or in two columns like the Maya glyphs. There are even trickier ways: the text may change direction at the end of the line, and some old texts go spiraling in a circle!

In the pictographic system of Mexico a red line was added to the text to show the direction of reading because the picture-text was laid out to fill the page neatly and to please the eye. Sometimes the scribe added footprints into the picture to show the order of events.

Picture: Phaistos disk



The other major problem for decipherers is that the language may not be known, either. When you don't know the language nor the signs, how can you proceed? There is very little indeed what can be done in such a case unless the epigraphers have good luck: they may find a text written in two languages, and if the other language is known, something can be learned about the other as well. For example in the ancient Middle East, where many scripts were used, trade documents and diplomatic treaties were usually written in two or three languages. Also bilingual word lists and dictionaries have been found. In addition, translations of official texts may contain

names of rulers and cities which are about the same in all languages. When such words are spotted in an unknown writing, the decipherment gets a start.

Yet there are old scripts which have not been deciphered. The Phaistos disk from Crete is one example. It is the only surviving text in that script, and thus the text is too short for serious efforts for deciphering. It is however clear that there must have been other texts in the same script as well because the signs were stamped on the clay. But none has been found in the excavations in Crete. It is possible that the tablet was imported from another place, and other tablets could perhaps be found elsewhere. Or maybe all other tablets were deliberately destroyed, for example to finish a ceremony. Harald Haarman is one of the decipherers who has attempted to understand the Phaistos disk. He concludes that it must be connected to funeral ceremonies, because the pictograms resemble items in old Cretan paintings about funerals. He recognizes signs which are very similar to pictures of ritual offerings. If he is on the right track, some interpretation of the disk could be possible as ritual texts tend to follow same patterns.

Typical ritual texts: "Let X be blessed by Jahveh and his Asherah."

Typical texts in royal items: "To the exquisite beauty of Ra, Neferitite."

The latest understanding, published in 2014, is that it has a Minoan prayer to a mother goddess.

Sometimes epigraphers succeed in deciphering an old alphabet, as is the case with the Meroic and Etruscan scripts, but yet the texts cannot be read because the languages are not understood. They are no longer spoken, nor were they closely related to any known language. Numerous languages and entire language families have disappeared in the course of history. All languages also change and thus the present form of a language is in many aspects different from centuries old forms. Have you ever read Shakespeare? His English differs from modern English in spelling and meanings of words. Likewise the languages in ancient times underwent changes. The Egyptian in oldest hieroglyphic texts was quite different from the Egyptian in Roman times, after all, there were three thousand years separating them!

The decipherment of old writings is a demanding task: the person must know many languages well, have a good understanding of old cultures, she or he must be very smart, insightful, and persistent, and finally, needs some good luck. The Linear B script which was used in Greece centuries before the alphabet, was a puzzle for a long time. Scientists were convinced that it was not written in Greek but in some dead language. At that time it was thought that the Greeks came to their present home country from another location. But when a courageous decipherer, Michael Ventris, tried to read certain words in Greek anyway, he hit the jackpot: it was written in an

old form of Greek after all. Many of the texts in Linear B were clearly palace accounts and tables of payments to groups of workers, which made it possible to guess categories of products and names of professions.

WRITING SYSTEMS OF THE WORLD

Discussion:

How many writing systems or scripts can you now think of? Do you know yourself some other than these Latin characters?

In the previous chapters, you have seen how a variety of scripts were developed and used. As you could see, their origins are different, and the end-products also look very different. Some writing systems have survived for millennia, others were replaced by another system and died. Let us make a summary of different cases:

1) The Chinese writing started from pictographic and logographic symbols. The characters went through many stages until they were standardized about two thousand years ago. They were used in neighboring countries as well, and they are still in use among the over one billion Chinese.

2) The Mesopotamian script got its start from token symbols. It went through many steps to cuneiform writing. Cuneiform was used for writing many different languages in the Middle East nearly three thousand years. Finally, it was replaced by the alphabet and completely forgotten. Likewise, the Olmec writing in Mexico was developed into several forms, but it finally lost to the imported alphabet.

3) The hieroglyphs were in use three thousand years, mainly in Egypt only. They were a sort of inspiration for the alphabet. Alphabet, on the other hand, developed into many forms, for example the Roman alphabet which we use, and the Arabic consonantal alphabet which is used in Egypt at the present time.

4) The Korean characters were designed by a committee to replace the Chinese characters which had been used until that time. They are specifically suited for the Korean language, and they were never used for any other language.

The total number of different alphabets and writing systems in use in the modern world is no less than 63, and 88 others with even more variants have been used in the past! Many writing systems had indeed so many stages of development that it is impossible to give the exact number. Two thirds of these scripts were in use in Asia. Asia still has the widest diversity of scripts: even today, eighteen different alphabets are used to write the languages of India only.

Writing in the Indian Devanagari script: ओनटऋ

Most of the current writing systems belong to groups related to each other. The European alphabets, Greek and Russian all have common origins. They are more remotely related to the Arabic and Hebrew writings which use consonants only. The writing systems of India, Burma and Thailand all have common origins and follow the idea of combining consonants and vowels of the syllable into one composite character. It is assumed that they have developed under the influence of Middle Eastern alphabets, for there have been trade contacts between India and Middle East from very early times. None of the earliest civilizations lived in isolation, to the contrary, there were well aware of others. Especially sea routes connected distant lands to each other. Even though travelling by sea in sailing ships took months and embraced huge risks it could not prevent human lust for adventure and good profits.

Korean Hangul characters also combine consonants and vowels but they were independently developed. The main influence in Korea and all over the Far East was the Chinese writing. The Japanese writing is directly derived from the Chinese system.

Let us look at some syllabic writings which are currently in use. They are different from logographic writings and alphabets. Syllabic "alphabet" uses one character for a syllable of two or three letters. Usually it is a consonant-vowel -syllable like 'te', 'sa', 'chi', 'mu' and so on. Syllabic writing is not very handy for writing English but many other languages use it successfully. Syllabic writing is used in Japanese, in India, and for some native American languages like the Cherokee.

THE STORY OF CHEROKEE WRITING

Korean is the last important writing system created. But even later, several scripts have been developed for languages which did not previously have a writing. New scripts were created in Africa, in the Pacific islands and in North America. Those did not survive long except the Cherokee script and the Cree syllabary which is still in use by the Inuit in Canada.

The story of the Cherokee syllabary is fascinating and puzzling at the same time. In fact, there are two different stories: one which is repeated in all history books about writing, and another which is told by the great-great-grandchildren of Sequoyah, the inventor of the script. I tell both stories here for you to compare how differently history can be seen from different points of view. I don't know which one is closer to the truth, and maybe no-one will ever know because there is not enough reliable documentation from that time.

The story of Cherokee writing in standard history:

The giant redwood trees, the sequoia trees of the American West got their names from a Cherokee Indian who became a hero for his people. Sequoyah was the son of a white trader and a

Cherokee mother who lived with the Indians. He did not write or read English but he had seen that the use of written language benefitted white traders. After a turbulent life with alcohol problems he settled down and started to develop a writing for his own people. With the help of his six-year old daughter Ahyokeh he was able to finalize and demonstrate the syllabic system. It spread at remarkable speed among the Cherokee communities and within a couple of years, nearly all Cherokee families had at least one person who was a Cherokee reader. How this miracle happened in the times of warfare and moves of entire villages, has never been well explained.

The story of Traveller Bird,
the great-great-grandson of Sogwili "the Horse" or George Guess, better known as Sequoyah

The Cherokee were a highly civilized tribe with an organized government, chiefs and priests. They had a system of writing and reading which was the specialty of the Anisahoni (feline) Clan. Sogwili was a full-blood Cherokee whose father was a scribe and who became a scribe as well. He learned to read and write and to understand some English, French and Spanish. After his home village was burned and destroyed by the whites, he became a brave warrior like his father and mother had been. The Cherokees faced extreme hardships during his lifetime: they were forced give their native lands to white settlers and move westward. A large number of people were killed in the hostilities, and on the way to new lands. Missionaries came to teach the Bible and English reading and writing to Cherokee villages. Because so many from the scribe society had died, Sogwili decided to admit all trusted Cherokees to the Seven Clan scribe society. He wanted them to know that the missionaries were not superior to the Cherokees in their writing skills. This is why he taught the Cherokee syllabary to many people in his tribe.

There is even a third explanation for the Cherokee writing. It is a kind of explanation which is called "Deus ex machina" or "a god from a machine" because it brings in a miracle from outside: professor Barry Fell believes that very ancient seafarers from Europe, much before Columbus, brought the writings from Spain and Middle East to North America. There is not much hard evidence to support this claim except similarities in some characters.

GROUP DISCUSSION:
Make two or three teams who support the above told stories: one team to defend the standard history, one to support Traveller Bird's story, and one to argue in favor of Professor Fell.

Think about the puzzling questions: How was Sequoyah able to develop a well working syllabary in only ten years, if he did not know reading or writing before? Compare with the the Korean writing which needed a committee of wise men who already knew Chinese characters to

develop it. All the previous writing systems had evolved during hundreds of years starting from less complete forms which were not purely phonetic. How did the syllabary spread so amazingly fast among the population when there were no books yet in that writing? Or could it be possible that there was a secret Cherokee writing before Sequoyah's time?

JAPANESE

The Japanese writing is a complicated system of three, or actually four character sets: the Chinese kanji characters are used for many word stems, and syllabic hiragana is used for endings, prepositions, and pure Japanese expressions. The other syllabic characters, katakana, are used for foreign loan words. In addition to this, Latin characters are sometimes used in brand names and foreign words.

Examples of all three Japanese forms:

kanji:	五人	go-nin (= 5 people)
hiragana:	いつも	itsumo (= always)
katakana:	アメリカ	Amerika (= America)

Japanese kids have to study hard to learn all these characters. They start with hiragana, and after learning it, they begin to study kanji characters.

THE DEVELOPMENT OF JAPANESE WRITING

The Japanese lived rather isolated on their islands for centuries, separated from the mainland Asia by the sea. They did not have a writing of their own at the time when the contacts with their closest neighbors, the Koreans and the Chinese, became frequent about two thousand years ago. The Chinese had developed a writing system already much earlier. When the contacts tightened, the Japanese emperors quickly realized the advantages of writing for the government of the country. First they hired Korean scribes to record events and to report conditions in provinces. The Chinese writing was first used as such to write Chinese. Later the characters were used phonetically in an effort to write Japanese, but this did not work out well.

The Japanese language is strikingly different from Chinese, in fact, more different than any European languages are from one another. In case of Chinese, it is sufficient to write words as such after another whereas Japanese words change according to their position in the sentence. Japanese words have endings and grammatical changes. For example, possession can be expressed with an ending: "cat- cat's" is in Japanese "neko - nekono". For the endings and other additional elements, two phonetic forms of writing were developed, katakana and hiragana. As opposed to Chinese characters which are basically logograms and have often many different

pronunciations, the Japanese kana-characters are syllabic and represent a sound combination.

The cursive hiragana characters were used mainly by women for many centuries up to the point that they were called "women's script". A court lady, Murasaki Shikibu, who lived in the 11th century, composed the first Japanese masterpiece of prose writing, a novel called "The Tale of Genji". She tells in her book how important a fine calligraphic hand was for a person in the Japanese court. The way a person handled the brush was considered a good guide to his or her character, education and sensitivity. People could even fall in love into a person's handwriting before actually seeing her or him! Lovers awaited with anticipation the first letter from the beloved as they wanted to see how much sophistication and feeling it revealed. When the Prince Genji decides to take the thirteen-year-old Princess Nyosan as his official wife, his companion lady Murasaki waits anxiously for her first glimpse of the princess's handwriting. It turns out to be unformed and childish, and both Genji and Murasaki are embarrassed that somebody of the Princess's rank could have reached this age without developing a more polished style.

For many centuries, Chinese characters were predominantly used in business and administration whilst the phonetic kana-characters were used in correspondence and literature. Portuguese missionaries who visited Japan in the sixteenth century came to the conclusion that "the Japanese language was the invention of the Devil, having been devised so as to hinder the spread of the Gospel". No doubt they had also in mind the complexity of Japanese writing system when forming this opinion.

MAGIC MESSAGES

LOVE MAGIC

Bali is a tropical island in Indonesia, famous for its beauty. In its villages, magic is very important in people's lives. If a young man wants a girl to fall in love with him, but the girl does not respond to his feelings, he may seek help from a magician. He buys charms to make love magic. Magic formulas and written texts are popular, and so are drawings: they are buried in the ground where the victim will pass over them, or buried under the threshold of her house. The ink from magic formulas may also be dissolved into water or brewed into coffee or tea. This drink is then served to the unsuspecting victim. Young girls are very much afraid of love magic because they do not want to marry a bad husband.

CURES AND CURSES

In the Arab world, holy words have curing powers. If holy words are written on a paper and

the ink is then dissolved into water, the drink works as medicine. When a person falls sick, and ordinary medication does not help, a teacher of the Holy book may be called to give a curing prayer to the patient.

In the Islamic faith, it was not considered proper to make pictures of living things. The Arabs developed a tradition of composing pictures out of text fragments, or hiding texts in pictures. The text can also function as a charm, if it is a prayer which protects the owner of the item.

The ancient Romans and Greeks used to write curses on papers and throw them into river if they wanted to harm somebody secretly. There were magicians and witches who knew effective curses, and sold them to malevolent people.

MAGICAL CHARACTERS

The belief in the magical power of written word is very old, it could be as old as the written word itself. The ancient Egyptians suspected that hieroglyphs could even come to life. They tried to limit the power of certain hieroglyphs, especially those depicting human, birds and animals. If the hieroglyphs were in "sensitive" areas, like on the walls of a burial chamber or on the sides of a sarcophagus, their power could be dangerous for the dead person. The fear was that the hieroglyphs might assume an independent hostile life of their own and consume food offerings or even attack the body. On occasions they were modified in some way to immobilize them. The bodies of human figures and the heads of insects and snakes were omitted, and the bodies of certain animals severed into two. The evil serpent Apophis was sometimes shown as constrained or 'killed' by knives or spears.

Hieroglyphs wielded also positive power, and they were worn as amulets. Among the popular amulets were the characters for life 'ankh', and the 'udjat', eye of Horus the "healthy one", who protected against evil.

Certain Chinese characters are used as amulets to bring good luck. Characters for happiness, long life, and wealth are worn as jewelry, they are weaved in clothing and carved into furniture. Characters have been used for healing purpose, as well, like the Arabic letters.

ALPHABET ART

The art of beautiful writing is called calligraphy. We have already seen examples of Chinese and Arabic calligraphy. This page from a Medieval manuscript shows how beautifully our own alphabet can be written by a skilled artist. Calligraphy needs lots of practice, but computer programs can be used as a shortcut. Modern computer programs have many text fonts which can be used to make alphabet art or calligraphy.