



The **Courier**

A window open on the world

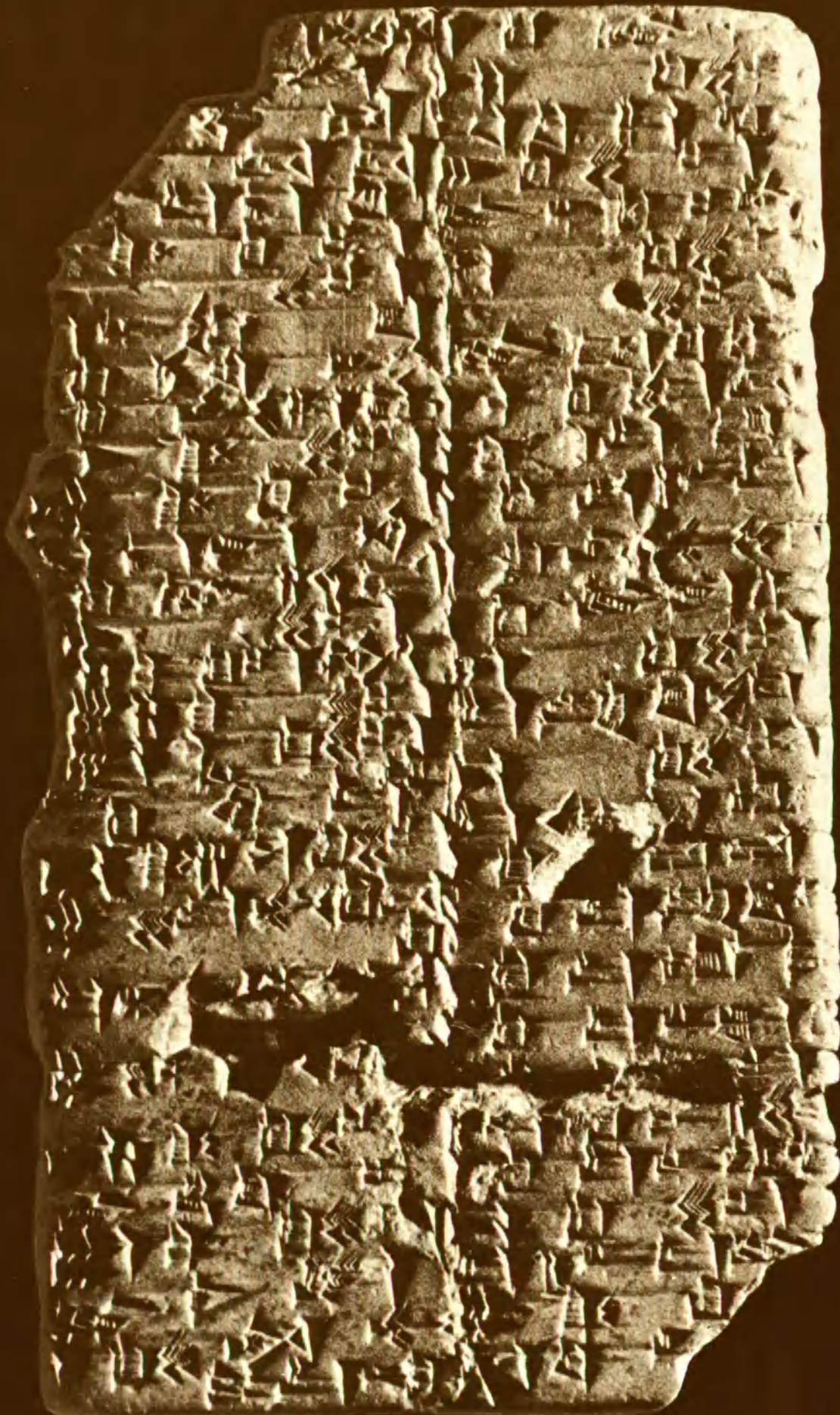
December 1972 (25th year) - U.K. : 13p - North America : 50 cts - France : 1.70 F

THE ART OF THE BOOK



CHINA

New
discoveries
of ancient
treasures



TREASURES OF WORLD ART

72

IRAQ

Photo Roger Lesage - Unesco

Sumerian books in clay

This terracotta tablet (presented to Unesco by the Government of Iraq) measures barely 4 by 9 cm. (2 by 3.5 in.). It is inscribed with the cuneiform characters of the ancient Sumerian language. Thousands of such "books in clay" have been discovered: legal documents, business contracts, lists of food allocations, palace inventories, even geometrical problems. They help us to visualize the brilliant Sumerian civilization which developed in the Tigris and Euphrates valley of Mesopotamia from 3500 B.C. Skilful architects, sculptors and goldsmiths, the Sumerians invented a system of writing that became one of the most important in the ancient world. Their inscribed clay tablets reveal them also as efficient accountants, archivists, schoolmasters—and tax collectors. Dating from the reign of Shu-Sin (2036-2028 B.C.) a king of the third Ur dynasty, this tablet records details of the State's corn revenues.

DECEMBER 1972
25TH YEAR

NOW PUBLISHED IN 14 LANGUAGES

English	Italian
French	Hindi
Spanish	Tamil
Russian	Hebrew
German	Persian
Arabic	Dutch
Japanese	Portuguese

Published monthly by UNESCO

The United Nations
Educational, Scientific
and Cultural Organization

Sales and Distribution Offices

Unesco, Place de Fontenoy, Paris-7^e

Annual subscription rates £ 1.30 stg. ; \$5.00
(North America); 17 French francs or
equivalent; 2 years: £ 2.30 stg.; 30 F. Single
copies: 13 p stg.; 50 cents: 1.70 F.

★

The UNESCO COURIER is published monthly, except in August and September when it is bi-monthly (11 issues a year) in English, French, Spanish, Russian, German, Arabic, Japanese, Italian, Hindi, Tamil, Hebrew, Persian, Dutch and Portuguese. For list of distributors see inside back cover.

Individual articles and photographs not copyrighted may be reprinted providing the credit line reads "Reprinted from the UNESCO COURIER," plus date of issue, and three voucher copies are sent to the editor. Signed articles reprinted must bear author's name. Non-copyright photos will be supplied on request. Unsolicited manuscripts cannot be returned unless accompanied by an international reply coupon covering postage. Signed articles express the opinions of the authors and do not necessarily represent the opinions of UNESCO or those of the editors of the UNESCO COURIER.

The Unesco Courier is indexed monthly in the Readers' Guide to Periodical Literature, published by H. W. Wilson Co., New York, and in Current Contents - Education, Philadelphia, U.S.A.

★

Editorial Office

Unesco, Place de Fontenoy, Paris-7^e - France

Editor-in-Chief

Sandy Koffler

Assistant Editor-in-Chief

René Caloz

Assistant to the Editor-in-Chief

Olga Rödel

Managing Editors

English	Edition : Ronald Fenton (Paris)
French	Edition : Jane Albert Hesse (Paris)
Spanish	Edition : Francisco Fernández-Santos (Paris)
Russian	Edition : Georgi Stetsenko (Paris)
German	Edition : Hans Rieben (Berne)
Arabic	Edition : Abdel Moneim El Sawi (Cairo)
Japanese	Edition : Kazuo Akao (Tokyo)
Italian	Edition : Maria Remiddi (Rome)
Hindi	Edition : Kartar Singh Duggal (Delhi)
Tamil	Edition : N.D. Sundaravadivelu (Madras)
Hebrew	Edition : Alexander Peli (Jerusalem)
Persian	Edition : Fereydoun Ardalan (Teheran)
Dutch	Edition : Paul Morren (Antwerp)
Portuguese	Edition : Benedicto Silva (Rio de Janeiro)

Assistant Editors

English	Edition : Howard Brabyn
French	Edition : Philippe Ouannès
Spanish	Edition : Jorge Enrique Adoum

Illustrations : Anne-Marie Maillard

Research : Zoé Allix

Layout and Design : Robert Jacquemin

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

THE ART OF THE BOOK

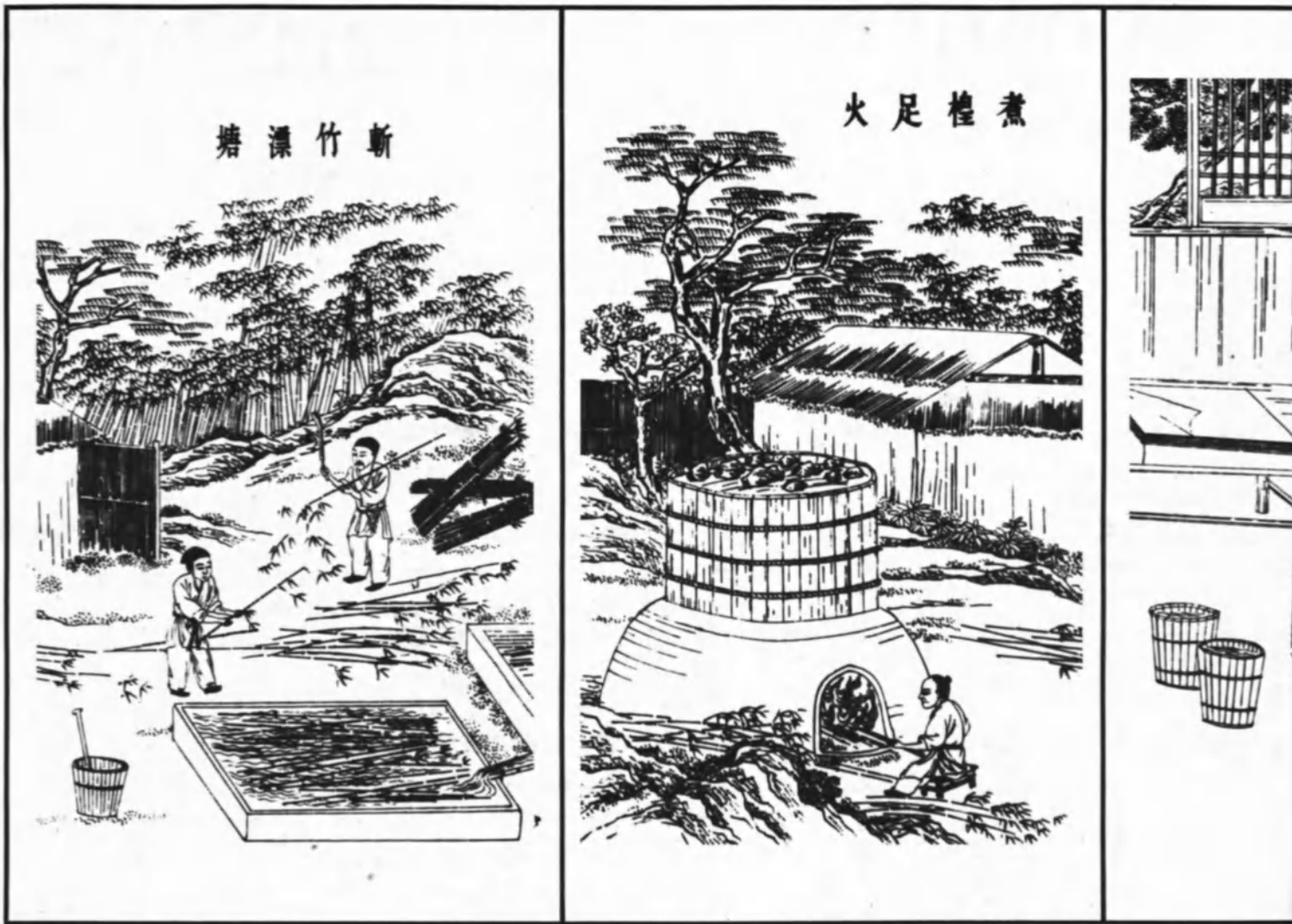
Page	
4	CHINA, TRUE BIRTHPLACE OF PAPER, PRINTING AND MOVABLE TYPE <i>By Tsuen-Hsuin Tsien</i>
12	CHINA'S NEW DISCOVERIES OF ANCIENT TREASURES Archaeological finds since the "Cultural Revolution" <i>By Hsiao Wen</i>
19	EIGHT PAGES IN FULL COLOUR: CHINA, MEXICO
27	PAINTED MANUSCRIPTS OF PRE-COLUMBIAN AMERICA <i>By Miguel Angel Asturias</i>
30	THE BOOK, REALM OF MANY ARTS <i>By Alexei A. Sidorov</i>
36	AN 'ABC' OF TEXT PLUS IMAGE <i>By Gérard Blanchard</i>
43	UNESCO COURIER INDEX 1972
2	TREASURES OF WORLD ART Sumerian books in clay (Iraq)



LADY OF THE LAMP

In 1968, almost 3,000 archaeological treasures were recovered from two royal tombs at Man-ch'eng in northeast China (see article page 12 and centre colour pages). Among them was this 2,000-year-old gilt bronze lamp, ingenious in its concept and mechanism. The right arm of the girl holding the lamp is a sort of chimney which evacuates the smoke into the body of the statuette, thus acting as perhaps one of the earliest anti-air pollution devices known. The figure pivots on a movable base allowing the position of the lamp to be adjusted; the intensity and direction of the light can also be controlled by means of a sliding shutter. The lamp stands 48 cm (19 in.) high and is thought to have come originally from the Chang-hsin palace.

From "Archaeological Discoveries during the Great Cultural Revolution", Peking, 1972



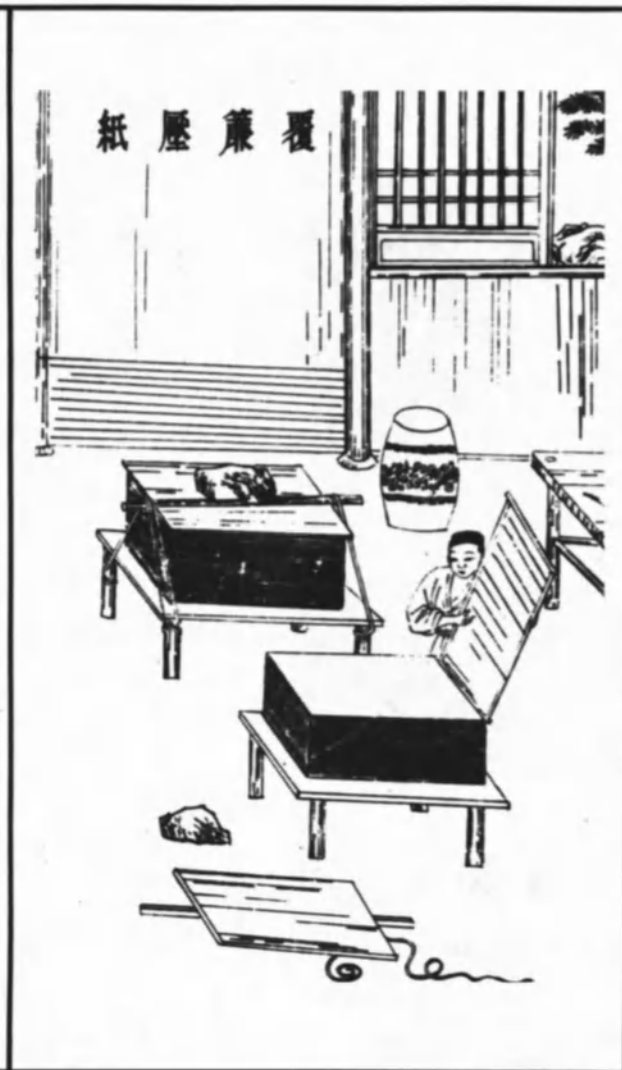
Paper, one of the greatest contributions to civilization of all time, was invented by the Chinese about a century before the birth of Christ (see page 6). The panels above show five stages in the Chinese papermaking process as illustrated in a book on Chinese technology printed in 1637. From left to right, bamboo stems are cut and left to soak in water; the inner fibres from the bamboo stems are boiled over a fire; pulp is lifted from a vat on a screen; paper is pressed after the wet sheets from the screen have been placed on a wooden board; sheets of paper are dried on heated walls. Illustrations taken from "T'ien-kung k'ai-wu", by Sung Ying-hsing, 1927 reprint edition.

CHINA

true
birthplace
of paper,
printing and
movable type

by *Tsuen-Hsui Tsien*

4 TSUEN-HSUI TSUEN is considered a leading world authority on the history of Chinese printing. He is Professor of Chinese Literature and Curator of the Far Eastern Library of the University of Chicago. In 1962 Professor Tsien published his authoritative work "Written on Bamboo and Silk: the Beginnings of Chinese Books and Inscriptions", University of Chicago Press (now in its third impression). He is at present preparing a major study on "Paper, Ink and Printing" for Volume V, part 1 of Joseph Needham's monumental "Science and Civilization in China" (Cambridge University Press).



IN the development of the art of bookmaking in the modern format, a text printed with black ink on white paper, the Chinese have probably contributed the most.

It is generally known that paper was invented in China around the beginning of the Christian era, and spread all over the world before the modern age. Wood-block printing was first used by the Chinese in the seventh or eighth century and movable type some four hundred years earlier than Gutenberg. Even the use of the indelible ink of lampblack, which has been manufactured under the misnomer "Indian ink", can be traced back to antiquity in Chinese civilization.

It was the introduction of these vehicles that made possible the production of multiple copies of a modern paged book for wide circulation.

Printing has been regarded as the mother of civilization, and paper as its carrier to perpetuate man's ideas and aspirations and expand their capacity for diffusion and exchange. Paper and printing represent two of the four great Chinese inventions (the other two are gunpowder and the compass)

that contributed to the modernization of the West.

No other achievements by the people of the ancient world can compare in importance with the invention of paper and the art of printing that was born from it. Both have a far-reaching impact upon the intellectual life of modern people. Can one imagine that if paper ceased production or printing were unknown today, what would happen in daily life in a modern society? Even though other media of communication are available, they cannot substitute for the function of paper and printing, which is basic and permanent.

Paper is a felted sheet of fibres formed on a fine screen from a water suspension. When the water drains away, it leaves a mat of fibres to be dried. Over a span of two millennia since the inception of the idea of papermaking, the art has been changed and the tools have become complicated, but the basic principles and processes remain the same.

The invention of paper in China originated from the process of pounding and stirring rags in water, several

centuries before Christ. It is very likely that an accidental placing of fibres from the rags on a mat with water draining away may have suggested the idea of making a thin sheet of paper.

Scholars of the West have sometimes questioned the Chinese origin of papermaking. Their doubt resulted partly from the derivation of the word "paper" from "papyrus" and partly from their ignorance about the nature of Chinese paper.

Papyrus, used earlier than paper, was made of laminated slices from papyrus reeds, while paper is a manufactured product of fibres. The origin of paper derived from the writing on textile with its subsequent improvement to become paper as an economical substitute.

Paper and textiles were closely related. Not only were they originally made of the same kinds of raw material, but also similar in physical format and properties. Even their uses were interchangeable.

The chief difference between them was probably in the process of their manufacture and thus in their cost of

production. Textiles were made by weaving spun threads of fibres by physical means, while paper was formed by the mixture of disintegrated fibres into a felted sheet by chemical processes.

The invention of paper has been attributed to T'sai Lun, an official in charge of manufacture, who reported to the Court in 105 A.D. his method of papermaking with tree bark, hemp, rags and fish nets. This traditional date of invention was probably arbitrarily chosen, since there is evidence for the existence of paper made of plant and silk fibres prior to his time.

The recent discovery of very ancient paper fragments in north China indicates its origin before Christ. Fragments of this oldest paper are reported as having been found in Pa-ch'iao, Shensi province, in 1957, in a tomb dated no later than the second century B.C. If this is true, the beginning of Chinese papermaking may have to be pushed back at least some two centuries before T'sai Lun.

The role of T'sai Lun, however, may have been as an innovator of new materials, which had not been used before, and of new techniques for treating them. The supply of rags and other second-hand materials was limited and the introduction of fresh fibres from tree bark and other plants provided new sources of raw materials, and thus made it possible for papermaking on a large scale to meet the increasing demand.

THE major raw materials for Chinese papermaking include such bast plants as hemp, jute, flax, ramie (China grass), and rattan; the bark of the mulberry and paper mulberry; grasses such as bamboo, reeds, and stalks of rice and wheat; and such seed fibres as cotton. Hemp and cotton are probably the best, producing the highest yields of pure and long fibres, but as they are needed primarily for the textile industry, paper mulberry and bamboo have been the chief raw materials for papermaking in China for many centuries.

Although paper had been used for writing probably as early as it was invented, it was not until the third century A.D. that bamboo and wooden tablets were entirely replaced by paper as the material of Chinese books.

We have also found that from this time on, paper began to be made with a fine screen-mould, sized and loaded to improve its quality for writing, and dyed with an insect repellent for permanence. It was also made in different colours and designs for

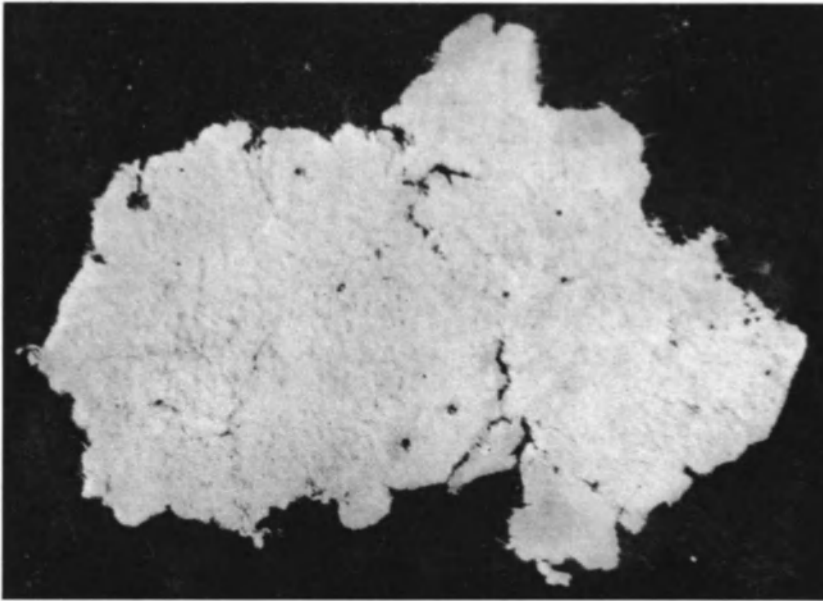


Photo from "Written on Bamboo and Silk", by Tsuen-Hsulin Tsien, University of Chicago Press, Chicago, 1962.

THE OLDEST PIECE OF PAPER IN THE WORLD

The oldest piece of paper in the world, this fragment of paper (above), dating back to the 2nd century B.C., was discovered recently in a tomb at Pa-ch'iao, in the Shensi province of northern China. It has pushed back the date of the invention of paper to over two centuries before the time of T'sai Lun, traditionally regarded as the inventor of paper. The papermaking techniques developed by T'sai Lun and described to the Imperial court in 105 A.D. undoubtedly represented a big advance in the art of papermaking. T'sai Lun and his papermaking methods are depicted (below) on commemorative stamps issued by the People's Republic of China.



Photo Dominique Roger - Unesco

writing poems, notes, and letters, and cut into patterns for embroideries and decorations.

Paper was also extensively used for documents and bookmaking, for painting and calligraphy, for calling cards, for offerings to the spirits, for wrapping, for covering windows, and for such household articles as fans, umbrellas, lanterns, kites, toys, and even sanitary and toilet papers. All of these were accomplished or used before the close of the sixth century.

From the seventh or eighth century onward, paper is known to have been used in making hats, garments, pants, bed sheets, mosquito nets, curtains, and other household furnishings and appliances. It was also used in making screens, tiles, and even armour. The use of paper as "flying money" to substitute for heavy metallic coins was formally introduced in the early ninth century.

Marco Polo was among the early European visitors to China who witnessed the wide circulation of paper money and the extravagant burning of paper effigies and replicas as offerings to the dead in the empire of the great Khan. The Mongol expansion resulted in the introduction of paper money, playing cards, and many other objects of paper and printing to other parts of the world.

The Persians first issued in 1294 paper money, for which the Chinese name *ch'ao* (money) was adopted. It is said that certain old systems in European banking, accounting, and even money deposit vouchers were influenced by some of the Chinese examples.

Wallpaper also is said to have originated in China. It was first brought to Europe by French missionaries in the sixteenth century and has been imitated there since the seventeenth century. How early it was used in China is uncertain, but the decoration of Chinese houses with hanging scrolls of painting and calligraphy was a very ancient and common practice. It is possible that these paper scrolls were first hung and later adapted to being pasted on the walls of European houses.

The use of paper made books much cheaper and more portable, but their multiplication and wide distribution was not possible until the invention of printing. It is uncertain when and where the first book was printed in China and who was the earliest printer. The beginning of the art must have been a process of gradual development and been participated in by many people, especially the religious devotees from whom great

numbers of duplicates of their sacred writings were in demand.

There was a long history of pre-printing techniques of duplication in China, including the use of seals for stamping on clay and later on paper, of stencils to duplicate designs on textiles and on paper, and of inked impressions taken from stone inscriptions. All these processes paved the way for the use of wood-block printing.

The earliest possible date for the beginning of printing in China is probably around 700 A.D. The discovery in Korea in 1965 of a Buddhist charm in Chinese, printed no later than 751 A.D., and a previously known charm also in Chinese, printed in Japan around 770 A.D., indicate that printing at that time was already a refined and widespread craft. Since both Korea and Japan were under the influence of Chinese culture long before the time when these texts were printed, there is little doubt that this technique was introduced from China.

NO printed material of comparable date has been found in China, but specimens of the ninth and tenth centuries were discovered there and survive today. These include the famous *Diamond sutra*, a complete book in a paper roll printed in 868 A.D., calendars of 877 and 882, many single sheets of Buddhist pictures of 947-983, and two versions of an invocation sutra printed in 957 and 973. All these early specimens of printing are more or less related to Buddhism; Confucian classics were not printed until the first part of the tenth century.

After that time, printing was widely applied and perfected through the efforts of many official, private, religious, and commercial agencies. The Chinese printing of the eleventh to thirteenth centuries, which may be compared with the European incunabula, is especially noted for its excellence in paper, ink, calligraphy, illustration, workmanship, and in many other respects.

All the wood blocks were selected from deciduous trees: the pear, jujube, catalpa, and sometimes apple, for their smooth and even texture. The manuscript, written on a thin sheet of paper, was transferred upside down to the surface of the block by means of rice paste. When dry, the backing of paper was scraped off, leaving a thin tissue showing the characters in the reverse position remaining on the block.

The cutter then removed the surface of the block around the characters with gauges, picks, and chisels. When



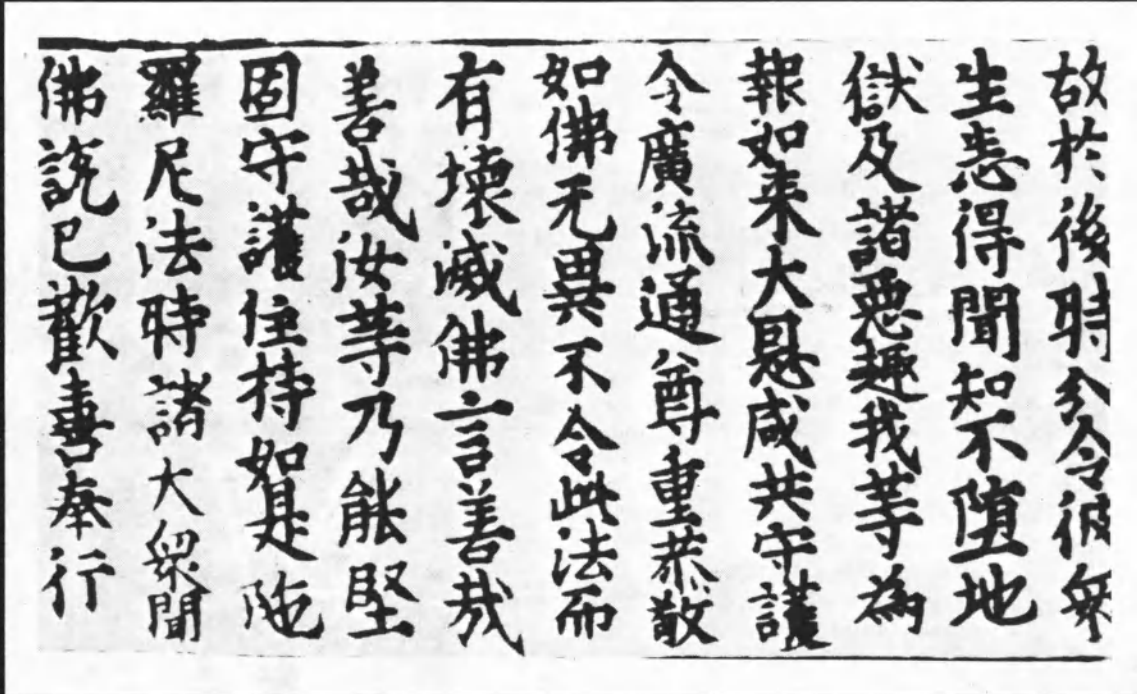
Photo © Collection of Royal Ontario Museum, Toronto.

Engraving of a scholar carrying a bamboo book, reproduced from a 3rd century B.C. tomb tile now in the collection of the Royal Ontario Museum, Toronto, Canada. These books consisted of bamboo tablets connected with string and used like a paged book of modern times. Bamboo and wood were the most popular materials for writing (along with silk) before the invention of paper.

CONTINUED NEXT PAGE

THE WORLD'S OLDEST PRINTED DOCUMENT

Photo courtesy of the Embassy of the Republic of Korea, Washington, D.C.



This Buddhist charm in Chinese (left), dated 704-751 A.D., is the oldest known specimen of printing in the world. It was found at Pulguk sa, in Kyongju, southeast Korea, in 1966. The characters were carved in reverse on wood and then transferred to paper. Below, an illustrated invocation sutra printed in 975 A.D. and discovered in the ruins of the Thunder Peak Pagoda, in Hangchow, southeast China, in 1924.



Photo courtesy of the Far Eastern Library, University of Chicago.

CHINESE PAPER AND PRINTING (Continued)

the block was ready, it was inked with a hair brush. A sheet of paper was then placed on the inked block and brushed over the back with a soft brush. It was said that a skilled printer could turn out some 1,500 to 2,000 sheets of double pages in a day.

The art of Chinese printing was further developed through the introduction of movable type in the eleventh century and of multi-colour printing in the fourteenth century. According to a contemporary record, a font of earthenware movable type was used by a craftsman named Pi Sheng in about 1041-1048. He cut the characters in the soft clay and baked them in a fire. The type was set on a plate with

a mixture of resin and wax. A flat board was pressed over the surface to even out the block of types. Several plates were used alternately and the printing was done rapidly.

Other materials were later introduced to make movable type, including wood in the early thirteenth century and bronze in the late fifteenth and the sixteenth century. The types made of wood, bronze, tin, lead, and ceramics were used repeatedly but intermittently in the following centuries.

Printing with more than one colour was used as early as 1340 and advanced in the late seventeenth century when many manuals of paint-

ings and patterned stationery were printed in multi-colour. This was done by means of a series of separate blocks, one for each colour, applied to the paper in succession. This method was used especially in printing book illustrations, maps, stationery, and texts with punctuation and commentaries.

Throughout the ages, the wood-block printing was the main trend of Chinese book production while movable type was only occasionally used. Because of the nature of the Chinese vocabulary with a large number of individual characters, the block printing was more simple and economical to operate. After required copies were printed, the

THE INVENTION OF MOVABLE TYPE

墨子卷之一
親士第一

入國而不存其士則亡國矣見賢而不急則緩其君矣非賢無急非士無慮國緩賢忘士而能以其國存者未嘗有也昔者文公出走而走而正天下桓公去國而霸諸侯越王勾踐遇吳王之醜而尚攝中國之賢君三子之能達名成功於天下也皆於其國抑而大醜也太上無敗其次敗而有以成此之謂用民吾聞之曰非無安居也我無安心也非無足財也我無足心也是故君子自難而易彼衆人自易而難彼君子進不敗其志內究其情雖庸民終無怨心彼有自信者也是故為其所難者必得其所欲焉未聞

The invention of movable type in the 11th century A.D. was another notable "first" for China and a giant step forward in printing technique. Experiments were made with many different materials including earthenware, wood, bronze, tin and lead. Above, a bronze movable type printing of the "Mo tzu", a 5th century B.C. philosophical work, printed in blue colour in 1553. Right, craftsmen making wooden movable type at the Wu Ying Palace. Illustrations taken from "Chung-kuo pan-k'o t'u-lu", National Peking Library, 1961.



blocks could be easily stored and used over again, when additional copies were needed.

Only when voluminous books were produced on a large scale, movable type was preferred. Since the middle of the nineteenth century, both block printing and the traditional movable type have been gradually replaced by modern printing techniques, including lithography, typography, and other machine printing.

After paper was invented, it not only became popular in China but spread in all directions throughout the world. Its introduction to other countries must have occurred in two stages: first

paper books and other paper products arrived in these countries to be followed later by the paper manufacturing methods.

Paper moved eastward to Korea in the second century, to Japan in the third century, southward to Indo-China no later than the third century and to India before the seventh century, and westward to Central Asia in the third century, to western Asia in the eighth century, to Africa in the tenth century, to Europe in the twelfth century, and to America in the sixteenth century.

It has often been said that the Chinese kept secret their knowledge

of papermaking until a few paper-makers were captured by the Arabs in the eighth century, when this secret was revealed to the outside world. This is certainly not true. The slow movement to the West was due primarily to geographical and cultural isolation rather than to secretiveness, since papermaking was introduced to China's immediate neighbours as soon as they began to have contacts with Chinese culture.

When the eastward diffusion of Chinese culture began, Koreans first acquired Chinese books on paper and borrowed Chinese characters as their writing in the second century. By way of Korea, Chinese books were in-



Illustration from "Chung-kuo pan-k'o t'u-lu", National Peking Library, 1961

FROM SALT BED TO PADDY FIELD

Above, a lively woodblock illustration of salt manufacture which appeared in an old work on Chinese *materia medica*, printed in 1249. The poem and calligraphy that accompany the more sophisticated copper-plate engraving (right) printed in 1696, of peasants planting rice in paddy fields, are the work of the Emperor K'ang Hsi. It is one of 46 illustrations in the copper-plate edition of the "Keng chih t'u", an album showing the processes of tilling and weeding.



Photo courtesy of the British Museum

roduced to Japan at the beginning of the third century.

However, the craft of papermaking was not begun in Japan until 610 A.D., when a Korean monk, who had learned inkmaking and papermaking in China, went to Japan and suggested its manufacture to the Japanese court. After this time, hundreds of priests and students from both Korea and Japan were sent to China to study and to acquire books. The Chinese craft of printing must have been learned by these students and applied in their own countries when they returned.

How early papermaking moved southward is uncertain, but it must have been very early. Chinese records show that in the late third century, paper made of special materials native to Indo-China was sent to the Chinese court as a tribute. It is assumed that the Indo-Chinese learned the craft from the Chinese. Even today, the methods used by Indo-Chinese papermakers are said to be more closely related to those of China than of any other Asian country.

As to the printing of books, the Indo-Chinese have acquired many kinds of Chinese literature, including Confucian, Buddhist, and Taoist canons, medical works, and novels, ever since the tenth century. Books in Chinese and in bilingual text of Chinese and Vietnamese were printed there for many centuries with wood blocks, movable type, and colour process, as was done in China.

The introduction of paper to India was probably not later than the seventh century. A Chinese monk named I-ching who travelled to India in 671-694, mentioned the Sanskrit word *kákali* for paper in his Chinese-Sanskrit

dictionary. Since the sacred texts of India were memorized and transmitted orally for ages, paper was probably not popular there until the Mohammedan period after the twelfth century. The use of printing reached India even much later.

Papermaking travelled westward to Samarkand in 751 A.D., when two Chinese papermakers were taken prisoner and introduced the craft to the Arabic world. A second factory was started in Baghdad some forty years later when Chinese papermakers were brought to that city. From this time, papermaking spread to the cities of Damascus and Tripoli, and to Yemen, Egypt, and Morocco. The Arabs monopolized papermaking in the West for some five centuries before it was introduced to Europe in the twelfth century.

After the Moors conquered the Iberian peninsula, they brought the craft to Spain and established a paper factory in Xátiva in about 1150. A mill for maceration of rags was also operated there.

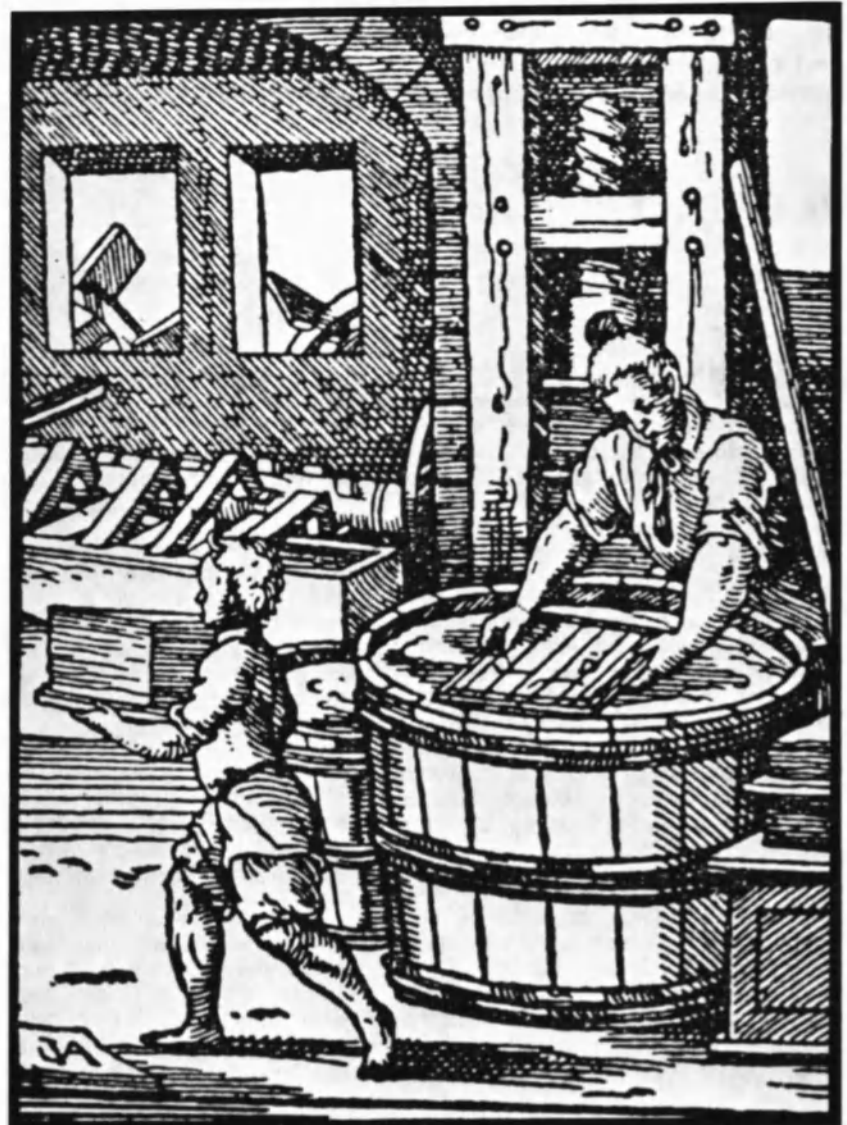
Another route which carried the craft to Europe was probably across the Mediterranean through Sicily to Italy from Egypt or Palestine. Paper mills are known to have been established in Italian cities of Babriano,

Bologna, and Genoa, from the late thirteenth century, and in several cities in France and Germany in the fourteenth century.

The famous papermaker Ulman Stromer, who built a paper mill in Nuremberg about 1390, used tools and processes, including the water-powered stampers, similar to those used in China. The craft was introduced to the Netherlands, Switzerland, and England in the fifteenth century and brought to the New World in the sixteenth century—to Mexico before 1580 and to the American colonies toward the end of the seventeenth century.

Throughout a long history of over fifteen hundred years, paper travelled from China to almost every part of the world. Whether printing in Europe was influenced by the Chinese is debatable, but knowledge of Chinese printing and many printed articles from China were certainly known in Europe before the first printing there was accomplished.

The origin of paper in China and its borrowing by many others is definite and certain. Papermaking, which was already a fully developed art before its spread from China, is probably the most complete of the inventions that China has given to the world. ■



This woodcut by Jose Annam, printed in Frankfurt in 1568, is the earliest picture of papermaking in Europe. It shows the remarkable similarity of the tools and processes used by European papermakers to those employed centuries earlier in China (see particularly photos pages 4 and 5). Illustration taken from "Old Papermaking" by Dard Hunter, Mountain House, 1923.

China's new discoveries of ancient treasures

1972 marks an important date in Chinese publishing, for it is during this year (which happens to be International Book Year) that, for the first time since the beginning of the "Cultural Revolution", books on ancient art, archaeology, etc., have begun to re-appear in China. Among these books have been a number of magnificent albums, lavishly illustrated both in colour and in black and white, in which are presented the rich findings of campaigns of archaeological research carried out in the People's Republic of China since 1968. Our cover photo and the photos reproduced in the following pages are a selection from two of these books: "Archaeological Discoveries during the Great Cultural Revolution" (Cultural Objects Press, Peking, July 1972), and "Historical Relics Unearthed in New China" (Foreign Languages Press, Peking, July 1972). These pages focus attention on one of the great archaeological discoveries of recent years—the unearthing of a Han Dynasty tomb dating back some 2,000 years and containing treasures of inestimable value, including astounding mailcoats made of jade and gold, the burial garments of a prince and princess. An exhibition of these recently-discovered treasures will be held in Paris early in 1973.

by Hsiao Wen

IN the course of the past few years Chinese archaeologists have been carrying out extensive excavations in different parts of China as a result of which a large number of ancient sites and tombs have been unearthed containing many precious antiquities.

An exhibition of some of these new archaeological discoveries was recently held in Peking. It displayed about 2,000 objects, dating mostly from between the 20th century B.C. and the 15th century A.D. This was only a sampling of the archaeological treasures discovered. In Shensi province alone, for instance, 160,000 objects have been unearthed, many of them unique or extremely rare.

In the summer of 1968 two royal tombs, burial places of a prince and princess of the Western Han dynasty, were discovered at Man-ch'eng, in Hopei province. Hewn from the solid rock of a 600 ft. limestone hill, the tombs were those of Liu Sheng (who died in 113 B.C.) and his wife Tou Wan.

Liu Sheng, ninth son of the fourth Han emperor Ching-ti had been named King Ching of Ch'ung-shan. Tou Wan is said to have been the great-niece of the Dowager Empress Tou, mother of the Emperor Ching-ti.

Liu Sheng's tomb is 52 metres long, 37 m. wide and over 7 m. high (115 by 112 ft. and over 20 ft. high), with a total volume of 2,700 cubic metres. His wife's tomb has an even larger volume: 3,000 cubic metres. Built on the scale of a vast palace, each could have held 1,000 people.

The tombs contained over 2,800 objects made of gold, silver, bronze, stone, jade, iron, lacquer and silk; in one was a stable with carriages, horses and full harness.

The most exciting finds—and the first of their kind unearthed up until now—were the two funerary vestments of the prince and the princess, each composed of over 2,000 rectangles of jade, perforated at the four corners and linked together with fine

gold wire (see centre colour pages and caption on page 18).

These jade "mailcoats", Chinese counterparts, as it were, to the sarcophagi of Egyptian mummies, were used to enshroud the bodies of emperors and high-ranking nobles under the Han dynasty. Sewn with gold, silver or bronze wire according to rank, they were supposed to keep the remains perfectly preserved. By the time the excavations were carried out, the bodies had of course long since disintegrated, and some of the jade plates and their golden threads had been broken.

The mailcoats have now been completely restored. Liu Sheng's is made up of 2,690 pieces of jade and 1,100 grams of gold wire. His wife's mailcoat has 2,156 pieces of jade and contains over 700 grams of gold wire. An artistic achievement of the highest order, they would take a skilled jade craftsman of today at least ten years to fashion.

Many of the objects from the tombs are strange and lovely. There is the Po-shan-lu incense burner, wrought in bronze with gold and silver inlays. The conical lid represents the mountainous island of Po-shan. Half-hidden among the rocks and peaks, are scenes with huntsmen and animals picked out with minutely fine gold filigree work.

The lid is pierced with tiny holes through which wisps of incense smoke rose and drifted. In this way, the craftsman symbolized the Po-shan mountain perpetually shrouded in mist.

Another fine and indeed unique example is the large (48 cm. or 19 in.) gilt bronze lamp from the Ch'ang-hsin Palace (see cover photo) which consists of a lantern held by a kneeling court servant, on whose left arm can be read the inscription "Ch'ang-hsin" (eternal fidelity).

This palace was the residence of the Dowager Empress Tou, who probably gave the lamp to her great-niece as part of her dowry. The whole lamp can be taken to pieces, and the woman's head is detachable. The moveable base allows the direction of the light to be altered at will; and an

This is part of the grotto of Man-ch'eng in northeast China where prince Liu Sheng of the Han Dynasty was buried in 113 B.C. The tomb was hewn out of the solid rock adjoining a similar tomb for his wife. The tombs contained over 2,800 objects including the two burial jade mailcoats of the royal couple. Below right, young visitors to a recent Peking exhibition admire one of these magnificent vestments (see also centre colour page and caption page 18). Also found in the grotto were two stone figures (below), hands in sleeves, possibly effigies of the prince and his wife. The male figure measures 38.5 cm. (15 in.) and the female 35 cm. (14 in.) in height.



Photos from "Historical Relics Unearthed in New China", Peking, 1972



Photo from "Archaeological Discoveries during the Great Cultural Revolution", Peking, 1972

CHINA'S TREASURES

(Continued from page 12)

adjustable shutter permitted the intensity of the light to be varied.

In October 1970, two enormous terracotta jars were found in a cave dating from the T'ang dynasty (618-907 A.D.) in the southern suburbs of Sian, in Shensi province. They contained a thousand objects in perfect condition, including gold-worked vessels containing cinnabar, amber, coral, amethysts, chalk-stones, etc., as well as alchemists' materials such as agate mortars, silver pots in the form of pomegranates, etc. All these came from the mansion of an aristocrat and high official about the middle of the T'ang dynasty.

The dominant class was then torn by internal strife. The officers of the frontier guard had mutinied and seized control of the capital, Shang-an (today Sian). Before fleeing, the Emperor Hsüan-Tsang and his ministers had their treasures buried. The two jars held over 200 pieces of gold and silver plate, an unprecedented discovery.

According to ancient chronicles, the Emperor Hsüan-Tsang was not only a great drinker but also a great lover of horses and equestrian displays. To celebrate his birthday he would hold sumptuous feasts, during which horses danced with cups between their teeth, to ceremonial music.

Later, these "dancers" became cavalry horses. During the mutiny, when they heard the same tunes, they started to prance about in time to the music. The soldiers thought they were possessed by devils, and slaughtered them. One of these dancing horses decorates a silver ewer found among the hidden treasures.

Other outstanding finds are the "six-petalled" or "lotus" bowls. They include octagonal cups, dishes, in the form of peaches, and amphoras, all works of remarkable beauty. Many of them are decorated with graceful embossed, modelled, traced, stippled or openwork motifs.

The designs are often enhanced by grained backgrounds in low relief; in the silverware the main motifs are nearly always gilded. According to the style of the period, these generally

CONTINUED PAGE 16

Left, Han dynasty statuette of a peahen, discovered in the province of Yun-nan, is remarkable for the graceful harmony of its lines. Right, Han bas-relief, dating from 107 A.D. and measuring 108 cm. (42 in.) in length by 38 cm. (15 in.) in height. Note how the sculptor has allowed the figures in this farming scene to overlap the frame. Above it, he has carved a frieze of growing crops.

Photo from "Archaeological Discoveries during the Great Cultural Revolution", Peking, 1972





CHINESE PEGASUS

Caught by the sculptor in all the power and poetry of the gallop, this bronze charger is so delicately balanced that it seems, like some eastern Pegasus, to be almost airborne. Found at Wou-wei in the province of Kan-su, it dates from the Eastern Han Dynasty (25-220 A.D.).

Photo from "Archaeological Discoveries during the Great Cultural Revolution", Peking, 1972



CHINA'S TREASURES (Continued from page 14)

represent flowers, hunting scenes or animals (lion, fox, horse, bear, phoenix, parrot, mandarin duck, tortoise, etc.).

Two octagonal cups with handles have low-relief figures of musicians and dancers on each of their eight sides. The even, clear-cut tooling seems to confirm the use of elementary lathes.

These new excavations have brought to light, among other things, a Byzantine gold coin of Heraclius (610-641 A.D.), a Persian silver coin of Khosrô II (590-627 A.D.) and five Japanese pieces (Wadokaiho) minted in 708 A.D. These coins show that China was trading with other countries at that time.

In the region of Turfan (Sinkiang), silk and hempen fabrics dating from the T'ang dynasty have been found. With their close texture, iridescent colours and flower or bird designs, these materials show the quality of the textiles made in China in those early days. Under the dynasty of the Eas-

tern Han (25-220 A.D.), Sinkiang was already the main channel for trade between China and the outside world.

It was along this famous "Silk Road" that most of the T'ang silks were exported. And the pieces of silk and hempen cloth discovered along this route bear eloquent testimony to the long history of commercial and cultural exchanges between China and the countries of Western Asia and even Europe.

It was also in this region that a volume of the "Confucian Analects" annotated by Ch'eng-Hsüan" was discovered. This copy, made in 710 A.D. by Pu Tien-shou, then only 12 years old, takes the form of a scroll 5 metres (over 16 ft.) long. It is the oldest manuscript of this edition that has been found so far. It dates back two centuries earlier than the one recovered from the Tun-huang caves, and is more complete.

In the Tsou-hsien district of the province of Shantung, excavations have

brought to light jars and stone tools belonging to primitive Chinese settlements, and also a 14th century Ming dynasty tomb containing artist's brushes, ink tablets, inkpots and paper, sets of Chinese chessmen and a zither. Also found in this tomb were paintings and works of calligraphy including a fan with a poem by the southern Sung Emperor Chao Kou (1107-1187) and twenty-two books printed during the Yuan dynasty of the 13th and 14th centuries.

From the Ching-shan district in Hopei province have come a series of bronzes dating from the last period of the Western Chou (11th to 8th centuries B.C.), and from the Chiangling district twenty-five "chings"—a kind of stone xylophone—from the Kingdom of Ch'u (475-221 B.C.).

These "chings" are gracefully and delicately decorated with phoenixes and other coloured motifs. When played, they still produce well-pitched and harmonious musical notes.



CULINARY IDEOGRAM

Bronze vessel for meat or other cooked dishes, discovered in the province of Hu-nan. It was made in two pieces and the lid which kept the food warm could be removed and inverted for use as a serving dish. Known in Chinese as a "Tou" (pronounced "dœ"), the vessel is represented in writing by a character (below) which exactly reproduces the shape.

豆

Photo from "Archaeological Discoveries during the Great Cultural Revolution", Peking, 1972



Numerous "ying-yuan"—gold pieces from the Kingdom of Ch'u—were found in the Lou-an and Fu-nan districts of Anhui province. At Ch'ang-sha in Hunan province, a bronze halberd and another long-handled weapon, a partisan, were found intact, mounted on lacquered wooden shafts, as well as a pike with a cane handle. These weapons date from the end of the Spring and Autumn Period (5th century B.C.).

The objects discovered at Tsinan in Shantung province include some twenty earthenware funerary statuettes dating from the Western Han dynasty and representing a circus show of that period. Ranged around the sides are a master of ceremonies, an orchestra with seven musicians and seven spectators. In the centre there are six performers, each wearing a different costume. Two of the performers are dancers, the four others acrobats.

At Tatung in Shansi province, excavations have brought to light inkpots

and two carved stone stands, as well as paintings on lacquered wood dating from the Northern Wei dynasty (386-534 A.D.). These may be panels from a screen, as the bright colours and clear outlines resemble the typical pictorial art of the working people at that time.

In Peking, an outer door of a watch-tower of the Ho-yi-men gate has been discovered, and also the ruins of ancient dwellings. The city of Peking has a long history. The Liao or Khitan Tartars (916-1125) set up their capital there, which they called Yen-ching. Then it became the capital of the Kin dynasty (1115-1234), under name of Tsung-ching. The later Yuan dynasty built a new town they called Ta-tu in the north-east suburbs of the old capital.

Research has enabled the size of this Yuan capital to be estimated; and it is understandable that Marco Polo, who visited it in the second half of the 13th century, should have described

it as the largest city he had ever seen.

Tombs containing the skeletons of sacrificial victims, dating from the time of the Chang-yin Dynasty (16th to 11th centuries B.C.), were discovered in 1966 and 1969, at Yi-tu in Shantung province and at Ho-ma in Shansi.

In the Shantung tomb, the slave-owner lies surrounded by forty-eight immolated slaves; the Shansi tomb contains the remains of eighteen victims, four of whom have iron collars round their necks.

In 1969, the Han-chia granaries were cleared at Loyang in Honan province. Their construction was begun in 605 A.D. under the Sui dynasty (581-618); and under the Sui and the T'ang they constituted a vast State silo.

The whole covers over 420,000 square metres (500,000 sq. yds.). Inside the surrounding wall there are 400 circular and concentric trenches, 6 to 8 metres wide and 5 to 10 metres deep (20 to 26 ft. and 16 to 33 ft.). The largest one could hold nearly

600 tons of grain; and even today decomposed millet seeds have been found there.

When the Chinese People's Republic was founded, it was decided that the protection of historical remains would form an integral part of the scientific and cultural activities of the nation. Archaeological institutes were set up all over the country under the direction of the Chinese Academy of Science, and a great many archaeologists were trained.

In 1961, the State Affairs Council classed 180 places as protected cultural sites, including the caves of Long-men (Honan), Tun-huang (Kansu) and Yunkang (Shansi), and measures were taken for their protection.

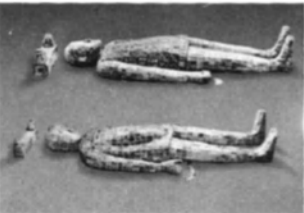
The Archaeological Research Institute of the Chinese Academy of Sciences and teams of archaeologists from the various provinces, municipalities and autonomous regions have since brought to light a large number of antiquities.

When ancient objects are found during building or farm work, they are immediately handed over to the State, and the appropriate authorities are informed. In 1969, two peasants from Tsao-chuang in Shantung province unearthed the official seal of Han Linerh, a leader of the Red Kerchief rebels formed in 1368 during the peasants' revolt, before the fall of the Yuan dynasty. They immediately offered it to the Historical and Revolutionary Museum of China.

When levelling a field, a farmer in the Sin ch'eng district of Honan discovered two bronze teapots weighing together over 37 kilograms (80 lbs.) one of them dating from the Spring and Autumn Period, the other from that of the Warring States (722-221 B.C.). He duly turned his finds over to the authorities.

Gold coins (97.5% pure) from the Ch'u Kingdom were found by farm workers in Anhui province and given into the keeping of the State. In February 1970, workers from the Ningsiang district of Hunan were digging the side of a hill when they unearthed a jar containing over 300 pieces of finely worked jade. After discussing their exciting discovery, they took the jade to the Hunan Provincial Museum. In this way, many precious historical relics were finally brought to light after thousands of years.

The tomb of Liu Sheng was discovered at Man-ch'eng by a unit of the People's Army of Liberation stationed in the area, and excavations were undertaken with the help of soldiers and the local population. The tomb chambers had been buried underground to a great depth and the entrance was filled with pebbles cemented and reinforced with iron. But the archaeologists forced their way through by clearing the terrain stone by stone. ■



All photos taken from "Archaeological Discoveries during the Great Cultural Revolution", Peking, 1972.

CHINESE MORALITY TALE (page 19)

Fragment of a morality tale of feudal times engraved and painted in lacquer on a piece of wood measuring 81.5 cm. (32 in.) by 40.5 cm. (16 in.). Found in the Shan-Hsi province, it dates from the Northern Wei Dynasty (386-534 A.D.).

BLACK CHARGER (page 20)

The Chinese have always been famous for their sculptures and paintings of horses. This beautifully proportioned statuette was found recently at Lo-Yang in the province of Ho-nan in central China. It stands 66.8 cm. (27 in.) high and dates from the T'ang Dynasty (618-907 A.D.) when Lo-Yang was the capital of China.

LEOPARD SLEEVE WEIGHTS (page 21)

These miniature masterpieces, only 3.5 cm (1 1/2 in.) in height, were found in the tomb of the princess Tou Wan (see caption for pages 22, 23). In gilt bronze with the leopards' spots inlaid in silver, they date from the Han Dynasty and served as sleeve weights for the flowing robes worn at the time.

THE SHOW MUST GO ON (page 21)

This lively scene, in which two dancers and four acrobats entertain seven spectators to the tunes of seven musicians under the watchful eye of their conductor, is an interesting example of early Chinese ceramic art. Originally the scene contained 22 figures, but one acrobat is missing. It was found in 1969 at Chi-Nan, in the province of Shantung, and dates from the Han Dynasty.

JADE BURIAL VESTMENTS FOR A PRINCE AND PRINCESS (centre pages 22, 23)

The sumptuous jade and gold funerary vestments of prince Liu Sheng and his wife princess Tou Wan were the most spectacular items discovered in 1968 in the Man-ch'eng tombs (see article page 12 and photo page 13), and are the first such objects ever found. The prince's vestment (bottom of photo) was made up of 2,690 polished jade discs sewn together with gold wire; his wife's contained 2,156 discs. They confirm descriptions found in old Chinese histories, such as that in the "Hou-Han shu" (History of the Later Han)

which says: "Bodies of Emperors are to be buried in jade casings sewn with gold wire; Imperial princes, first generation feudal lords, Imperial princesses use jade casings sewn with silver wire; high nobility and sisters and aunts of Emperors used bronze wire." Prince Liu Sheng became King Ching of Ch'ung-Shan and he and his wife were no doubt therefore accorded the full privileges of gold wire upon their deaths.

BRONZE AND CERAMIC WINE VESSELS (page 24)

The first great flowering of Chinese art (apart from prehistoric pottery) found its expression in the very ancient bronze vessels of the Shang Dynasty (16th - 11th century B.C.). The heavy, tripod, sacrificial, wine vessel (left of photo), called a "chia", was found at Wen-hsien in the province of He-nan. Bronze vessels of this period were often ornamented with the "t'ao t'ieh" ("the glutton"), a mask motif representing a mythical monster with staring eyes, a nose and horns, but who is always depicted without a lower jaw. The bronze wine vessel (bottom right) with four feet and a swing handle dates from the same period and is called a "you". Top right, a delicate glazed ceramic vase dating from the Northern Chi Dynasty (550-577 A.D.).

PO-SHAN INCENSE-BURNER (page 25)

One of the most lovely of the treasures recovered from the Man-ch'eng tombs is this bronze incense-burner with its delicate gold and silver inlays. According to ancient Chinese legend, there was a mountain in the province of Shantung named Po-shan where grew rare plants of immortality and other delicacies. Chinese art, particularly of the Han period, contains many examples of incense-burners called Po-shan-lou. They represent the mountain of Po-shan and incense smoke escaping from holes in their lids portrays the clouds which perpetually shroud its summit.



舜後母嬖廢

與帝齊

舜父瞽廢

與帝齊

周太任

周太姒

魯斷髮

春工

漢成帝

班婕妤

行若八尋，任大也。大姜，大王之妃，曰姜。不獲為名，不。胎教，受于身，而主。大似，三妃，高，後，草。之女也。身曰，父，母，生，子，信，廣，曾，之，古，始，之，卒，事，節，義，成，為，夫，婦。

魯斷髮，春工，漢成帝，班婕妤，其母三，而三，逐，是，周，大，人，事，夫，有，又，之，敬，不，而，見，小，非，子，也。

班婕妤者，班婕妤也。成帝初，即位，選入後宮，始為少使，姬，而大，字，為，婕，妤，居，增，城，無，就，館，有，男，無，月，共，成，帝，遊，於，後，在，宮，夫，與，捷。















Vitzilopuestli. Solo
 principal de los Mexica
 nos.



Quetzalcoatl
 Dios principal
 de los de Chuluc
 la.



GODS, EPICS AND HEROES. A four-century old book—a combination of art album and historical novel—has just been published in the Unesco collection of Representative Works. Surprisingly modern in style, it is the famous "Tovar Manuscript" with its superb water-colour illustrations depicting Aztec epics, gods and heroes, copied in the 16th century from ancient Indian paintings. In 1587, a Mexican Indian missionary, Father Juan de Tovar, gathered the historical and legendary traditions of the Aztecs into a single work. All trace of the manuscript was lost between the 16th century and the 19th century, when it was re-discovered by an English collector. The "Tovar Manuscript" has now been published by the Akademische Druck und Verlagsanstalt, at Graz (Austria). It presents a Spanish text prepared by the French hispanist, Prof. Jacques Lafaye, of the Sorbonne (from the original manuscript now in the John Carter Brown Library of Brown University, in the U.S.A.), a French translation and numerous notes and commentaries. Opposite, three of its illustrations. Bottom left, Quetzalcoatl, the "plumed serpent", a major deity in the Mexican pantheon and the Aztec god of creation, inventor of agriculture and patron of learning. His cape of feathers symbolizes the wings of a butterfly, the form in which warriors journeyed to paradise. Bottom right, an eagle perched on a cactus devours a bird. The painting recalls the legend of the sun god, Huitzilopochtli, telling the Aztecs to build their capital at a spot where an eagle was devouring a snake (an image from which Mexico's national emblem is derived). Tenochtitlan, the Aztec capital, is now buried under Mexico City. Footprints around the cactus roots symbolize the Aztecs' search. At upper right of painting is the god's shield with five points representing the divisions of space, and two arrows. Left, the same symbols figure in the painting of Huitzilopochtli.

Photos © Akademische Druck und Verlagsanstalt, Graz

Painted manuscripts of pre-Columbian America

by
Miguel Angel Asturias

Nobel Prize for Literature

THE existence of books among the pre-Hispanic peoples of America, the materials used and their typology, is such a wide theme that the three major cultures (Nahuatl, Maya and Quechua) should really be studied separately.

The Mexican, Maya and Peruvian Indians discovered and cultivated different "modes" of transmitting their culture and ethics. Some of them still amaze us with their plastic beauty

MIGUEL ANGEL ASTURIAS, one of today's greatest novelists in the Spanish language, was born in Guatemala in 1899. In 1967, he was awarded the Nobel Prize for Literature. Three of his most important novels have been translated into English: "The President" (Victor Gollancz, London, 1963), "The Mulatta and Mister Fly" (Harmondsworth-Penguin Books, London, 1970) and "The Green Pope" (Delacote Press, New York, 1971).

and their esoteric ingenuity, and in them all we discern a fundamental and even obsessive urge to preserve and transmit through original forms of writing the profound meaning of man and the universe.

Unlike the African world in which social and historical traditions are handed down through an unbroken chain of oral communications, in the pre-Columbian world, especially the Nahuatl and Maya cultures, writing and its preservation acquired an importance matched only among the Egyptians and the Jews. It is the key to the universe, the tool that unlocks its hidden mechanism, the sure and constant guide in the conflicts and catastrophes of an evolving world.

For this reason writing became something sacred and esoteric for the pre-Hispanic peoples. Written signs,

writing materials and those who could handle them were considered by the people as being connected with the divine. The writings themselves, in their creation and their appearance, had a magical character, closely linked to cosmogonic conceptions.

That is why the various systems of writing that evolved among peoples with such a high level of technical expertise bore no relation to practical needs; they were symbols for the sacred message concealed within.

We know that writing, its preservation and interpretation were the responsibility of a special class of dignitaries with priestlike functions—sometimes they even were priests—who used language, materials, colours and contents indissolubly related to the archetypal situations of the Indian deities.

CONTINUED NEXT PAGE

PAINTED MANUSCRIPTS (Continued)

In Moctezuma's "List of Tributes", which contains a kind of "live" classification of metals and materials differing profoundly from our modern ideas but corresponding perfectly to Indian religious priorities, paper made of amatl bark is rated as highly as quetzal feathers and pieces of jade. It was very widely used, both in religious ceremonies and for preparing codices. Many types of ceremonial vestments, ritual objects and ornaments were made of amatl paper; some were natural-coloured and others were richly decorated with painted designs or splashed with "hule", another sacred material.

The images of the gods were adorned with crowns, fans, banners and garments of paper. For some ceremonies the priests wore paper suits called tilmatl, and in pouches of this material, decorated with seashells or painted to imitate ocelot skin, they carried incense or copal. Prisoners about to be sacrificed were dressed in tilmatl and decked with other paper ornaments. The women who took part in the festivals in honour of Huitzilopochtli also wore paper garments painted with fine black stripes.

The original religious significance of these systems of transmitting culture has been lost for ever. So instead of comparing their characteristics in the different Indian cultures, I shall

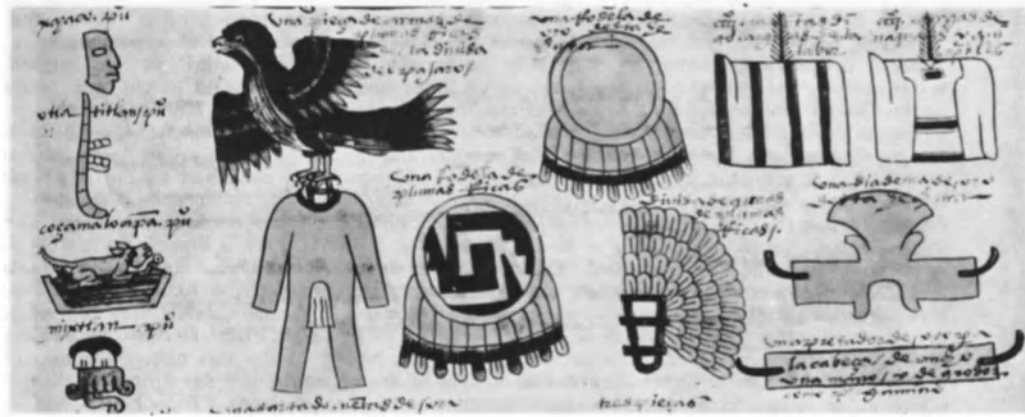


Photo © Musée de l'Homme, Paris

give some specific examples of the special—even unique—importance of the methods or "channels" used for perpetuating the sacred explanations of the universe, the divine stories of kings and princes, which were the heritage to which our ancestors clung in the uncertainties of changing circumstances.

The pre-Columbian peoples possessed several systems of writing (ideographic, calendric, pictographic, numeral, phonetic) with which they wrote on deerskins, stones, and strips of amatl paper. In their eyes however, the very fact of recording and of keeping these records was of such vital importance that their loss or preservation was identified with the destruction or continuity of the universe.

As with the arts of gold and silver and feather working, we do not know when writing and books, for reasons of technical facility, lost their purely symbolic and priestly character and began to have profane uses. But throughout the history of the pre-Columbian peoples there is always a close relationship between their vision of the cosmos and their style of writing, between their sense of existence and the words stored in books and codices or on stones and skins.

The oldest Nahuatl account of the origin of the People of the Sun mentions "an ancient tale told by old men" and speaks of the arrival of the ancient settlers in the mythical Tamoanchan, where the forebears of the Aztecs lived. With them lived some

Below right, a page from the "Codex Fejervary-Mayer", now in the Free Public Library and Museum of Liverpool, England. This codex of the Mixtecs ("The Cloud People"), neighbours of the Mayas, was a calendar for divination. It has a system of numbering using vertical bars (see photo). The Mayas used the same system, but placed the bars horizontally. Below left, a page from another Mixtec manuscript, the "Codex Becker", now in the Vienna Museum für Völkerkunde. A historical and genealogical work, it was used in a court case in 1852 as a "property deed" by an Indian claiming hereditary ownership of land.

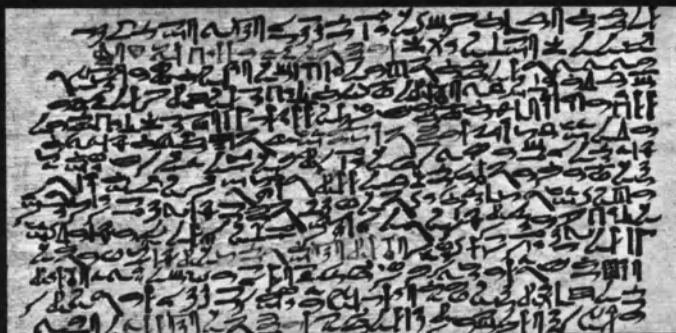


Photo © Dominique Darr, Paris



Photo © Akademische Druck und Verlagsanstalt, Austria

The photos on these pages are unusual examples of books selected from a recent Paris exhibition of treasures at the Bibliothèque Nationale in conjunction with International Book Year.



EGYPTIAN PAPYRUS. Above, detail of an Egyptian papyrus text (about 2000 B.C.) discovered at Thebes. The complete scroll (7 metres or 23 ft. long) records the maxims of Ptahhotep, a vizier renowned for his wisdom, as well as precepts of other ancient Egyptian sages.

SUMERIAN CLAY TABLETS. Right, three Sumerian cuneiform "books" in clay from ancient Mesopotamia. The pointed inscription, recalling a wizard's hat, commemorates the building of a temple dedicated to the god Nin-Girsu about 2700 B.C. by Gudea, ruler of the city of Lagash. Text on right is inscribed on a clay cylinder telling of the consecration of the Lagash temple. Below it is a book-shaped tablet (about 1900 B.C.) lamenting the destruction of the City of Ur.



BURMESE COPPER SCRIPTURE. Right, a most unusual manuscript inscribed in "square" Burmese characters on long thin sheets of gilded copper. It contains the Kammavāca, a Buddhist religious text in the Pali language. The pages (10 × 53 cm. or 4 × 9 in.) are hooked, loose-leaf folder-like, between decorated gilt-copper covers.

SUMATRA BARK BOOK. Left, an 18th or 19th century treasure of the Batak people of Sumatra (Indonesia), this collection of magic spells and rites is inscribed on sheets of the inner bark of the agalloch, a resinous tree of S.E. Asia. It has a beautifully carved wooden cover.

The book, realm of many arts

by Alexei A. Sidorov

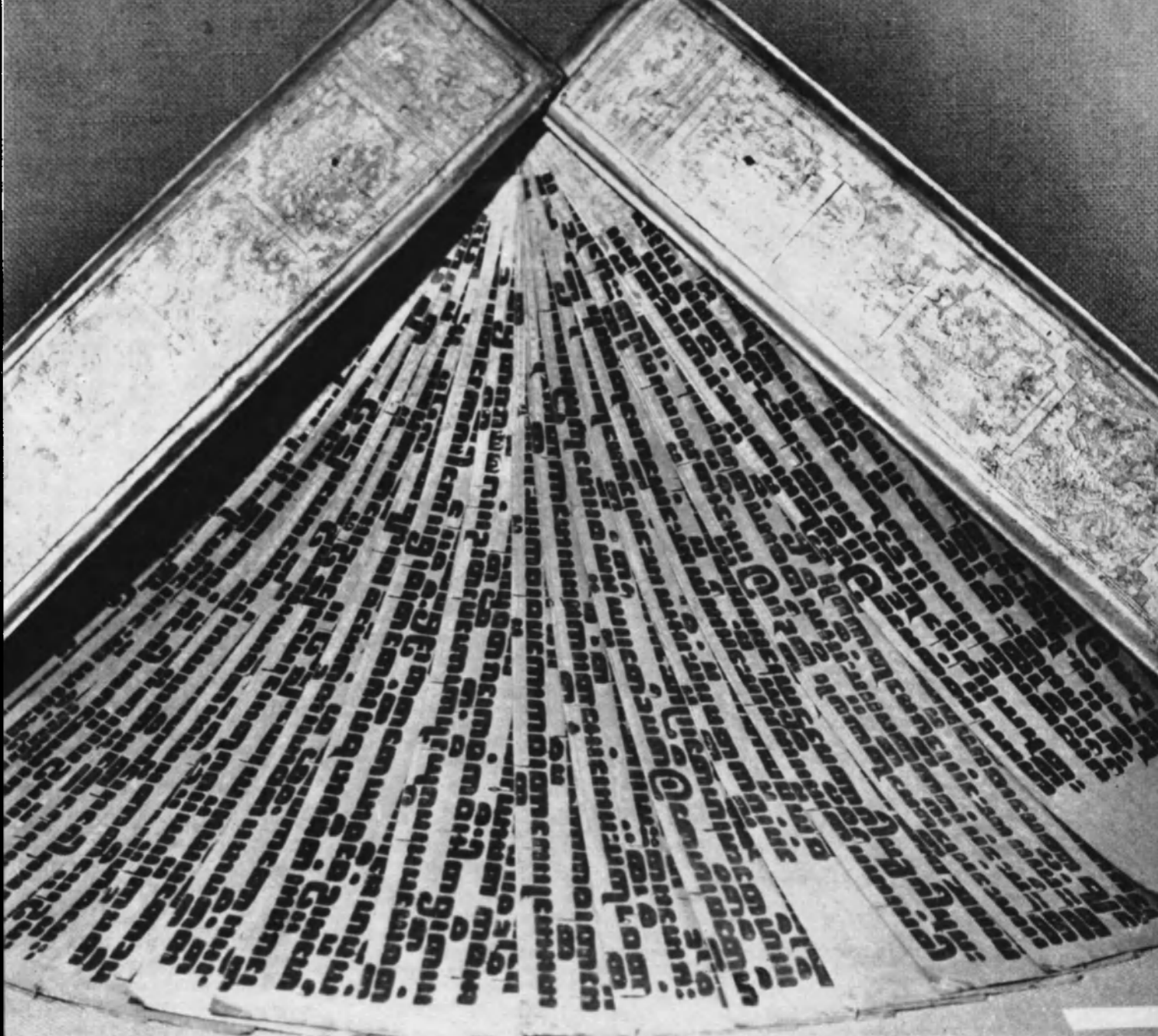
HISTORY has known countless varieties of "books". They range from the cuneiform tablets of Sumer, papyri of ancient Egypt, Ceylonese books on rectangularly cut palm leaves, Japanese "butterfly" books, parchment manuscripts containing codes of antiquity and medieval folios down to modern publications.

The book was born of a harmonious union between the arts and technology. It became and has remained the joint work of artist and printer, a fruitful synthesis of many crafts.

The first European printed books, dating from the 15th century, combined the qualities of the illustrated manuscript with the new contribution of the printing and typographic crafts. Since then the book has undergone a constant process of renewal.

An individual creation of the author who writes the text and of the artist who chooses the type and draws the illustrations and cover, the book in its final form is also the combined product of many persons—publisher, printer, bookbinder and manufacturers of

ALEXEI A. SIDOROV is the leading Soviet authority on the history of the graphic arts and book design. A corresponding member of the U.S.S.R. Academy of Sciences, Professor Sidorov has written over 500 articles and many longer studies on these subjects for Soviet and other publications.



Photos © Paul Almay, Paris

paper, colours and ink. And it will continue to be so until photo-composition and microfilms take over—if they ever really do.

As an expression of world culture the book has a long history, but though many attempts have been made, a truly comprehensive study of the book has yet to be written. The history of the art of the book is not the history of printing, of book illustration, of book-binding, or of typography. It is the history of a complex ensemble, a synthesis of the work of all who have contributed to the book's development.

Comparing the creation of a book with architecture, the French poet Paul Valéry pointed out that a book's structural composition obeys clearly defined laws of proportion.

The effort to make the book a "celebration", a triumph of man's creative genius, found expression in the first masterpiece of European

printing—Gutenberg's Mainz Bible. Without the artist this celebration would have been inconceivable.

Gutenberg used clear black letter-type disposed in beautifully proportioned columns which he embellished with hand-inscribed ornamental borders in red and gold, contrasting dramatically with the severe orderliness of the type. This was the first instance of an artist painting in colour on the printed sheets of each individual book.

Soon after Gutenberg printed his book, one of his former workmen, Peter Schoeffer, introduced coloured, engraved initials into the type-setting of the Mainz Psalter (1457). This experiment saw the artist entering directly into the printing process.

Other developments followed. Etching on copper was tried, for example in Dante's books published in 1481, and attempts were also made to insert primitive woodcuts as in the case of

Ulrich Boner's "Edelstein" in 1461. By the end of the 15th century, books were printed containing so many engravings that the same engraving was often repeated with different captions, making these works the negation of all that a book should be.

Progress in printing was fairly rapid, so that when Aldo Manutius published "Hyperotomachia", at the turn of the 16th century, the book acquired the form it has essentially retained to this day. In this publication the artist illustrated the text with linear woodcuts and the printer produced it in carefully selected Roman type disposed according to strictly defined laws of type-setting. Artist and craftsman joined forces to create a harmonious ensemble.

Along with woodcuts, copper etchings were introduced in books printed in the 16th and 17th centuries. Since these etchings required different techniques and equipment from those

CONTINUED NEXT PAGE

Facsimile of a page of the 1456 Gutenberg Bible, the first masterpiece of European typography with its strictly yet beautifully proportioned columns of type. The layout and design of the characters owed much to the traditions of medieval manuscripts which Gutenberg, and other early European printers took as their model.



REALM OF MANY ARTS (Continued)

with which woodcuts were produced, they were stuck into the books separately. The magnificent etchings inserted into the books of those days were so numerous that all too often they made the books look more like albums or atlases.

A century later, sophisticated lettering and ornamental vignettes made their appearance in many books. But this was not the only trend. Caslon and Baskerville in Britain, Didot in France, and Bodoni in Italy introduced splendid new type styles, and William Blake, poet, illustrator and printer rolled into one, attempted to produce a book that would be unique in every feature.

In the 19th century, publishing became an industry and a battlefield of conflicting ideas. While the Romantic poets were forging closer links with artists, some writers came to regard their prose as an explanatory accompaniment to artists' drawings. Charles Dickens' "Pickwick Papers" began as an explanatory text to Robert Seymour's drawings and he was later to find another collaborator in the artist Hablot Browne, "Phiz", with whom he undertook a study of the London slums.

The 19th century was also marked by the emergence of masterpieces of the new style of illustration. Adolf Menzel adopted a scientific and historical approach, while Gustave Doré's passionate and dramatic style veered towards the grandiose and the fantastic. But it was also at this time that Gustave Flaubert began to protest against illustrations in books of fiction in general. He maintained, quite rightly, that it was what was imagined and hinted at, whether in a poem or a psychological novel, that counted most for both the writer and the reader.

Photography was yet another development that was taken up by printers and publishers during the 19th century.

Of vital importance in the history of the art of the book were the new possibilities opened up during the 20th century by the invention of mechanical type-setting, rotary printing, photographic techniques, zincography, intaglio printing in colour and facsimile phototype reproduction.

The progress made in the art of the book in the 20th century has been the subject of several studies which expound the now world famous art nouveau of Aubrey Beardsley in Britain, and Félix Vallotton and Théophile Steinlen in France, and the *jugendstil* of German artists.

At the beginning of this century, the graphic arts and the art of the book were becoming international in character, a trend that was clearly evident at the 1900 World Exposition in Paris. It is, perhaps, no mere coincidence that in this same year, Ambroise Vollard, the famous patron of "modern" artists, began publishing high quality books including reprints

Photo © Library of the University of Leipzig, German Dem. Rep.



QUADRILINGUAL BIBLE. In International Book Year, Antwerp (Belgium) is celebrating the quatercentenary of the monumental Bible in four languages completed in 1572 by the famous printer Christophe Plantin who established his printing works in Antwerp. Four different founts of type had to be cast to reproduce the text of the Bible in Hebrew, Aramaic, Greek and Latin. Left, the frontispiece to this edition shows the lion, the ox, the wolf and the lamb in peaceful harmony representing the union of four languages. Plantin has given his name to a form of type in use to this day.

FOR EYE & MIND. This page from Dante's "Divine Comedy" published in Florence in 1481, provides a feast for eye and mind. The Botticelli-style illustration regales the eye and the commentaries by Cristoforo Landino on Dante's tercets (in smaller type alongside the original text) are rich food for meditation.

Photo © Plantin-Moretus Museum, Antwerp



Photo © Fotoclassica, Rome

of works by authors of ancient times and 19th century poets.

The appearance of luxurious publications intended for a handful of booklovers in many countries was characteristic of this period, just as was the contradictory phenomenon of the spread of a completely different type of book influenced by futurists, dadaists and the Weimar Bauhaus whose chief exponents were the Russian El Lissitsky (see page 34) and the Hungarian Moholy Nagy. These publications appeared for the first time after the first World War and the October revolution in Russia.

It is fascinating to trace the main trends which gave shape to the art of the book at the beginning of the 20th century and to study the tendencies that were common to various countries.

Innovation was the first characteristic. Newly-coined words, new slogans and ideas produced in the melting pot of world war and revolution had immediate influence on the countries of Europe and later spread to the rest of the world. At the same time, however, the book preserved with care all that was best in the culture and achievements of the past.

Constructivism was another contemporary movement in which the balance was maintained between innovation and wisely selected traditions in book production. It had little in common with the futurism of Marinetti, for example, or others in whose books the text was set in whimsically curved lines to imitate the explosion of bombs or shells while the text itself evoked the whine and thunder of exploding missiles. Russian futurist book designers, meanwhile, were experimenting with lines interspersed with lithographs and texts printed in block letters or even typewritten.

During the 1920s, functional constructivism dominated and "art" and "ornament" in books gave way to the "structural" design of the printed page; pages were set in types of different sizes and letters in red were scattered among the black type. The tone was set by "The New Typography", a book published in German by the Czech engineer Jan Tschihold.

One of the most brilliant exponents of this tendency was the Russian artist El Lissitsky who worked with success in the Soviet Union and Germany. Also in the U.S.S.R., Alexander Rodchenko, who designed many books by Mayakovsky, broke away from the classical rules of earlier aesthetics replacing elaborate drawings with simple photo-montages. Later, another Soviet artist, S. Telingater, combined Lissitsky's pure "structuralism" and Rodchenko's photo-montages.

In general, books published at this time are notable for the vivid colours

CONTINUED PAGE 35



Photo © Oxford University Press

MR. PICKWICK IN CHASE OF HIS HAT. — "The Posthumous Papers of the Pickwick Club" are a classic example of the interplay of text and image and of collaboration between artist and writer. At the outset, Dickens' text was written to accompany the humorous drawings of Seymour, such as that above; later, particularly when the young artist H. Browne, "Phiz", took over from Seymour, the work of writer and artist became inextricably interlinked to provide a rich word and image portrait of 19th century England.

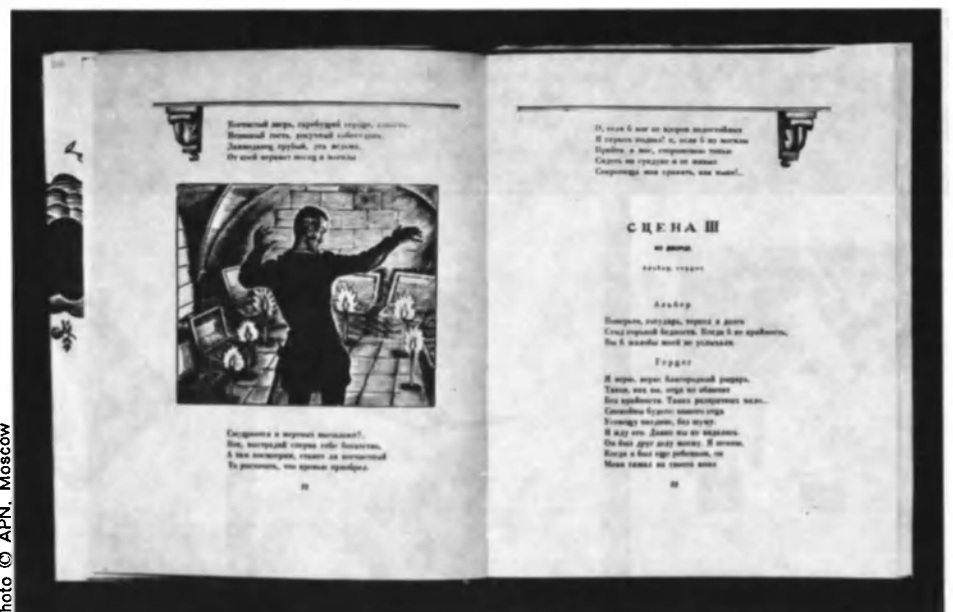
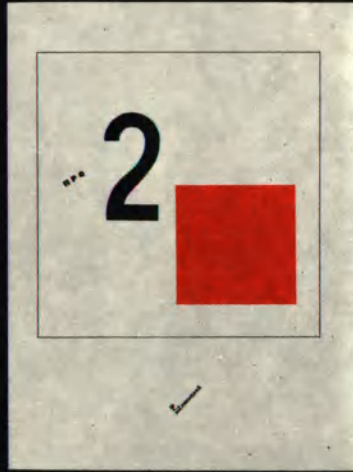


Photo © APN, Moscow

In this illustration for one of Pushkin's four "Malenkie Tragedii" ("Little Tragedies"), the Soviet artist V. Favorsky attempts to carry the reader deeper into the world of "evil passions" evoked by the poet.

A revolution in modern typography

A powerful current of new ideas in literature, the arts and graphic design surged through Europe shortly after the first World War. Numerous schools or styles, some short-lived, others more enduring, sprang up. Their new concepts and original works challenged and radically transformed long accepted principles of taste and art. One man who played a pioneering role in spreading the new art forms throughout western Europe was the Soviet artist, designer and architect El Lissitzky (1890-1941). In 1922, El Lissitzky published a ten-page children's book entitled "Two Squares". This book (all its pages are reproduced here in their original colours) was a revolution in modern typography. El Lissitzky had been influenced by Kasimir Malevich, another Soviet artist who founded a movement called "Suprematism", describing it as "the supremacy of pure feeling or perception in the pictorial arts". As the illustrations of his book show, El Lissitzky repeatedly uses diagonal lines and balanced, asymmetric typography, techniques which gave his pages a rhythm and grace that modern display advertising has since used to great effect. In his "Notes on Typography", El Lissitzky commented on his book in these terms: "For this story of 'Two Squares' I endeavoured to give form to an elementary idea with elementary means so as to stimulate children to play actively and get adults to see"



The 2 squares



For everyone, for all youngsters



El Lissitzky: a Suprematist story about two squares, in six constructions, Berlin, Skythen (-Verlag), 1922



Don't read
Take
some paper — fold it
some sticks — colour them
some bits of wood
— build something



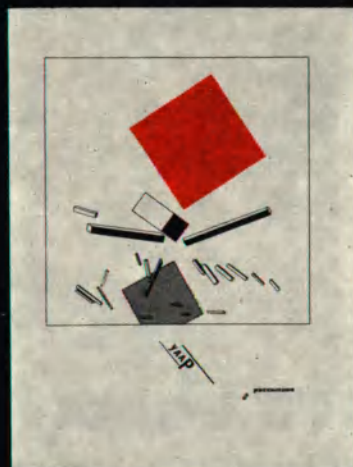
Here are two squares



They come from far away, flying toward earth and...



...And see the dark chaos



Crash!... everything disintegrates



And on the black the red stands out



This is the end... and then...

used in their illustrations, though they were still designed in traditional style. Typical of this period is the set of black and white illustrations (1923) by M.V. Dobuzhinsky for "The White Nights", by Fedor Dostoyevsky.

Nothing is so indicative of the diversity of the book as the revival and almost universal success of books in which the old woodcut technique is used. Woodcuts by the great Russian illustrator and artist Vladimir Favorsky have won world-wide recognition as significant works of art.

With consummate skill and intelligence Favorsky succeeded in reflecting in his woodcuts not only the contents of a book, but also its "inner world", the author's hints and allusions, whose importance Gustave Flaubert had stressed earlier. Favorsky showed that artists can build a new dimension into a book with decorative techniques such as the contrasting use of large and small woodcuts.

This, of course, was not the only trend. There are always books that need traditional, colourful, vivid illustrations. Such a book was Tolstoy's "Anna Karenina" for which N.I. Piskaryov executed superb, lively coloured woodcuts. The book was published in the U.S.S.R. in 1933.

IN the 1930s, many of the experiments of the previous decade were abandoned and artists concentrated on evolving illustrations that gave deeper insight into the psychology of the book's characters, rejecting the play of lines and contours for subtle half-tones of light and shade.

New techniques developed at this time began to influence book design. Offset printing was coming into its own and it became possible to use a variety of inks in any book. Diagrams, plates and coloured illustrations (such as those by Picasso which were to make him famous) began to be used which were no longer integrally linked with the text. The book seemed to split into two parts, one literary, the other artistic. Printed separately, these illustrations were inserted into books.

For a time the "picture in a book" style of design triumphed; splendid water colours, realistic, abstract or romantic drawings, cartoons and landscapes accompanied the book without being illustrations in the fullest sense. The art of the book gave way to "art in the book".

It was only in the mid 1950s and early 1960s that an attempt was made to seek unity in all the aspects of book production. The new generation of illustrators tended to demand personal control over all the artistic aspects of the book, from the dust cover to the inside illustrations, second titles, end pieces, etc. This calls for confident

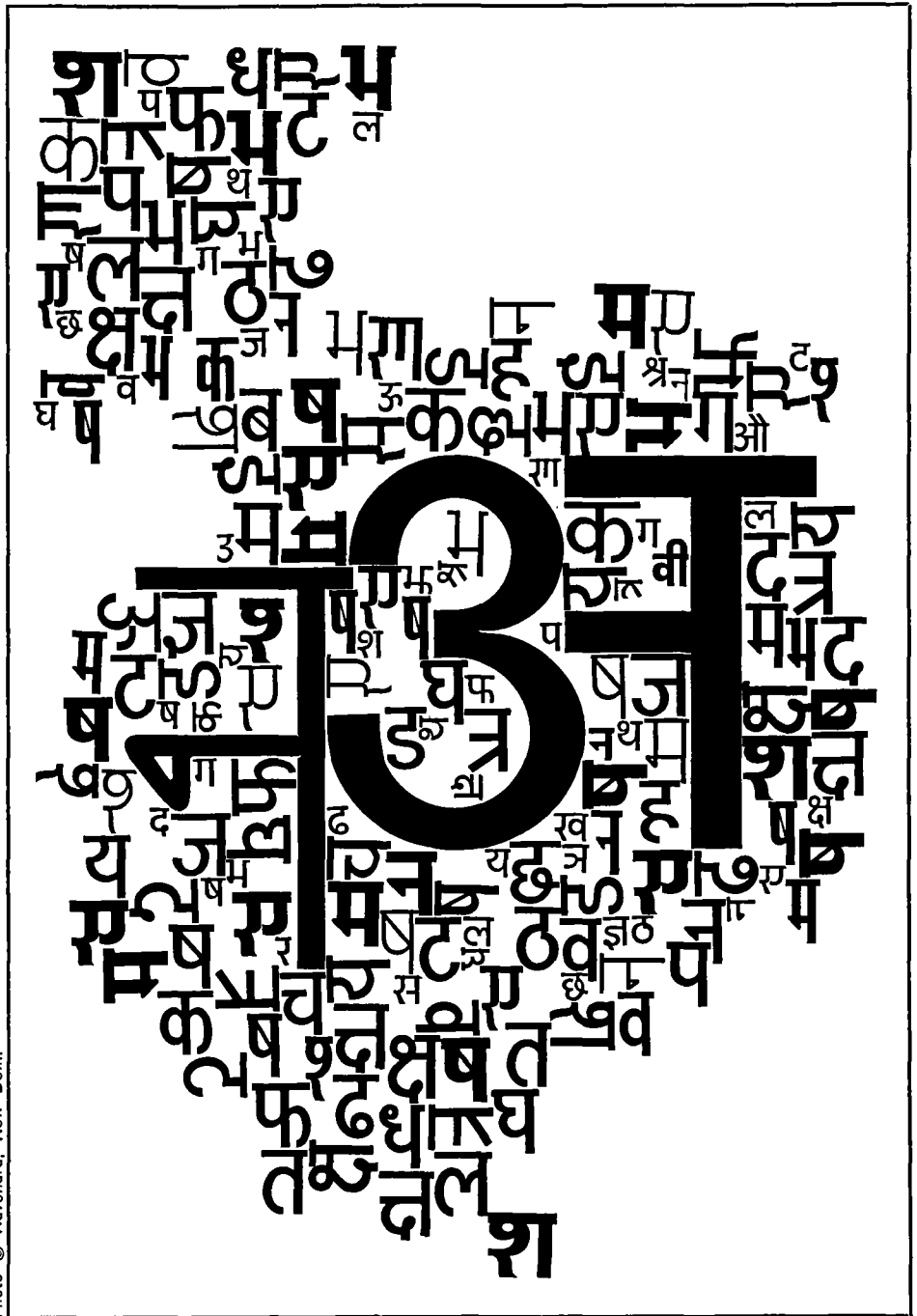


Photo © Navendra, New Delhi

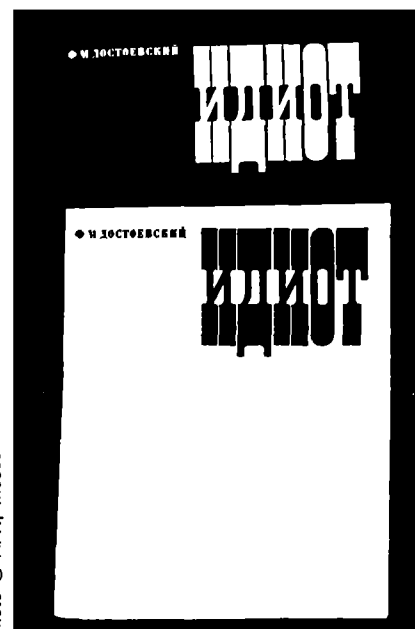


Photo © APN, Moscow

TYPORTRAIT OF A CROWD. If in the West calligraphy is little more than an exercise for children, this is not true of other parts of the world. This is shown by the age-old writing traditions of the East, not only in China (where calligraphy is one of the fine arts, equal in stature to painting, sculpture etc.) but also throughout the Arab and Moslem world. Calligraphy's links with modern typographical design become evident in the work of the young graphic artist Navendra, born in Delhi in 1931. His experiments in adapting the thousand-year-old Devanāgarī characters, used in the writing of Hindi, to the requirements of modern typographic techniques have given rise to an artistic concept closely allied, as he himself admits, to that which inspired such artists as El Lissitzky. The work above, entitled "To give an idea of a crowd", is composed una idea de la multitud-, realizada con caracteres «devanāgarī» modernizados.

Cover for Dostoyevsky's "The Idiot", designed in 1971 by the Soviet graphic artist V. Gorayev. It illustrates the striking effect achieved by the contrasting use of, black and white, serving as a background to ultramodern typography.

An 'A B C' of text plus image

by **Gérard Blanchard**

Photos. A : © Archives photographiques, Paris. B : Trinity College, Dublin. C and F : Gérard Blanchard Collection. D : Calligrams from "Arab Calligraphy", by Mohamed Aziza, STD, Tunis. E : From "Art et Ordinateur", by A. Moles, Editions Casterman, Paris. G : © Paul Almasy, Paris. H : Paolo Koch © Rapho, Paris.

BOTH the outward appearance and the content of the book have changed considerably through the ages.

The libraries of Antiquity—at Nineveh, Nippur, Lagash or Mari—contained only stacks of "writing bricks"; the Alexandria library, which was destroyed by fire, housed mainly papyrus and leather rolls. The Chinese wrote on bones, wooden panels, bamboo strips and silk scrolls before inventing paper.

The Ancient World was full of writings on stones, potsherds, or wax tablets before papyrus and parchment were used, while paper is of relatively recent date. It was only at the beginning of the Christian era that the scroll was replaced by the "codex" of folded sheets bound together to produce what we ordinarily term a "book".

Today the use of new materials and techniques has vastly widened this over-narrow conception of the book. Yet whatever the technique employed and the material on which they are reproduced, text and image remain the basis of visual communication. What concerns us here is the relationship between them.

Western writing cannot be confounded with concrete images since it uses abstract signs arbitrarily selected to indicate sounds. This dual system was used on the walls of prehistoric caves (A) even earlier than the development of writing.

Endless efforts have been made to achieve the impossible union of opposites, the superposition of text and image merging into an essentially lyrical whole. Reading such a complex image is rather reading a "mandala".

The Hindu and Buddhist mandala (India, Japan, Tibet and elsewhere) is read like a plan; and many temples—at Khajuraho, Angkor and Borobudur, for instance—are concrete realizations of such plans. The mandala is a very highly structured image for meditation (a series of concentric circles in squares), which leads the contemplator step by step into the heart of his meditation.

And so it is rather in the style of a mandala that the illuminator of the Book of Kells (B) hides the key words under a wealth of decoration, that Rabanus Maurus (C) reveals figures hidden in the text by the use of contrasting black and red print, that Arab calligraphers give form to the spoken word (D), that Apollinaire lays out his poems in the



A Above, paintings made 15,000 years ago on the walls of the Lascaux cave (France) are amongst man's earliest efforts in communication. Alongside the figurative representations of animals are abstract signs—perhaps forerunners of writing.



B A masterpiece of Celtic art, the Book of Kells (left) an 8th-9th century gospel book, is preserved at Trinity College, Dublin (Ireland). In this work, rich in graphic invention, colour and fantasy, the artist has illustrated only the first words of the texts, which the cantors knew by heart.

C Below, fragment of a Latin text by the famed 9th century teacher and writer, Rabanus Maurus, Archbishop of Mainz. In this edition, printed at Pforzheim (Germany) in 1503, text and image merge with striking effect. Letters printed in red (here seen as light grey) are set within the outlines of the figures, and in the "corridors" dividing the page, where they form complete words or sentences.



GERARD BLANCHARD, French specialist in the graphic arts, is the author of "Métiers Graphiques" ("Graphic Crafts", Editions Arts et Métiers Graphiques, Paris 1969) and "La Bande Dessinée" ("The Strip Cartoon"—from prehistory to the present), a Marabout Université paperback, Paris 1969. A new book on Typography and Language is in preparation. He contributed a special study on book typography in France from 1800 to 1914 to "Book Typography in Europe and America" (E. Benn, London, 1966). He is chairman of the "Rencontres Internationales de Lurs", an annual meeting in southern France of specialists in the graphic arts and communication.

shape of the objects he is writing about and that the computer (E) prints out in letters the various tones of a photograph it is scanning.

Between the two extremes of the illuminator's work "all done by hand" and the computer's entirely "machine-made" product, there are the various methods of reproduction offered by the printing process: conversion of manuscript into typographical characters (C) or, later, photographic "facsimiles" of letters stuck on the invisible outline of a drawing. These "text-images" indicate one extreme of the relationship between text and image; another extreme is revealed in the "text and environment-image".

Fully urbanized modern man lives in the heart of a vast information centre in which text and image play an important part. We need think only of the street (H) with its posters

of all sizes, rooftop signs, giant figures, window displays and flashing lights; the hurly-burly of free commercial competition throws together the most motley collection of styles, qualities and interests. This kaleidoscopic environment is the reflection of the modern world and foreshadows the world of the future made of dreams, desires and myths, with advertising programming the slogans.

An equally striking environment can be found centuries away in time, in the tombs of the ancient Egyptians (F). The scenes from the lives of the gods and from everyday life, painted at great cost during their lifetime, are, for the inner eye of the dead, a necessary accompaniment for their new life. The hieroglyphics between the friezes are formulas of intercession. The Book of the Dead (G) merely gives a summarized view of this environment.

CONTINUED PAGE 39



D A bird and a pear, completely different shapes yet fashioned from two Arabic inscriptions of the same invocation, "In the name of Allah the Almighty, the Merciful". Two examples of the remarkable skill and inventiveness of Arab calligraphers.

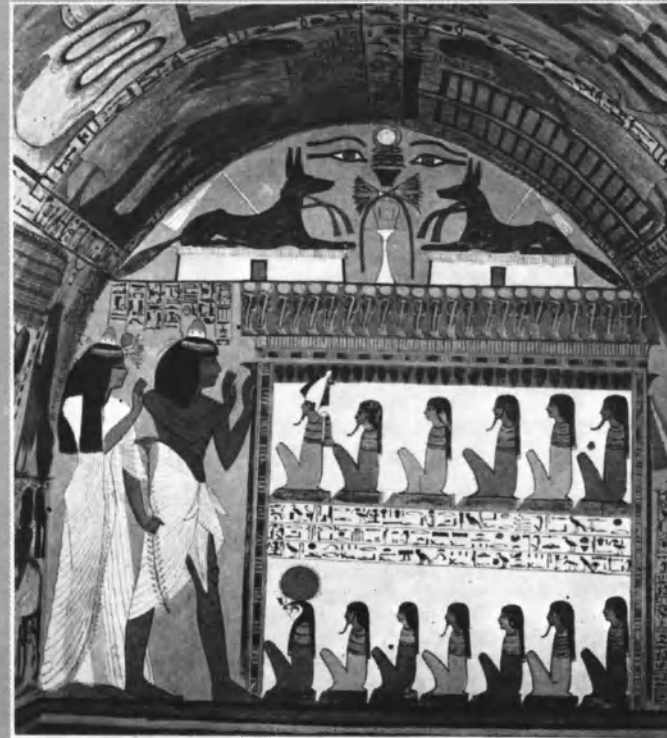


E This print-out of a photograph scanned by a computer vividly illustrates the difference which exists between individual conventional signs (here typographical signs) and the meaningful pattern they acquire when assembled.



G Left, fragment from the "Book of the Dead", dating from the New Empire (1567-1085 B.C.). A guide to life beyond the grave, "books of the dead" were placed on the sarcophagus or on the dead person's chest, under his arm or between his legs.

H By night, the 20th century city-dweller is engulfed in the vast word and image spectacle of illuminated advertisements. Right, street scene in Las Vegas, U.S.A.



149. TOMBE DE SENNEJEM, DEBUT-LE-MIDI, SENNEJEM ET SA FEMME DEVANT OSIRIS ET LES DIEUX DE LA

F Text and image surrounded the ancient Egyptian dead within the tomb. Scenes from daily life or the lives of the gods were interspersed with hieroglyphic texts. Mummies were even enveloped in strips with writing on them. Above, the tomb of Sennedjem, a high official of the 20th Dynasty (about 1200 B.C.).





I This Assyrian bas relief dating from 880 B.C. shows foreign subjects bringing a tribute of monkeys to king Assurnazirpal II (883-859). Here the image, sculpted first, becomes the backdrop for the text: cuneiform inscriptions recording the monarch's triumphs.

L The "photo captions" on this Greek vase identify the figures as Ajax and Achilles at play. From as early as the 8th century B.C., inscriptions on such vases were like books and identified the myths and legends with which they were decorated.



M In this early 10th century A.D. Greco-Byzantine psalter, allegorical personages and religious events (such as the crossing of the Red Sea, bottom right), are identified by captions. The same page has typical figures of Byzantine religious art.



J An Ivory Coast barber's sign (1969). Though its purpose is totally different, it is based on the same principle as that of the Assyrian stele; the records of royal triumph have given way to the slogans and images for shops and commerce.

CA.

NA

DA



K Norman McLaren is famous for writing his texts and engraving his images directly on the raw film, as here in the film "Canada".



N Bulgarian poster, one of many published to mark International Book Year 1972.



The image is often separated from the text and their relationship largely depends on the length of the text. The custom of official *inscriptions* gives the characters and lettering a monumental quality so that, even though unread, they are regarded as a statement of some importance.

The Assyrian inscription (I) is overprinted on part of the image, rather like the sub-titles dubbing foreign films. These texts, carved in stone in defiance of time, tell their version of history. Monuments erected by princes to commemorate their conquests may be standing stones, writing carved on rocks, pillars, triumphal arches—all expressions of the need felt in all ages to leave a landmark and a record.

Like these ancient records, the African trade signs contribute in their own way (J) to the exaltation of text and image.

And nowadays credit titles (K) projected on the cinema screen before a film become like frontispieces, those literary triumphal arches, that preface books of any importance.

The text of the caption beneath or alongside the picture is smaller in size and more familiar in tone, though still far removed from the detailed "confidences" of the book.

In contemporary advertisements such texts are slanted to guide the reader (N) and give the key to the pictures. Even on Greek vases (L) this was so; apart from the signature, praises and dedications personalizing a gift, the purpose of the text is to explain who the personages depicted are. An ordinary scene from everyday life suddenly becomes an episode from mythology.

Such means of identification have been used right through the centuries from Byzantium (M) to the Renaissance and even long after in popular imagery.

On Greek vases the text is inscribed close to the figures, but the circular structure of the image (as on Greek or Chinese scrolls) does not limit the artist so strictly to two-dimensional space as does the square or rectangular page of the codex. For this reason there is a kind of free encounter between text and image.

The desire for rationalization or for a division of labour (between copywriter and illustrator) entails enclosing the text in a frame (G), but the portrayal of the type of support material for the writing, scroll (O) or book, may determine the exact positioning of the text. This is so with the representation of the scrolls of the Prophets in the whole Judaeo-Christian iconography.

Through a logical series of intermediary stages, these texts which exemplify the Word, are placed closer and closer to the mouth of the speaker. On manuscripts (P), at the time of the birth of the theatre in the early 13th century, and in the first printed works (Q) we begin to find texts in the pictures which are visualizations of speech and valuable memory aids for improvised public "readings".

The standard book of Western civilization, having become an intellectual working tool, discarded its illustrations. Furthermore, methods of reproducing illustrations made them completely independent of the text.

The popularization of books in the 19th century encouraged printers to invent simpler processes of illustration. Of these, wood engraving (R) made it possible to include so many pictures that the book sometimes came to resemble the picture storybooks (S) of popular literature. The text set out in captions under the drawings provides an abridged version of stories to be told to while away an evening.

In the book, skilful typesetting arranged the text round the illustration, thus creating a kind of visual punctuation which restored some of the freedom in lay-out that characterizes the old manuscripts. The strip cartoon (T) uses

CONTINUED NEXT PAGE



O Detail of prophets holding scrolls from the Portico de la Gloria at the cathedral of Santiago de Compostella, Spain, with its scenes from "The Last Judgment". In medieval European statuary the scroll, held partly unrolled on which the faithful could read Biblical texts, was the distinctive sign of the prophets.



P A 14th century miniature showing the bearded Ramon Llull (1231-1315) the Catalan writer and alchemist, presenting his works (condensed into 3 tomes) to Jeanne de Champagne, Queen of France and Navarre. Llull wrote 292 works in Catalan, Arabic and Latin. Here, the miniature tells the story in word as well as image.



Q The scroll-like frames enclosing the dialogue in this 14th century incunabula, an illustrated version of the "Song of Songs", foreshadows the "balloons" of the modern strip cartoon.



R It took ten years to prepare the type and illustrations for this edition of Bernardin de Saint-Pierre's "Paul et Virginie", published in 1838. Here we see the illustrations encroaching more and more upon the text.



S "The Adventures of Baron Munchausen" are famous throughout the world for their inventive fantasy. This German edition is one of the first examples of the strip cartoon.



T A more modern strip cartoon, "Prince Valiant", by Hal Foster (U.S., 1963). The text is in the frame of the illustrations but not actually integrated with them.

the two systems of text in pictures and pictures in the text, sometimes both together.

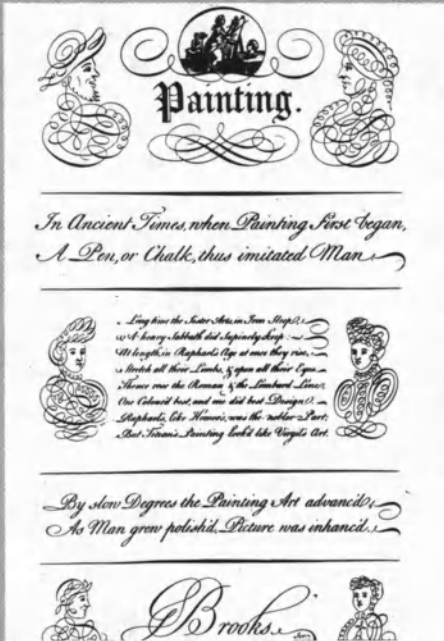
Part of the difficulty of the text-image relationship arises from the fact that typography accentuates the arbitrary nature of character design.

The "codex" form also contributes to these difficulties. Calligraphers (U) tracing letters and drawings with the same hand and the same implement maintain a certain respect for uniformity.

Western calligraphers are at a disadvantage compared

with their Chinese or Japanese counterparts, whose task is facilitated by a more fluid and expressive writing.

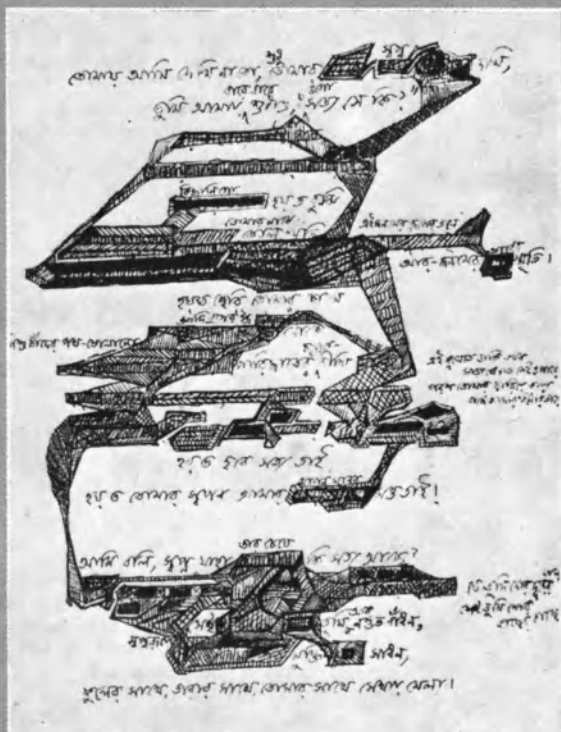
Any writer-poet, any inventor making notes, anyone writing a letter is experimenting with the powerful graphic medium. But some, like Leonardo da Vinci (W) or Tagore (X) for example, try spontaneously to link drawing with writing. Then another more complex adventure starts all over again—the one whose paths we have tried to trace in broad outline from the earliest writings to the annotated drawings of Matisse (Y), or from Babylonian bas-reliefs to Ethiopian paintings (V) and contemporary Japanese comic strips (Z).



U Text and image by the hand of the English master of penmanship George Bickham (1743). The professional penman gives rein to his craftsmanship not only in his writing but also in the embellishments with which he adorns it. The images he draws have a direct relationship in form and style with the written word.



V The legend of the Queen of Sheba, an Ethiopian painting of the 19th or early 20th century. The Amharic text accompanies and explains the illustrations.



X A corrected manuscript of Rabindranath Tagore (1861-1941), the Indian poet, musician, educationist, philosopher and painter. These highly sophisticated "doodles" recall the great man's paintings. "My pictures", he said, "are my poetry in graphic form".

Y Matisse was an artist of many interests. He not only painted but also had a special predilection for book illustration and the association of drawings with the written word. Here in a drawing for the magazine Verve (1945) the design is in black and white—the actual colours being indicated by the words "green", "red", "blue", etc., in the balloons, leaving the final image to the reader's imagination.



The book, realm of many arts

(Continued from page 35)

mastery of the whole range of graphic art, enabling the designer to see a book as a whole, with an imaginative structure corresponding both to the spirit of the text and the demands of modern aesthetics.

A technique frequently adopted by modern book designers is the extensive use of colour, by the introduction, for example, of black or red pages on which the text is printed in white. Printing part of the text, separate words, or parts of a word in bright colours has nothing in common with the coloured initials and ornamentations in ancient books, and the same holds for the striking light and black shades favoured in modern engravings.

The new approach differs from the old, purely decorative technique because now the artist introduces colour to emphasize shades of meaning in the text or to enhance the atmosphere of a passage, thus making the book more vivid and expressive.

A.D. Goncharov used this technique in producing a new edition of Alexander Blok's poem "The Twelve". The poem is about the first days of the 1917 revolution in Russia and the artist, feeling that black and white illustrations would be inadequate to convey the dramatic spirit of the revolution and the burst of enthusiasm it aroused, introduced illustrations in the symbolic red of the revolutionary banner. He used "grotesque" type which seemed best to suit the poem.

The pages of the book are not all white; some are red or black with the text printed in white type. One page is grey, and the white of the snow falling on the dead body of a woman pictured there is made whiter still. Nevertheless, Goncharov only employed fairly simple polygraphic techniques.

The Soviet artist Dmitri S. Bisti gave appropriate treatment to Mayakovsky's poem "Lenin". The simplicity of the uncompromising combination of red and black that he used in his own way makes Mayakovsky's words stand out with even greater emphasis. Indeed, the complete fusion of colour with graphics, and of illustrations against white margins, suggests further striking possibilities in book design.

In the field of fairy stories and children's books, to which publishers have always paid particular attention, joyful, full-bodied colour really comes into its own. For the student of modern book design children's books and art books provide a rich and fascinating subject of study.

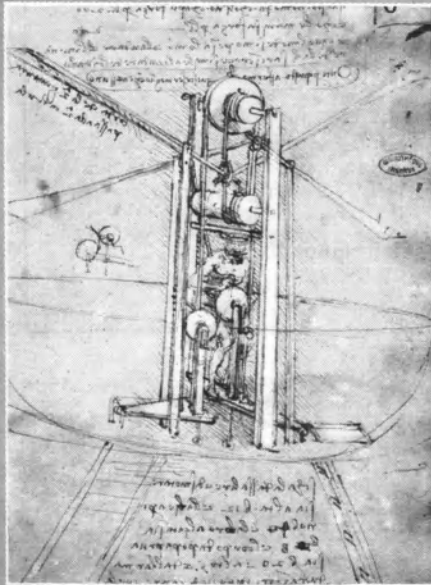
Another, comparatively recent, phenomenon which should not be overlooked is the increasing output of books on science, technology and science fiction which now compete with traditional literature in numbers of titles published and copies sold. It was inevitable that this consequence of the scientific and technological revolution should open a new chapter in the history of the book, leading to the use of new designs and motifs inspired by scientific discoveries.

FOLLOWING the two devastating world wars of this century, artists not generally regarded as specialists in the field became interested in book illustration. The work of Pablo Picasso, Henri Matisse and Rockwell Kent, Guillaume Apollinaire's calligrams, the "typoetry" of Reinhard Döhl, Vercors' colour printing and the high artistic quality of the Skira publishers in Switzerland, have introduced such a variety, such a conflict of ideas into the modern book that one longs for the establishment of an international centre which would record and study new developments and promote the international exchange of ideas.

Created by the artist, the graphic art of the book is one of the prime elements of culture. In the wake of the writer, the graphic artist re-creates the past and records the present. The images evoked create a dialogue with contemporary man, becoming part of his life, his thoughts and his emotions.

Throughout the centuries books have provided a distillation of each different national culture with its particular aesthetic and moral ideals. Yet the process of research and creation is never complete. Despite all the achievements of the past new discoveries lie ahead. ■

Alexei A. Sidorov



W A page from the notebooks of Leonardo da Vinci (1452-1519) in which he jotted down ideas and sketches of his inventions. The drawings are inextricably enmeshed with the text which is written in the famous "mirror-writing" that da Vinci used.



Z Japanese "Compact Comics" (1970), recalling the traditional Japanese print and the "emaki", successors of the Chinese painted scrolls. Even the world's first important novel, Japan's 11th century "Tale of Genji" by Murasaki Shikibu, appeared in this "Emaki" book form. "Comics" are now widely used for mass education in China.

UNESCO COURIER NOW IN 14 LANGUAGES

We are happy to announce the launching of two new language editions, one in Dutch published in Antwerp, Belgium, the other in Portuguese published in Rio de Janeiro, Brazil. Publication of both editions began in October.

The "UNESCO COURIER" is now completing 25 years of publication which have seen the magazine grow in prestige and readership throughout the world. The Editors welcome the new readers and subscribers in the Dutch and Portuguese languages who are joining the great world family linked by a common idea—faith in the collective effort of international co-operation to bring the people of different cultures, traditions and languages together, irrespective of religion, creed or ideology.

The "UNESCO COURIER" now appears monthly in 14 languages: English, French, Spanish, Russian, German, Arabic, Japanese, Italian, Hindi, Tamil, Hebrew, Persian, Dutch and Portuguese.



DUTCH EDITION

The Dutch language edition is published by N.V. Handelmaatschappij Keesing in Antwerp (Belgium), under the patronage of the Unesco National Commissions of Belgium and the Netherlands.

Annual subscription in Belgium: 250 FB.
Single copy: 25 FB.

Annual subscription in the Netherlands: 17.50 Fl.
Single copy: 1.75 Fl.

PORTUGUESE EDITION

The Portuguese language edition is published by the Getulio Vargas Foundation in Rio de Janeiro, under the auspices of the Brazilian National Commission for Unesco.

Annual subscription in Brazil: 25 Crs.
Single copy: 2.5 Crs.

NEW YEAR GIFTS?
OFFER A SUBSCRIPTION TO
THE 'UNESCO COURIER'

A subscription to the "Unesco Courier" is a New Year gift that will be remembered each month by friends and relatives. One year's subscription still costs only £1. 30, \$5 or 17 FF, and you now have a choice of 14 language editions. Place your orders today. (Unesco agents listed opposite.)

Painted manuscripts of pre-Columbian America *(Continued from page 29)*

by burning the historical records which mentioned other peoples and by manipulating the codices so as to establish for his people—the people chosen by the gods—a past which would provide a model for its future.

This is one reason—not the most improbable—for the dearth of Maya texts and the abundance of Nahuatl writings. The Spanish Conquest and the destruction that ensued (the Council of Lima in 1583 proclaimed the "tabula rasa" of provincial archives) put an end to the various systems of transmitting Indian culture.

A few missionaries, imbued with the spirit of Renaissance humanism and interested in "Indian antiquities", discovered and expounded the nature and ways of conserving the doctrines and events of the past. It is almost exclusively through their works that something of the great pre-Hispanic fervour for books and tradition has come down to us.

42 In the final phase of the Mexican tragedy, when the first twelve Catholic missionaries arrive in 1524 to convert the vanquished, there is a scene

highly significant of the importance of the codices in the pre-Columbian world. The missionaries attack the Indian religion and way of thought and at this point one of the Chiefs rises to express "with courtesy and urbanity" his displeasure at this attack on the customs and beliefs so dear to his ancestors. It is not for him to defend them since there are still some survivors of

*Those who turn the rustling leaves
[of the codices,
Those who have in their power the
[black and red inks and the painting.
They lead us, guide us, show us
[the way.*

*They order how a year passes,
How it follows its course,
The account of the days
And each of the twenty-day months,
That is their business,
It is for them to speak of the
[gods...*

There could be no more concise description of the old Indian conception nor any better expression of the loneliness, sadness and helplessness of a bewildered, leaderless people.

Neither is it surprising that the main purpose of the survivors should be precisely to bequeath to posterity a full undistorted picture of their history and the characteristics of their culture.

This and the testimony of a few missionaries are all that is left to us after the cataclysm of the Conquest. Despite everything the old custom of fixing dates was maintained, although now they commemorated only the ruin of the Indian peoples, and we seem to hear the revered voice of the Chilam Balam de Chumayel lamenting:

*Alas, my younger brothers,
Your cup will overflow with
[sorrow...*

*Prepare to bear the load of misery
That is coming to your peoples...*

And today those fabulous codices, whose ideographs have not yet been deciphered, can still be seen in the Bibliothèque Nationale in Paris, in the library of the Palais Bourbon, in the Vatican, in Florence and Dresden, testifying to the remarkable achievements of the Amerindian peoples in the production of wonderful books. ■

Miguel Angel Asturias.

UNESCO COURIER INDEX 1972

January

BOOKS FOR ALL (R. Maheu). Reading habits and book hunger (R. Escarpit). Books, electronics, television (L. Vladimirov). The yestermorrow of the book (M. McLuhan). China, birthplace of printing. The image and the word (A. Moravia). Reveries of a solitary reader (A. Carpentier). Books in the third world (Y. Lakshmana Rao). Art treasures (62) Arab manuscript (Iraq).

February

IN DEFENCE OF DDT (N. Borlaug). Ancient irrigation and modern science (B. Andrianov). The bog people of Denmark (P. Glob). Bohemia's "Codex of Vysehrad". Stone-age Malta (P. Almasy). Art treasures (63) Tomb decorations (Madagascar).

March

LATIN AMERICAN CULTURE (C. Fernandez-Moreno). Literature and underdevelopment (A. Candido). Pathways to a new art (J. Franco). The artist in Latin America (J. Adoum). New language of Latin American literature (R. Saguier). Art treasures (64) Stairway of the prophets (Brazil).

April

YOUR HEART IS YOUR HEALTH (M. Candau). The heart, yours for life (Z. Fejfar). Heart disease (J. Lenègre). Geography of heart disease (A. Shaper and Z. Fejfar). Results of an inquiry in Sweden (G. Tibblin) and in the U.S.A. (D. Behrman). Exercise vs. heart trouble (E. Chazov). Futurology looks at heart disease (G. Teeling-Smith). Medicines of the future (I. Shkhvatsabaya). Art treasures (65) Ancestor image (New Hebrides).

May

UNDERWATER ARCHAEOLOGY (M. Barinov). Underwater archaeologist (G. Bass). Wreck sites in the Mediterranean. Under the seas of northern Europe (O. Crumlin-Pedersen). Treasure of the Spanish Main (M. Peterson). Enigma of the Bahamas. Drowned city of Port Royal (R. Marx). Sacred well of Chichen-Itza (P. Romero). Deep water archaeology (W. Bascom). Art treasures (66) Pre-Columbian pottery (Argentina).

June

FAILURE IN SCHOOL (L. Fernig). Obstacles to success in school (H. Passow). Letter to a teacher. Wastage in education (G. Bréis). Primary school drop-outs. Philippines' do-it-yourself schools

(P. Orata). Unesco youth forum (T. Lemaesquier). Schools of the Soviet north (T. Rytkeu). Art treasures (67) Buddha (Afghanistan).

July

BOOK, DEAR FRIEND (J. Adoum). Books people read (E. Wegman). Ways to promote reading (C. Fitouri). Renaissance of Arab literature (P. Ouannès). Micro-size books (H. Brabyn). University presses (M. English). Copyright revision (G. Ravelonanosy). Art treasures (68) Book of Kells (Ireland).

August-September

THE EMERGENCE OF MAN (W. Howells). Life of stone-age man (F. Bordes). Our African ancestors (L. Leakey). Cave wall art (A. Leroi-Gourhan). Long journey of the primates (J. Napier). Where the first Americans came from (J. Comas). Early man and emergence of races (V. Yakimov). Puzzle of Peking man (P. Leroy). Origins of speech (V. Bunak). New science of prehistory (L. Leakey and V. Goodall). The Piltdown man forgery. Reconstructing our ancestors' heads (M. Gerasimov). Unesco symposium on homo sapiens. Art treasures (69) Lady of Brassempouy (France).

October

SRI AUROBINDO & AUROVILLE (K.R. Srinivasa Iyengar). The ideal of human unity (Sri Aurobindo). Traditional African music (F. Bebey). Kirghizia (C. Aitmatov). Taxila, ancient university centre (S. Naqvi). Unesco, publisher to the world (B. Werther). Art treasures (70) Diana the huntress, mosaic (Tunisia).

November

WORLD INQUIRY INTO EDUCATION (A. Brock). Education and the destiny of man (E. Faure). Anatomy of a crisis. Britain's open university. China's revolution in learning. 21 point strategy for education. Philadelphia's school without walls. Children's art. Garden for the blind. Art treasures (71) Neolithic pottery (Romania).

December

ART OF THE BOOK — ANCIENT CHINESE ART. The birth of paper and printing in China (Tsuen-Hsuei Tsien). New archaeological discoveries in China (Hsiao Wen). Pre-Columbian books in America (M. Asturias). History of text and image (G. Blanchard). The art of the book (A. Sidorov). Art treasures (72) Sumerian books in clay (Iraq).

Where to renew your subscription and order other Unesco publications

Order from any bookseller, or write direct to the National Distributor in your country. (See list below; names of distributors in countries not listed will be supplied on request.) Payment is made in the national currency; the rates quoted are for an annual subscription to THE UNESCO COURIER in any one language.

*

— **AUSTRALIA.** Publications: Educational Supplies Pty. Ltd., P.O. Box 33, Brookvale, 2100, NS; Periodicals: Dominie Pty. Limited, Box 33, Post Office, Brookvale 2100, NSW. Sub-agent. United Nations Association of Australia, Victorian Division 5th floor, 134/136 Flinders St., Melbourne (Victoria), 3000. (\$ Aus 3.60) — **AUSTRIA.** Verlag Georg Fromme & Co., Arbergasse 1-7, 1051, Vienna (AS 110). — **BELGIUM.** "Unesco Courier." French edition and general Unesco publications agent: Jean de Lannoy, 112, rue du Trône, Brussels 5. CCP 3380.00. "Unesco Courier" Dutch edition only: N.V. Handelsmaatschappij Keesing, Keesinglaan 2-18, 2100 Durne-Antwerpen. (250F belges) — **BURMA.** Trade Corporation N° (9), 550-552 Merchant Street, Rangoon. — **CANADA.** Information Canada, Ottawa, (Ont.) (\$ 5.00). — **CEYLON.** Lake House Bookshop, Sir Chittampalam Gardiner Mawata, P.O.B. 244 Colombo 2. (Rs 25). — **CYPRUS.** "MAM", Archbishop Makarios 3rd Avenue, P.O. Box 1722, Nicosia. — **CZECHOSLOVAKIA.** S.N.T.L., Splena 51, Prague 1 (permanent display); Zahranicni literatura, 11 Soukenicka Prague 1. For Slovakia only: Nakladatelstvo Alfa, Hurbánovo nám. 6 Bratislava. — **DENMARK.** Ejnar Munksgaard Ltd., 6, Nørregade, 1165, Copenhagen K. (Dan. Kr. 27.00) — **EGYPT (ARAB REPUBLIC OF).** National Centre for Unesco Publications, N° 1 Talaat Harb Street, Tahrir Square, Cairo; Librairie Kasr El Nil, 38, rue Kasr El Nil, Cairo. (L.E. 35). — **ETHIOPIA.** National Commission for Unesco, P.O. Box 2996, Addis Ababa. — **FINLAND.** Akateeminen Kirjakauppa, 2 Kesäkatu, Helsinki (Fmk. 13.90). — **FRANCE.** Librairie de l'Unesco, 7-9, place de Fontenoy, 75-Paris-7°. C.C.P. 12598-48 (17 F). — **GERMANY.** All publications: Verlag Dokumentation, Postfach 148, Jaiserstrasse 13, 8023 München-Pullach. For the Unesco Kurier (German only) Bahrenfelder-Chaussee 160, Hamburg-Bahrenfeld, C.C.P. 276650 (DM 16). — **GHANA.** Presbyterian Bookshop Depot Ltd., P.O. Box 195, Accra; Ghana Book Suppliers Ltd., P.O. Box 7869, Accra; The University Bookshop of Ghana, Accra; The University Bookshop of Cape Coast, The University Bookshop of Legon, P.O. Box 1, Legon. — **GREAT BRITAIN.** See United Kingdom. — **GREECE**

Librairie H. Kauffmann, 28, rue du Stade, Athens; Librairie Eleftheroudakis, Nikis 4, Athens. — **HONG-KONG.** Swindon Book Co., 13-15, Lock Road, Kowloon. — **HUNGARY.** Akadémiai Könyvesbolt, Váci u. 22, Budapest V; A.K.V. Könyvtársok Boltja, Népköztársaság utja 16, Budapest VI. — **ICELAND.** Snaebjörn Jónsson & Co., H.F., Hafnarstraeti 9, Reykjavik. — **INDIA.** Orient Longman Ltd., Nicol Road, Ballard Estate, Bombay 1; 17 Chittaranjan Avenue, Calcutta 13; 36a, Anna Salai, Mount Road, Madras 2; B-3/7 Asaf Ali Road, New Delhi 1; Sub-Depots: Oxford Book & Stationery Co. 17 Park Street, Calcutta 16 and Scindia House, New Delhi; Publications Section, Ministry of Education and Youth Services, 72 Theatre Communication Building, Connaught Place New Delhi 1. (Rs. 18.75). — **INDONESIA.** Indira P.T., Djl. Dr. Sam Ratulangi 37, Djakarta. — **IRAN.** Iranian National Commission for Unesco, Avenue Iranchahr Chomali No 300, B.P. 1533, Teheran. — **IRAQ.** McKenzie's Bookshop, Al-Rashid Street, Baghdad; University Bookstore, University of Baghdad, P.O. Box 75, Baghdad. — **IRELAND.** The National Press, 2, Wellington Road, Ballsbridge, Dublin 4. — **ISRAEL.** Emanuel Brown, formerly Blumstein's Bookstores, 35 Allenby Road and 48, Nachlat Benjamin Street, Tel-Aviv; 9, Shlomzion Hamalka Street Jerusalem. (24 I.L.). — **JAMAICA.** Sangster's Book Stores Ltd., P.O. Box 500, 101 Water Lane, Kingston. — **JAPAN.** Maruzen Co. Ltd., P.O. Box 5050, Tokyo International 100-31 (Y1, 440). — **KENYA.** The E.S.A. Ltd., P.O. Box 30167, Nairobi. — **KOREA.** Korean National Commission for Unesco, P.O. Box Central 64, Seoul. — **KUWAIT.** The Kuwait Bookshop Co., Ltd., P.O. Box 2942, Kuwait. — **LIBERIA.** Cole and Yancy Bookshops Ltd., P.O. Box 286, Monrovia. — **LIBYA.** Agency for Development of Publication & Distribution, P.O. Box 34-35, Tripoli. — **LUXEMBURG.** Librairie Paul Bruck, 22, Grand-Rue, Luxembourg. — **MALAYSIA.** Federal Publications Sdn Bhd., Balai Berita, 31, Jalan Riong, Kuala Lumpur. — **MALTA.** Sapientia's Library, 26 Kingsway, Valletta. — **MAURITIUS.** Nalanda Company Ltd., 30, Bourbon Street, Port-Louis (Rs. 17.45). — **MONACO.** British Library, 30, Blvd des Moulins, Monte-Carlo. — **NETHERLANDS.** Agent for all Unesco publications: N. V. Martinus Nijhoff, Lange Voorhout, 9, The Hague. "Unesco Courier" Dutch edition only: N.V. Internationale Uitgevers-En Handelsmaatschappij Systemen Keesing, Ruysdaelstraat 71-75, Amsterdam Zuid. (fl. 17.50) — **NETHERLANDS ANTILLES.** G. C. T. Van Dorp & Co. (Ned Ant.). N. V., Willemstad, Curaçao. N. A. (NA fl. 7.80). — **NEW ZEALAND.** Government Printing Office, Government Bookshops at: Rutland Street, P.O. Box 5344, Auckland; 130, Oxford Terrace, P.O. Box 1721,

Christchurch; Alma Street, P.O. Box 857, Hamilton; Princes Street, P.O. Box 1104, Dunedin; Mulgrave Street, Private Bag, Wellington (\$ 3.00). — **NIGERIA.** The University Bookshop of Ife, The University Bookshop of Ibadan, P.O. Box 286; The University Bookshop of Nsuka, The University Bookshop of Lagos, The Ahmadu Bello University Bookshop of Zaria. — **NORWAY.** All publications: Johan Grundt Tanum (Booksellers) Karl Johans gate 41/43, Oslo 1. For Unesco Courier only: A.S. Narvesens Litteraturjeneste, Box 6125, Oslo 6 (K.23,00). — **PAKISTAN.** The West-Pak Publishing Co. Ltd., Unesco Publications House, P.O. Box 374 G.P.O., Lahore; Showrooms: Urdu Bazaar, Lahore, and 57-58 Murree, Highway, G/6-1, Islamabad. Pakistan Publications Bookshop, Sarwar Road, Rawalpindi; Paribagh, Dacca. Mirza Book Agency 65 Shahrah Quaid-e-azam, P.O. Box N°, 729, Lahore-3 — **PHILIPPINES.** The Modern Book Co., 926 Rizal Avenue, P.O. Box 632, Manila D-404. — **POLAND.** All publications: ORWN PAN Palac Kultury i Nauki, Warsaw. For the Unesco Courier only: RUCH, ul. Wronia, 23, Warsaw 10. — **PORTUGAL.** Dias & Andrade Ltda, Livraria Portugal, rua do Carmo 70, Lisbon (Esc.105). — **SINGAPORE.** Federal Publications Sdn Bhd., Times House, River Valley Road, Singapore 9. — **SOUTHERN RHODESIA.** Textbook Sales (PVT) Ltd., 67 Union Avenue, Salisbury. — **SUDAN.** Al Bashir Bookshop, P.O. Box 1118, Khartoum. — **SWEDEN.** All publications: A/B C.E. Fritzes Kungl. Hovbokhandel, Fredsgatan 2, Box 16356, 10327 Stockholm 16. For the Unesco Courier: Svenska FN-Förbundet, Vasagatan 15, IV 10123, Stockholm 1 Postgiron 18 46 92 (Kr. 18). — **SWITZERLAND.** All publications: Europa Verlag, 5 Rämistrasse, Zürich. Librairie Payot, rue Grenus 6, 1211, Geneva 11, C.C.P. 12-236 (Fr. S. 16.). — **TANZANIA.** Dar-es-Salaam Bookshop, P.O.B. 9030 Dar-es-Salaam. — **THAILAND.** Suktapan Panit, Mansion 9, Rajdamern Avenue, Bangkok. (71.00 baht). — **TURKEY.** Librairie Hachette, 469 Istiklal Caddesi, Beyoglu, Istanbul. — **UGANDA.** Uganda Bookshop, P.O. Box 145, Kampala. — **SOUTH AFRICA.** All publications: Van Schaik's Bookstore (Pty) Ltd., Libri Building, Church Street, P.O. Box 724, Pretoria. For the Unesco Courier (single copies) only: Central News Agency P.O. Box 1033, Johannesburg. **UNITED KINGDOM.** H.M. Stationery Office, P.O. Box 569, London, S.E.1., and Government Bookshops in London, Edinburgh, Cardiff, Belfast, Manchester, Birmingham, Bristol (£1.30). — **UNITED STATES.** Unesco Publications Center, P.O. Box 433, New York, N.Y. 10016 (\$ 5). — **U.S.S.R.** Mezhdunarodnaja Kniga, Moscow, G-200. — **YUGOSLAVIA.** Jugoslavenska Knjiga, Terazije, 27, Belgrade; Drzavna Zaluzba Slovenije Mestni Trg. 26, Ljubljana.



Photo © Dominique Darr, Paris

AZTEC DAY OF THE VULTURE AND DAY OF THE RABBIT

With their rich colours and vivid drawings the illuminated manuscripts of the Aztecs, of Mexico, rank high among the finest artistic creations of pre-Columbian civilizations (see article page 27). One of the most interesting of these manuscripts is the *Codex Borbonicus* (named from the Palais Bourbon, seat of the French National Assembly in Paris, where it is preserved). A calendar drawn up for the purpose of ritual and divination, it covers a strip of fibre paper 14 metres (46 ft) long, inscribed on both sides and folded into accordion pleats to make a 38 page book. Each of the first 20 pages covers a 13-day "week". Above, a page from the manuscript showing a 13-day week beginning with the Day of the Vulture (bottom left) and ending with the Day of the Rabbit (top right). Divided into 20 units of 13 days, the sacred year thus formed a 260-day cycle as compared

with the 365-day year of the Aztec civil calendar. Each day in the sacred almanac is indicated by two squares in the frieze, one for the day and the other for the night. The presiding god of each day is shown with his own bird symbol — the eagle for the sun god, the owl for the god of death, and so on. Days are numbered from 1 to 13 by a series of large red dots. As shown here, the days and nights are laid out in an inverted "L" shape so as to leave a large square (here enclosed by a blue border symbolizing water). Within the square are portrayed the presiding gods of the 13-day week — the sun god Tonatiuh (left) and Quetzalcoatl (right) shown in his incarnation as the dog-headed Xolotl, wearing a pectoral, "the jewel of the wind" in the form of a shell. Inscriptions in Spanish were added during the early days of the Spanish conquest.