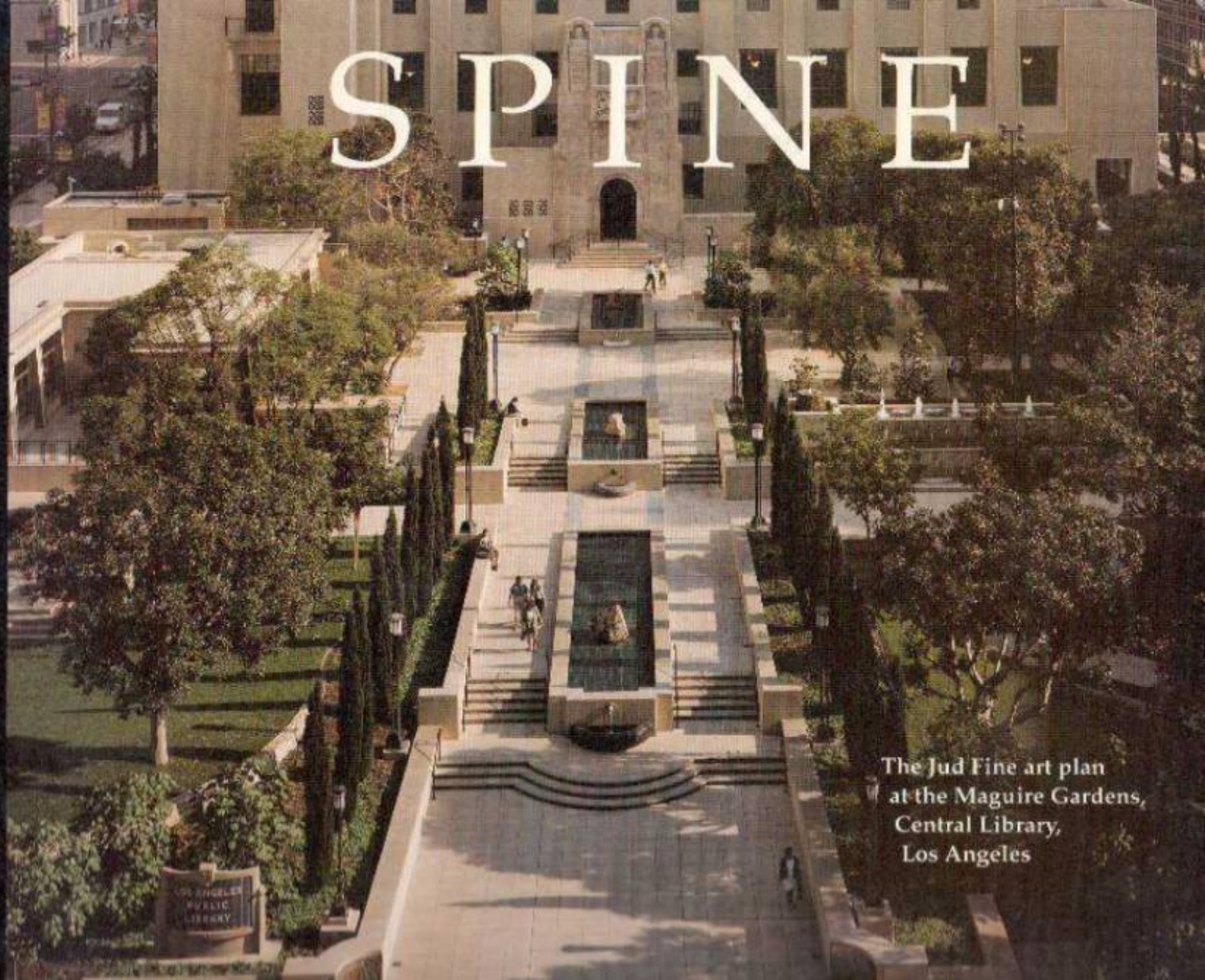
SPINE



The Jud Fine art plan
at the Maguire Gardens,
Central Library,
Los Angeles

SPINE

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An account of the
Jud Fine art plan
at the Maguire Gardens
Central Library, Los Angeles

by
Jud Fine and Harry Reese

Los Angeles Library Association
1993

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FOREWORD

This book was written in response to a demand: "What does it mean?" The "it" in question refers to the art plan, *Spine*, installed in the Maguire Gardens at the Los Angeles Public Library's Central Library. During the several years before the art was installed in 1993, the design concept had to pass through various government committees and citizen groups whose reviews were necessary to the plan's approval. A repeated comment was that there would be a need for some sort of documentation of sources and specific references explaining the images. When the Central Library opened in October of 1993, this prediction was confirmed by questions from the public. Preparation of this book, as a response, has been extremely gratifying for us, not only because we wanted to share the scope and integrity of the conception, but also because the demand to do so has come from the public.

When the project for the Maguire Gardens (then known as the "West Lawn" of the Central Library) was awarded to Jud Fine, his reaction was one of elation; but elation was quickly replaced by disappointment. Disappointment because the programmatic constraints made it at first appear that all the artist could provide would be surface decoration. The overriding programmatic condition for the West Lawn was that the three central pools rising in steps from Flower Street to the entrance of the Library were to be re-built without alteration, exactly as they originally had been designed by Bertram Grosvenor Goodhue. This mandate precluded any physical alteration to the previously-designed site plan.

The artistic and practical response was that this "no alterations" constraint did not preclude "additions." It was a given, however, that any additions would have to be in the spirit of Goodhue's original design. Fortunately, Bertram Goodhue, posthumously, came to our aid. First and foremost, Goodhue was an architect who believed in a collaborative process of architecture. Goodhue believed that a public building should, from inception, be the result of a merging of the ideas and skills of architect, sculptor, painter, and conceptualist. Goodhue was perhaps unique among early twentieth-

century architects in embracing and exploiting the benefits of collaborative effort. In addition, in the 1920s, Goodhue, together with sculptor Lee Lawrie and philosopher Hartley Burr Alexander, had designed only one artwork for the West Lawn area. "The Well of the Scribes" (since lost) was a bronze relief, based on writers, writing, and historical codification across the world and throughout history, that anchored the three pools at the Flower Street entrance to the gardens. For the 1990s update, we determined that this concept would be the basis for extension.

The final product is an art plan that we think Bertram Goodhue would have appreciated. Appropriately, a comment made about the plan at an early public review meeting was, "This is extraordinary; you have successfully collaborated with a dead architect." Whether this is true or not is open to debate; but, at the very least, we tried to stay true to Goodhue's original concept while acknowledging the wealth of history, attitudes, and information that have accumulated since 1924.

Upon determining the basic outline for the extension of the Goodhue plan, it became immediately apparent to Jud Fine that the work could not be accomplished alone. Although much that would be built and placed ultimately would be the product of personal opinion and aesthetic decision, it still needed to be accurate. This called for an expertise that was beyond the artist. Harry Reese was invited to fulfill the role of collaborator on the contents of the steps, a role that immediately expanded to become that of Jud Fine's equal collaborator on the entire conceptual framework of the art plan. Harry Reese provided much of the breadth, scope, nuance, and (given the depth of research required) editorial clarity of the final art plan.

It is now appropriate to turn this "Foreword" to acknowledgements. An artwork stands on its own. Its physical/visual content is revealed over time. It is not necessary that its meaning be explained or its creators be acknowledged. If this were to be a prerequisite to its perception, then the work would be a failure. What is written here, however, is not the art of *Spine*, but a book about the relevant texts and the decisions and processes through which the art came to be. The book also provides an occasion to acknowledge not only those who contributed to the book's production, but also the collaborators on the artwork—the people who set the stage for the work (and, therefore, the book) to happen.

First to be acknowledged are the people who created what is seen. Jeff Sanders built the post-literate scallop, the connections for all the spouts, and the attachment for the Peregrine falcon. Jeff Kalstrom flew out from Duluth, Minnesota, to sculpt the clay models of the Peregrine falcon, the California Newt, the "Well of the Scribes," and the individual bones of the Labyrinthodont. Steven Kafer modelled the Rhipidistian fish head and oversaw production on the Mitla ceramic niche. Barbara McCarren was an omnipresent influence on the conceptual, as well as the specific physical, decisions about this

project. In addition, others gave their energy and time, way beyond remuneration: Henry Rivera, stone mason; Susan Jenkins, researcher; Randy Montgomery, sandblaster; Jerry Sebby, large stones; Ian McTavish and Image Casting, bronze and stainless steel castings; Youngmin Kim and Wontronics, photoengravings; John Cotsis, mold-making; Sandra Reese, image generation; Tim Doyle, bronze casting; and Hunter Fine, patience.

This project would never have been completed without the initial faith and support of Maguire Thomas Partners, specifically MTP vice president, Jim Anderson, who never waivered from the initial plan in the face of compromise, and Bob Goodwin, who, as West Lawn construction manager, both set the stage for the art plan and acted as stage manager, making the hard decisions, at points of conflict, that allowed this work to exist in correct form. John Kurzeka, Dave Johnson, and Mike Laughlin, of Illig Construction Company, are especially to be thanked for getting the stage built. This project was selected as part of the Community Redevelopment Agency's "Percent for Art" program, directed by Mickey Gustin. She, her staff, and her jurors were steadfast supporters over the years.

Most importantly, there must be a special acknowledgement to certain people who worked behind the scenes for more than ten years to make the rehabilitated and expanded Central Library, its garden, and the attendant garden artwork a reality: notably, Robert F. Maguire III, James A. Thomas, Nelson C. Rising, Edward D. Fox, Jr., Richard I. Gilchrist, the West Lawn Coalition and, in particular, John H. Welborne.

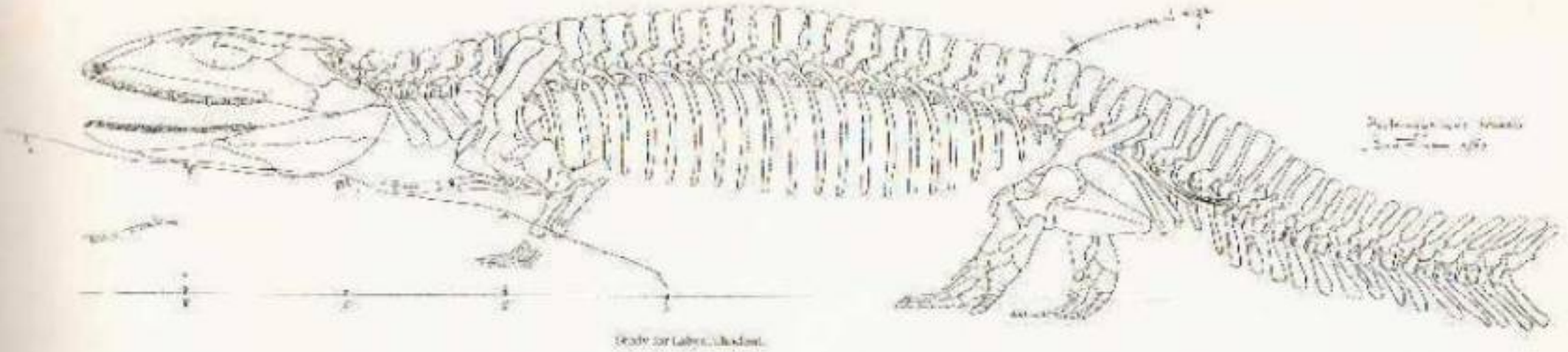
Finally, there are those who aided in the realization of this book. We are indebted for the thoughful reviews of chaotic text, some in very early versions, by John Welborne, John Pollini, Barbara McCarren, Romaine Ahlstrom, and David Lance Goines. Jerry McMillan provided not only the final design, but also a calming patience in the face of incredible haste. We are equally grateful to: Harry Montgomery, at Typecraft, Inc.; Ron Carey, for help with digital images; Jay Venezia, for photographs; Ariel Preston, for obtaining permissions; and, lastly, Sandra Reese, for her papyrus cover design of the special edition and for her tireless effort and enthusiasm.

In conclusion, it is important for the reader to note that this book is not a work of scholarship. It is a book that simply recounts and explains the information gathered, the reasons for the direction of the research, and the processes and decisions that comprise the background and the basis for the art plan. Throughout the process of creating *Spine*, we made decisions on content, on material used, and on interpretations that at times were highly personal or based on our perceived aesthetic needs. In the end, of course, the artwork will stand or fall on its own.

Jud Fine & Harry Reese
December 1993

CHAPTER ONE CONCEPT

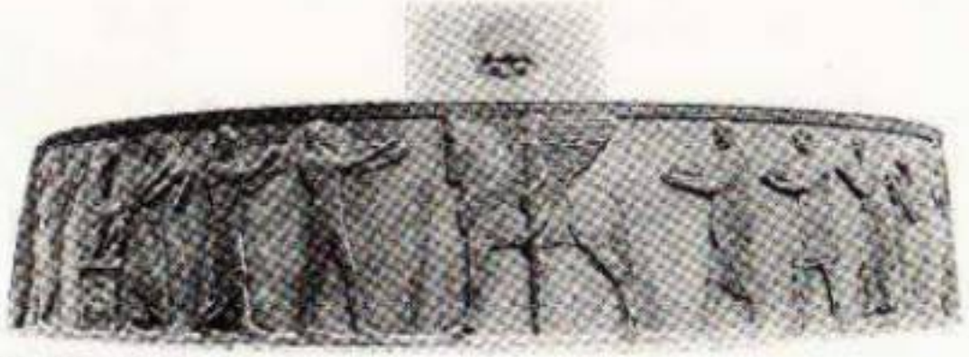

LOS ANGELES
PUBLIC
LIBRARY



THE INSTALLATION BY JUD FINE IN THE MAGUIRE GARDENS is called *Spine*, a title which immediately brings several confluent ideas to mind. The "spine" is the fundamental unit of a body that gives it the strength and support to stand on its own. The spine begins where the brain leaves off. The electricity of the body flows through it. Fishes, amphibians, reptiles, birds, and mammals are all classified together because of the commonality of the spine. Structurally, the spine also refers to the anatomy of a book. A book is identified by the name running down its spine. The spine separates the front from the back, and at the same time it hinges them together. It is the central nervous system of the book.

The organizing principle of *Spine* is based on the analogy of the structure of a book. At the present time, the book is the predominant social metaphor for thought, knowledge, and learning. The components of the art installation allude to both the physical and metaphorical descriptions of books. Conventions from the anatomy of the book form—such as endsheets, frontispiece, title page, book pages, type fonts, footnotes—and recognizable traits of generic "bookness"—such as sequence, spatial separation, narration, plot, sub-plot, contextual connections, illustrations—run throughout the site. To extend the analogy, if one stands on Flower Street and faces the Library, the installation opens like a book laid on its spine.

Like a book, the site can be read. The two extreme scalloped entry points flank the entrance physically like endsheets and function for the work as a frontispiece, giving a premonition of what is to follow: graphically, conceptually, and materially. The "Well of the Scribes"—which echoes the intellectual pattern established by Bertram Grosvenor Goodhue, the architect of the original library which opened in 1926—can be seen as the title page. The step risers, with their text composition, are like pages. They reveal their particular information the way a book unfolds through time and space in a gradual sequence and chronology. The succession of three pools



Original "Pictorial Calculus."

offers a kind of plot structure; one can easily divide them into three interrelated chapters, each with its distinctive imagery and characters. Water circulates through the pools like the continuous narrative flow of time. Just as the act of reading is a discovery that takes place over a period of time, so the Grotto Fountain area can be viewed as both a narrative flow and a narrative reveal. The entire site, like a book, cannot be comprehended all at once. It must be read.

Written information is intended to communicate ideas or stories about the lives of the people who recorded it. The visible shape of communication serves as a vehicle for the transmission of thought or feeling. Throughout its relatively short span of recording information, the human race has adopted a range of methods for making records and communicating its marks and experiences to others. Technical activity (hunting, fishing, food gathering, and making clothing, weapons, and shelter) probably is the most primitive activity of human beings. The mysterious phenomenon of invention accompanies all technical achievement. An urge to preserve and celebrate those achievements characterizes civilization. Our knowledge of other people and institutions depends in large part on the character of the media used by them. Writing on clay or stone, for example, has been preserved more efficiently than writing on papyrus. The kind of visual communication a society evolves, or chooses, depends on the tools and techniques the society has mastered. At the same time, the use of a medium of communication over a long period of time will determine the character of knowledge to be communicated. Oral narrative is not necessarily concerned with sequential progression. An unfolding of sequential layers in linear progression is a product of literacy, and is essentially book-like in structure. Books continue to be the most efficient way for organizing and disseminating information. It is entirely fitting, therefore, that the most important resource used for the research for *Spine* has been the library. As the Chinese scholar Lu Chi recalled in his fourth century A.D. book, *The Art of Writing*: "When cutting an axe handle with an axe, surely the model is at hand."

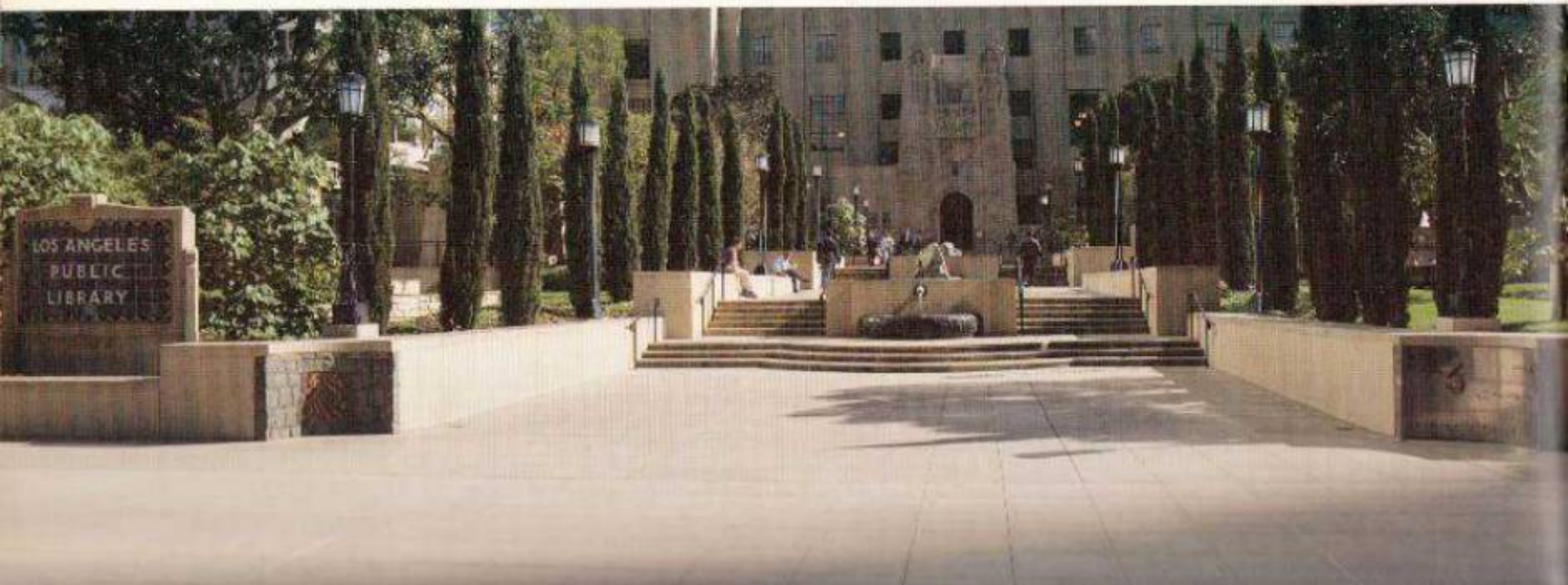
Spine presents an anthology of fabricated artifacts and graphic evidence which is part research, part anecdote, and part opinion. A mosaic approach, as used here, can only scratch the surface of the biological and technological environments in which the artifacts and other evidence flourished. Choices and selections were made based upon what could be found, what could be reproduced reasonably, and what ultimately made editorial sense. An organizing intent was to represent the cultural and geographic diversity that the modern library depends upon in its efforts to store information, encourage learning, and understand the global environment.

Decisions had to be made. References to the accomplishments of past civilizations rarely include mention of the massive destruction and pillage that almost always seem to accompany cultural domination and control of territory. Without oversimplifying, there was an essential need to present both the creative and destructive aspects of civilization. People have been identified throughout history by where they live, by their tribal and ethnic heritage, and by their languages. With conquest and colonization comes the re-naming of places, territories, and countries. Context has always been the great problem of understanding. For example, when prehistoric rock-carvings predate all subsequent settlements that have inhabited a particular geographical area, how does one select a name to refer to that location? In *Spine*, the listing of names for places, people, and their languages has been based on a common sense approach, not a scholarly or scientific one. Various names can be identified by

looking at a current map or encyclopedia, even if it means adopting post-colonial terminology at times.

Languages have changed not just to develop the ease of communication, but also to conceal what people want to keep private. Languages serve to protect special groups, perpetuate privacies of speech, obscure mysteries of initiates, and hide secret meanings. All languages—oral, pictorial, written, coded, or phatic—are multilayered. Quite often the graphic picture of a language has provided the initial phase in understanding the context of a culture. To a large extent, it can be said that humanity is language and that the world is made of language. As technology changes, and as established languages adapt to new demands, changes in human perception are inevitable. The graphic representation of communication provides links for comprehending those changes. Writing codifies pictographs. Print imitates handwriting. The computer image recapitulates the scratch on the cave wall. In its purest form, the model of the book is a phenomenon of space and time. With each turn of a page, the previous page passes into memory and the reader is confronted by a new world. Books provide what talk and memory cannot. Books unlock the secrets of the past or at least send them along for future generations to decipher. As every new book unfolds, each viewer wanders through it, provoked to match personal, collective, and mythic experiences with those provided by the images and the texts.

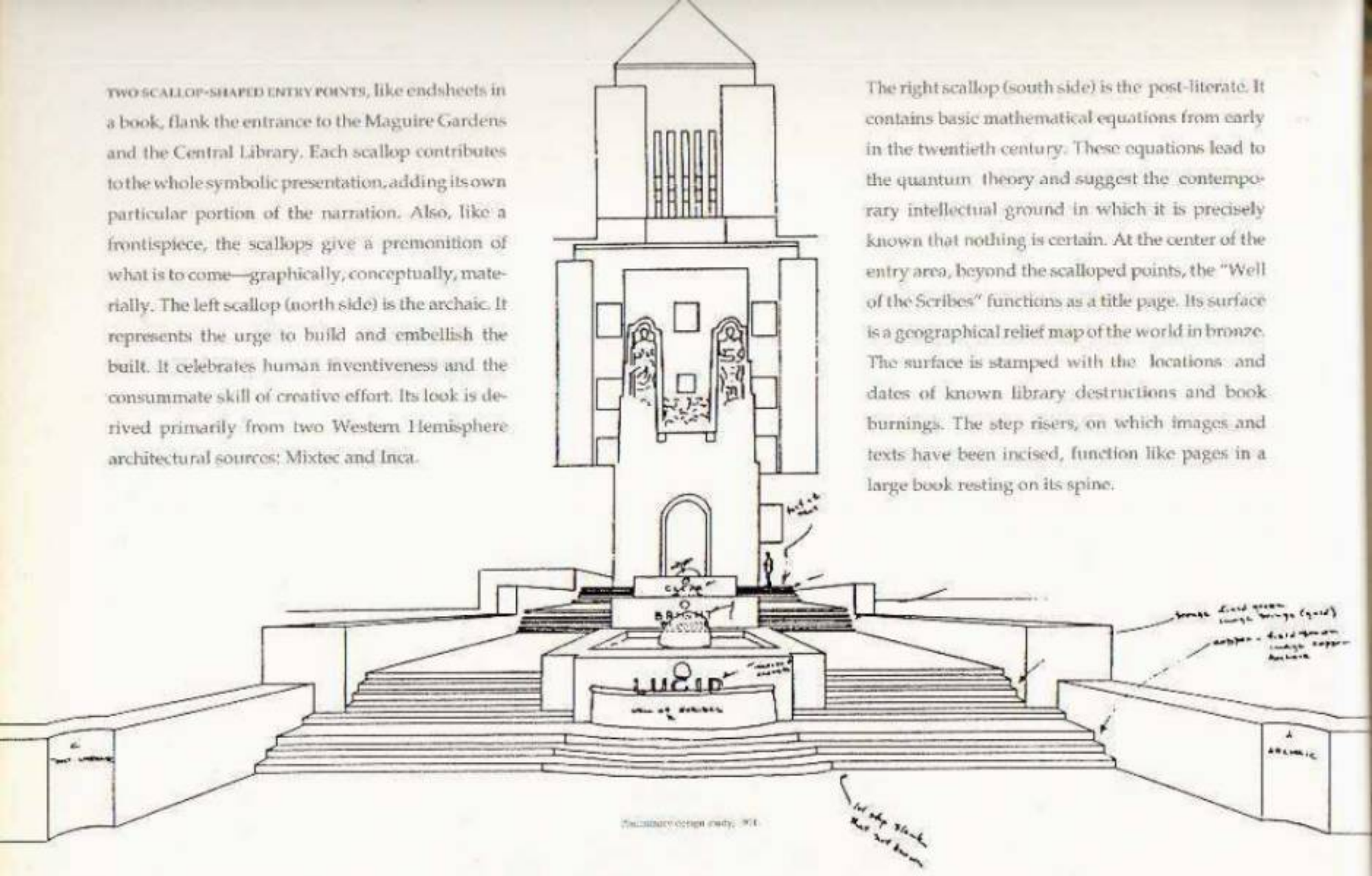
Maguire Gardens over Flower Street



CHAPTER TWO ENTRY

TWO SCALLOP-SHAPED ENTRY POINTS, like endsheets in a book, flank the entrance to the Maguire Gardens and the Central Library. Each scallop contributes to the whole symbolic presentation, adding its own particular portion of the narration. Also, like a frontispiece, the scallops give a premonition of what is to come—graphically, conceptually, materially. The left scallop (north side) is the archaic. It represents the urge to build and embellish the built. It celebrates human inventiveness and the consummate skill of creative effort. Its look is derived primarily from two Western Hemisphere architectural sources: Mixtec and Inca.

The right scallop (south side) is the post-literate. It contains basic mathematical equations from early in the twentieth century. These equations lead to the quantum theory and suggest the contemporary intellectual ground in which it is precisely known that nothing is certain. At the center of the entry area, beyond the scalloped points, the "Well of the Scribes" functions as a title page. Its surface is a geographical relief map of the world in bronze. The surface is stamped with the locations and dates of known library destructions and book burnings. The step risers, on which images and texts have been incised, function like pages in a large book resting on its spine.



THE ARCHAIC SCALLOP IS ON THE LEFT SIDE. The central truncated rectangle is a variation on the stone mosaic work found at the Mixtec site at Mitla, outside Oaxaca, Mexico. It is constructed of individual interlocking units of solid high-fired stoneware. The surrounding area is primarily built of cut and shaped granite, which replicates Inca stonework. The left side has a more even course with variations in the vertical angles, while the right side is an apparently random organization that results in few parallel lines and has a multi-pointed key stone. The whole has been constructed with precise fitting using no mortar: basic Inca construction. The truncated niche is a typical Inca motif. The header or lintel is of bluestone (one of two types of stone found at Stonehenge). The two posts are of a purple-red southwest sandstone. It should be noted that one unit on the right is also of bluestone and not granite (a conceit that obliquely refers to the left-out "error" stitch in a Navajo blanket).

Detail of trapezoidal niche in the Kanchi palace, Cuzco, Peru.

The concept of a public library is quintessentially secular. Indeed, one might call it a shrine of secularity. It seemed appropriate to situate the new Archaic Scallop below the original mosaic library sign. Inspired by the most intricate and advanced stonework of Mesoamerica, the scallop is a metaphorical reference to the vast and dense cultures of that area. The stepped-fret designs found at Mitla are framed within the Inca trademark, the double-jambed trapezoidal niche. In a sense, the Inca are showcasing their brethren. The whole becomes a sort of monument to state-of-the-art western hemisphere architecture at the point that it was forever silenced by Spanish conquest.

The Incas were an austere mountain tribe, the Romans of the Andean world. An accident of history, Pizarro's invasion of Peru in 1532, froze the Inca world at its zenith and preserved an architectural legacy based technically and aesthetically on astounding stonework. All extant Inca architectural structures were built in a period of seventy to eighty years, following the Inca's last-ditch victory over the Chancas in 1438 and ending with the Spanish invasion. Prince Pachacati, a protean figure like Alexander or Napoleon who commanded the initial victory over the Chancas, directed the Inca's massive state building program.

There are four types of wall construction in Inca buildings: adobe bricks (*pirca*); rough fieldstones set in clay mortar; tightly fitting "polygonal" masonry; and "coursed" masonry. In polygonal

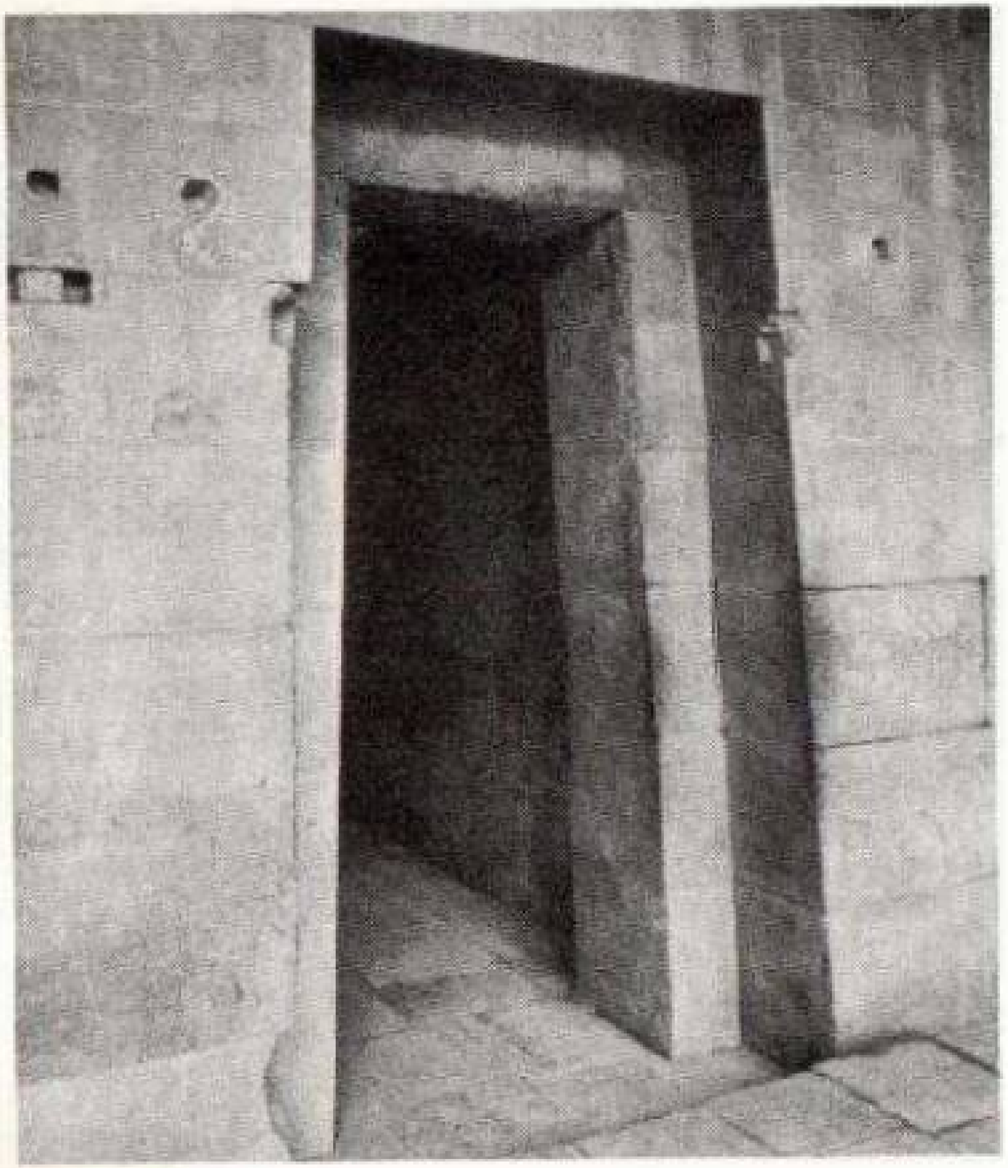
masonry the stones interlock at random. In coursed masonry rectangular ashlars are laid in even horizontal courses. In both the polygonal and coursed ashlar construction, what most impressed observers were the tight-fitting mortarless joints and the size of the stones. As the chronicler Bernábe Cobo (1639) marvelled: "These clearly show the human effort that must have been required to transport and erect them in their present positions. Even though these are so extraordinarily large, they are elegant and so finely positioned against one another, without mortar, that the joints are scarcely visible."

[illegible]

The intent in the Archaic Scallop was to place as many characteristic design motifs as possible within a limited format. On the left side is coursed masonry. The granite stones are set in horizontal rows which decrease in height as they ascend, with randomly spaced vertical cuts. On the right is polygonal masonry. The stones are randomly set and fitted. There is an acknowledgement here to the famous twelve-cornered stone in Hatun Rumiyoc, a palace built by the Inca Roca in Cuzco. *Spine's* stone is an eleven-cornered one that stands as an example with deference.

The Inca capital and center of their expansion was the city of Cuzco. During the eighty years of the "Cuzco" style (1450-1530), which extended from as far north as Ecuador to Bolivia in the south, the trapezoid was the predominant shape identifying the Inca. It was architecturally imposed as the seal of the conquering culture. All door, window, and niche openings were constructed in this shape. Hence, the left scallop uses the trapezoid as the window to Mitla and Mesoamerica.

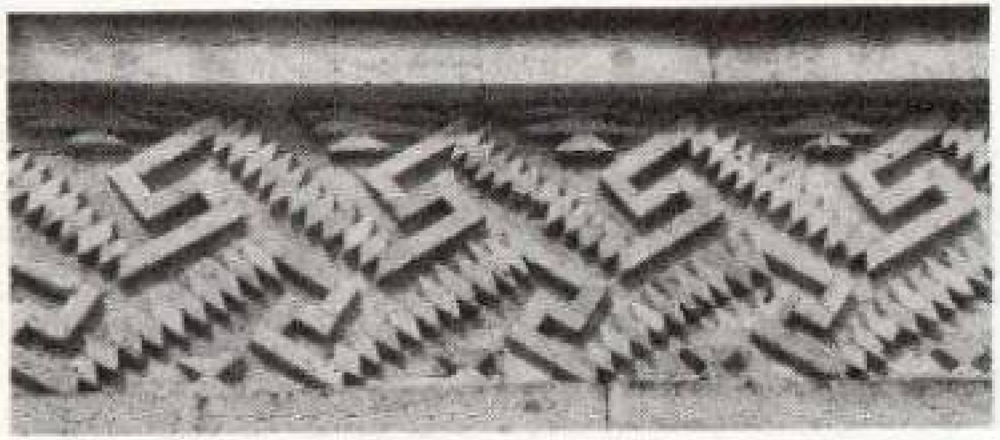
Another distinctive Inca characteristic was the double-jamb doorway, which was basically borrowed or absorbed from a previous building culture of some 300 years earlier—the Tiwanaku, of the Lake Titicaca region. Upon the Tiwanaku's rectilinear double-jambed openings, the Inca imposed the trapezoid. The left scallop also incorporates the double-jambed trapezoidal doorway motif by using truncated lintels of purple sandstone and an overriding header of bluestone. Technological inventions, large and small, are often mirrored globally by cultures which have no apparent contact with one another. The bluestone refers to a European connection, Stonehenge.



[illegible] trapezoidal door.

The stepped-fret designs found at Mitla are probably the finest in all of Mesoamerica. Mitla is located in the eastern part of the Oaxaca Valley, Mexico. It appears to have been continuously occupied since what is called the San José phase (1200 to 900 B.C.). With the demise

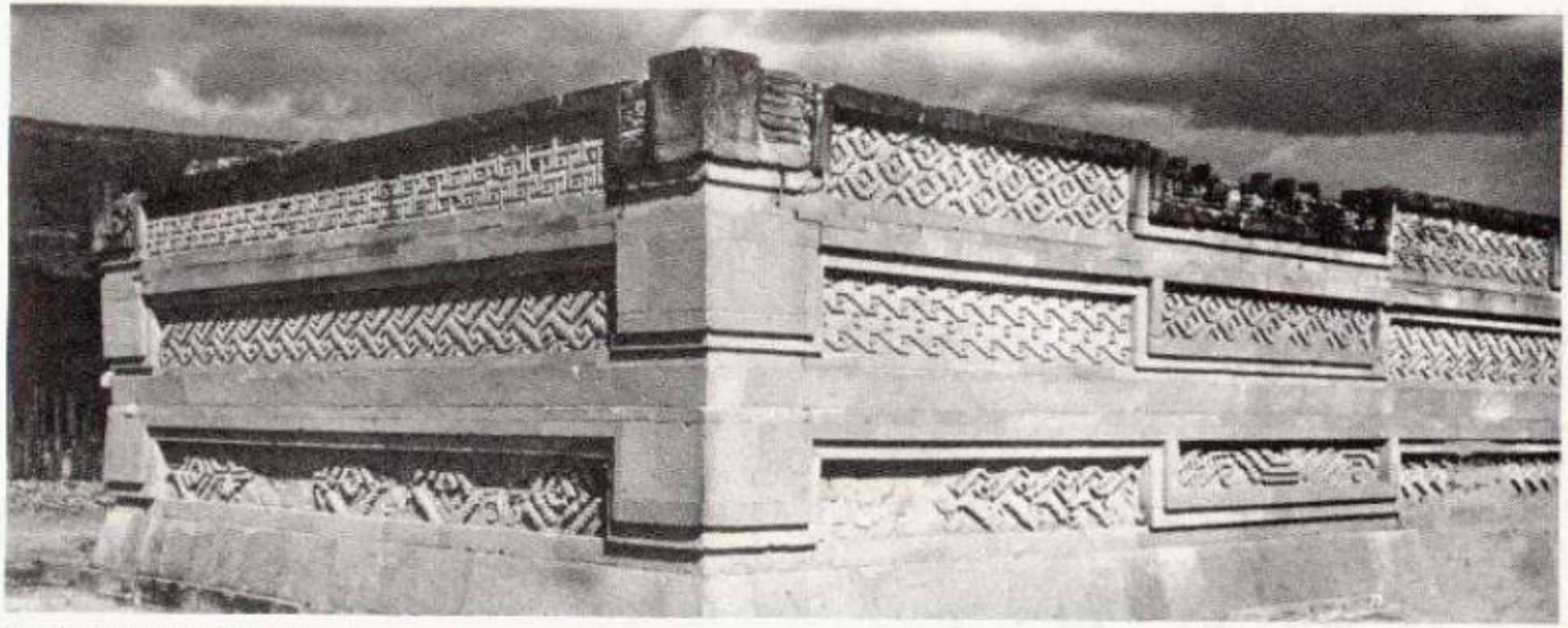
Stonehenge, Salisbury Plain, southern England, [illegible] B.C.



[illegible] stepped-fret designs [illegible] of Columns, Oaxaca, Mexico.

of the major Oaxaca center, Monte Albán, around A. D. 1000, Mitla became the new Zapotec capital city. By 1350, Mixtec rulers had replaced Zapotec chiefs. The Mixtec introduced new architectural ideas that found their ultimate expression at Mitla.

As one chronicler has noted: "Yet even more astonishing is the way the walls are made: we find here a degree of precision that is almost



Detail of Zapotec Grecas, Mitla, Palace of Columns.

unbelievable...cut and assembled with the delicate care of a goldsmith....Building stone was transformed at Mitla into a kind of lace work, resulting in elongated panels in which we can see as many as fourteen versions of the stepped-fret design so common in pre-Hispanic art and one of the favorite motifs in the ceramics of the region. These rich panels, worked in soft limestone, reflect a Maya influence."

The five groups of buildings at Mitla are overwhelmingly civic rather than religious in nature, conforming to the general trend of the post-classical time. The secular *greca* motif is prominent, and its presence indicates a close relationship among Oaxaca, Veracruz (Tajín), and Yucatán (Maya Puuc) sites. Indeed the Maya site of Uxmal post-dates Mitla and exhibits less refined versions of the Oaxacan site's stepped-fret designs.

The Archaic Scallop's Mitla reference was contructed with some 200 interlocking pieces of high-fired rough stoneware, rather than hand-cut limestone. The design has been altered to conform to the truncated Inca rectangle.

$$\Delta E \, \Delta \tau \cong \frac{h}{2\pi},$$

$$\Delta p \Delta d \cong \frac{h}{2\pi}$$

$$\frac{-h^2}{8\pi^2 m} \nabla^2(\psi) + V(\psi) = E(\psi)$$

$$\Delta E \Big|_{n}^{n'} = E_{n'} - E_n = \frac{2\pi^2 m e^4}{h^2} Z^2 \left(\frac{1}{n^2} - \frac{1}{n'^2} \right)$$

THE POST-LITERATE SCALLOP IS ON THE RIGHT SIDE. It contains basic mathematical equations that lead to the quantum theory, which signifies the condition of contemporary life because the theory essentially states that nothing is certain. The scallop is made of three overlapping stainless steel panels. Each panel is etched and black-infilled with an equation.

The equation on the lowest panel is the work of the Danish physicist, Niels Henrik David Bohr (1885-1962), which shows his 1913 assumption that atomic processes cannot be explained by classical laws alone. The middle panel gives an equation of the Austrian physicist Erwin Schrödinger (1887-1961), his 1926 research on "the probability atom." This work has been called "one of the most widely used tools of modern quantum theory." The top panel displays the "uncertainty principle" of the German physicist, Werner Heisenberg (1901-1976), which demonstrates that it is impossible to determine both the position and the momentum of a subatomic particle like the electron. This revelation reconfigured the principles of physics as relative probabilities rather than as absolutely certain laws.

The quantum theory and the theory of relativity together form the theoretical basis of modern physics. The quantum theory was developed principally over a period of thirty years through the efforts of many scientists. The first contribution was the explanation of black body radiation in 1900 by Max Planck. In 1905, Einstein proposed that radiation itself also is quantized according to this same formula, and he used the new theory to explain the photoelectric effect. Following the discovery of the nuclear atom by Rutherford (1911), Bohr used the quantum theory in 1913 to explain both atomic structure and atomic spectra, showing the connection between the electron's energy levels and the frequencies of light given off and absorbed.

Quantum mechanics, the application of the quantum theory to the motions of material particles, was developed during the 1920s. Two different formulations of quantum mechanics were presented. The wave mechanics formula of Erwin Schrödinger (1926) involves the use of a mathematical entity, the wave function, that has no direct physical interpretation yet yields correct physical results. The matrix mechanics formula of Werner Heisenberg (1925) makes no mention of wave functions, but was shown to be mathematically equivalent to Schrödinger's theory. The uncertainty principle, enunciated by Heisenberg in 1927, places an absolute theoretical limit on the accuracy of certain measurements; as a result, the assumption by earlier scientists that the physical state of a system could be measured exactly and used to predict future states had to be abandoned.

Finally, two chunks of pink quartz protrude from the post-literate panels. The quartz pieces are largely a personal, emotional, and aesthetic addition, as they soften the cold formulaic recitation of stainless steel and black text. They establish a material tie to the opposite scallop, and they reinforce the fact that all theoretical explanation comes from a close observation of the source.


BRIGHT

[illegible], Los Angeles Central Library, c. 1926.

THE "WELL OF THE SCRIBES" IS AT THE CENTER of the ascent into the gardens. This name was the title of the artwork (since lost) that originally graced this location. The name was retained in recognition of Bertram Grosvenor Goodhue, architect of the original Central Library building that still stands as backdrop to the Maguire Gardens. The original Well (illustrated on page 14) commemorated the scribes of all races and periods, ritually portrayed in the act of inscribing their records. An accompanying figure of Pegasus symbolized all that the Library represents. A book and type designer, as well as a distinguished architect, Goodhue used the Well to join narrative and symbolism: it referred to sculptural decorations and inscriptions which adorn the Library building. A ray-encircled book remains poised above the building's south terrace entrance and thematically unites the various components of the Goodhue design.

The conceptual basis for *Spine* extends from the desire to maintain the intention of the original concept and material of Goodhue's Well and to expand the concept to include a more exact history of the time before and after the original Well was installed. This intention is less naive than Goodhue's, a little more real, but no less mindful and descriptive of the fragility of knowledge. The concept of a well suggests many metaphorical possibilities, especially if the water continually flowing into it is supplied by three allegorical pools.

A well from which water is drawn conveys the idea of an inexhaustible dispensing of nourishment. Styles of architecture may vary, but

Study for Well of the Scribes world relief map

the shapes of wells have remained essentially the same from ancient times to this day. Thus the well is the symbol of that ideal social structure which, evolved by mankind for meeting a most basic need, should be independent of all political forms. Political structures change, as do nations, but the needs of human life remain eternally the same.

The original Central Library was built during a time of great development and expansion of literacy, reading, and the physical warehousing of information. The building of libraries in the twentieth century is unparalleled in history. At the same time, more libraries were destroyed during the twentieth century than ever were destroyed previously.

The new "Well of the Scribes," a geographical relief map of the world cast in bronze, recollects the lessons of the past, the importance of preserving and disseminating human knowledge, and the fragility of the capture and storage of that valued information. The bronze map is imprinted with the location names and dates of many of history's known library destructions and book burnings, both accidental and deliberate.

Creation, destruction, creation—the citations on this map affirm that a vibrant society is constantly re-building and expanding its sources of public knowledge and information dissemination. In all, reading from left to right, there are 45 citations on the Well of the Scribes. A listing of those names and places follows:

Los Angeles 1986
The first fire at the Los Angeles Central Library started shortly before 11:00 a.m. on Tuesday, April 29, 1986—the work of an arsonist who never has been apprehended. Before the fire ended, it had destroyed 370,000 documents and books; 700,000 more were damaged by water and threatened with rot (but, ultimately, most of those were saved). There was a second arson fire on September 3rd.

Peoria Public Library, Peoria, Illinois 1888
In 1888, the library was almost destroyed by fire and the water used to put out the fire.

Mercantile Library, Philadelphia 1877
The library and its collection were damaged in 1877 by water that was poured onto an adjacent burning building.

Yucatán 1562
On July 12, 1562, Diego de Landa, a Franciscan friar (illustrated on page 15), publicly burned a recently discovered repository of ancient hieroglyphic books in an attempt to eradicate Mayan heritage. This act was intended as a punishment for the Mayans' refusal to renounce their beliefs and convert to Christianity. Today, only three codices of unquestioned authority are known to exist, although it is thought that Mayan literature reached a very high degree of expression.

Brazil 1759
In 1759, José I, Emperor of Portugal, became the first monarch to expel the Jesuits from all his domains, ordering the destruction of all their writings and books.

Croyland Monastery Library, England 1092
A fire completely destroyed the library and its 700 books in 1092.

British Museum Library. London 1731
A fire on October 23, 1731, destroyed 114 manuscripts, the beginning of the museum's collection.

Free Library. Birmingham, England 1879
Destroyed by fire January 11, 1879.

Lorsch Monastery and Library. Germany 1091
The monastery and library were accidentally set on fire during a party on March 21, 1091. Everything was destroyed.

France 1790
In 1790, after monasteries were suppressed, about 25,000 Catholic manuscripts and 4,169,000 books were burned throughout the country.

Germany 16th century
At the time of Martin Luther, a popular revolt attacked hundreds of churches, palaces and monasteries—with books as the prime target. The rebellion was led by people who knew that debts they owed and obligations they had sworn were recorded in books and who burned the books to destroy these accounts.

Germany 1933
During the rule of the Third Reich, particularly in 1933, book burning occurred on a massive scale in order to destroy publications that were not consistent with the aims of the National Socialist government. Many libraries were also destroyed during World War II, including the Territorial and University Libraries in Kiel and Kassel, the City Library of Mainz, plus all the libraries in the city of Dresden. It is estimated that 23,000,000 to 75,000,000 books were destroyed in Germany during the first half of the 20th century.

Granada 1500
Cardinal Ximines found 3,000 copies of the *Koran* during the Spanish occupation of Granada, c. 1500, and had them all incinerated.

Cordoba 1492
The greatest and largest library in the world in its time was founded in 988 by Caliph Hakim II in Cordova, in Arabic Spain (conquered by Moors in 711). The library is said to have contained 400,000 to 600,000 books and to have attracted scholars from around the world until the Moors were expelled, and the library was destroyed, in 1492.

Nazi book burning, Berlin, May 10, 1933

St. Gall Abbey Library, Switzerland 937
In 937, the abbey and its library were set on fire by a student who was to be punished for his misdeeds. Almost all of the books were lost.

Cremona 1569
In 1569, 12,000 printed books in the Hebrew language were burned because their content was considered to be heretical.

Tunis 1536
When the city of Tunis was sacked in 1536 by Holy Roman Emperor Charles V of Spain, all books written in Arabic were burned.

Sarajevo 1992
As Serbian/Croatian peace talks got under way in London on August 26, 1992, the city of Sarajevo was pounded by the heaviest mortar and rocket attacks in several weeks. The main library was severely damaged by fire.

Damascus 1400
In 1400, the Mongolian forces of Tamerlane (d. 1405) set fire to the city of Damascus, making a point to burn Mosque libraries and their thousands of books.

Novalesa Monastery Library, Italy 905
The library of the Novalesa Monastery was destroyed by Saracens in 905. It was reported to have contained more than 6,500 volumes.

Nalanda University and Library, India 7th century
Famous throughout Asia, attracting students of philosophy from many distant kingdoms during the Gupta period (320-467 A.D.), this library was destroyed in the 7th century after constant attack by the Huns.

Odantapuri University and Library, India 8th century
Although the exact date of its establishment is unknown, the library and university existed in this important Buddhist city long before the Pala came to power in India in 730. It was a center of learning that reputedly served as a model for the first Tibetan monastery built in 749. The library and university were destroyed during the conquest of Muhammed Baktiyar Khilji. Turko-Afghans later raised a fortress on this site.

Sri Lanka 16th century
When the Portuguese invaded Sri Lanka (Ceylon) in the 16th century, they burned down many libraries and other institutions of culture.

China 213 B. C.
In 213 B.C., the Emperor Ch'in Shih Huang Ti ordered every page of writing in the empire to be burned publicly so that he could then rewrite history and make himself China's first emperor. A few pages of authentic historical accounts survived, and a more accurate Chinese history was restored.

Mandalay 1855
Many private and school libraries were burned when the Burmese city of Mandalay was captured by British forces in 1855. Some books survived, eventually making their way into Burma's first free public library, the Bernard Free Library, built in 1883.

Harvard Library, Cambridge, Massachusetts 1764
More than 500 volumes were destroyed in 1764 by fire. By 1790, the library had increased its holdings to between 12,000 and 13,000 books.

Library of Congress, Washington, D.C. 1851
More than half the collection was destroyed by fire in 1851. The library reopened in new quarters on August 23, 1853.

Lima 1881
In an 1881 dispute over territory, the Chilean army invaded Peru. During the occupation of Lima and under the direction of Pedro Lagos, the library was used as a barracks. 36,000 books and 8,000 priceless manuscripts, including every Peruvian publication since 1584, were used as toilet paper or thrown into the street.

St. Paul's Cathedral. London 1666
During the great fire of 1666, many private and church libraries were burned. In an attempt to save as many books as possible, the holdings of many of these libraries had been taken to St. Paul's Cathedral for safety, but this building, and its contents, also burned.

Canterbury Cathedral and Library. London 1174
The Cathedral and its library suffered three great fires. The first was in the eleventh century. The second was in 1168, the third in 1174. Each time the Cathedral and library were rebuilt.

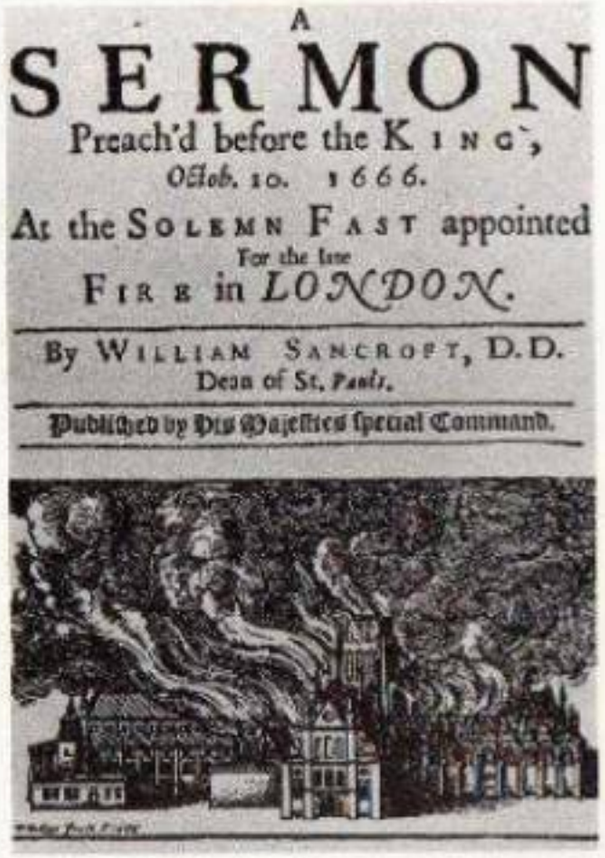
Gloucester Monastery and Library. England 1122
The entire monastery, including the library, was burned in 1122.

Belfast 1976
In 1976, a shop housing the largest commercial collection of antiquarian books in Northern Ireland was accidentally demolished by IRA terrorists who were trying to bomb the British Army observation post next door.

Strasbourg Library. France 1870
The library was set on fire by the German Army in 1870 during the Franco-Prussian War. Among the books and papers destroyed were the original court records of the lawsuit between Johann Gutenberg and his partners, thereby eliminating any hope of ascertaining to whom the invention of printing in the West is to be credited.

Paris 1242
In 1242, fanatic anti-Semites publicly burned twenty-four cart-loads of Hebrew manuscripts.

Mainz Cathedral Library. Germany 1793
The library was burned by Germans on June 28, 1793, when the city was bombarded during the Thirty Years War.


A
SERMON
Preach'd before the KING,
Octob. 20. 1666.
At the SOLEMN FAST appointed
For the late
FIRE in LONDON.
By WILLIAM SANCROFT, D.D.
Dean of St. Paul's.
Published by His Majesties Special Command.

Escorial Library. Madrid 1670
The library was heavily damaged by fire in the 1670s, during the reign of King Philip I. Over 150 Greek manuscripts were among the works that were destroyed.

Ptolemaic Library at Alexandria 48 B. C.
Planned by Ptolemy I Soter (d. 283 B. C.) and brought into being by his son Ptolemy II Philadelphus (308–246 B. C.) with the collaboration of Demetrius of Phaleron, their advisor. Situated near a temple of the Muses called the Museion, it was staffed by Greek writers and scholars. The library, considered the greatest in the Western world, was supposedly burned during Julius Caesar's siege of Alexandria in 48 B.C. It continued to be a great center of learning until it was finally destroyed when Alexandria was sacked by the Arabs in 642 or 647. Before the destruction, approximately 500,000 to 700,000 books had been removed and were later burned to heat water for hundreds of public baths. Alexandria's is considered the largest deliberate public book burning.

Timbuktu University and Library. Songhai (near Mali) 16th century
Timbuktu was the principal city in Songhai during the rule of Askia the Great, which began in 1493. Under Askia's leadership, Timbuktu became a great center of learning. Its university and library were destroyed some time in the 16th century by invading Moroccan armies.

Aristotle's Peripatetic School Library. Athens 86 B. C.
This was the most famous book collection of ancient Greece. It was founded and organized by Aristotle with the intention of facilitating scientific research. A full edition of this library was prepared in Rome from surviving texts by Andronicus of Rhodes and Tyrannion, c. 60 B. C. The texts had reached Rome as war booty carried off by Sulla when he sacked Athens in 86 B. C.

Vatican and Apostolic Libraries. Rome 1527
During the Sack of Rome in 1527, the Vatican Library suffered serious losses of manuscripts and papal documents, and the Apostolic Library was completely destroyed.

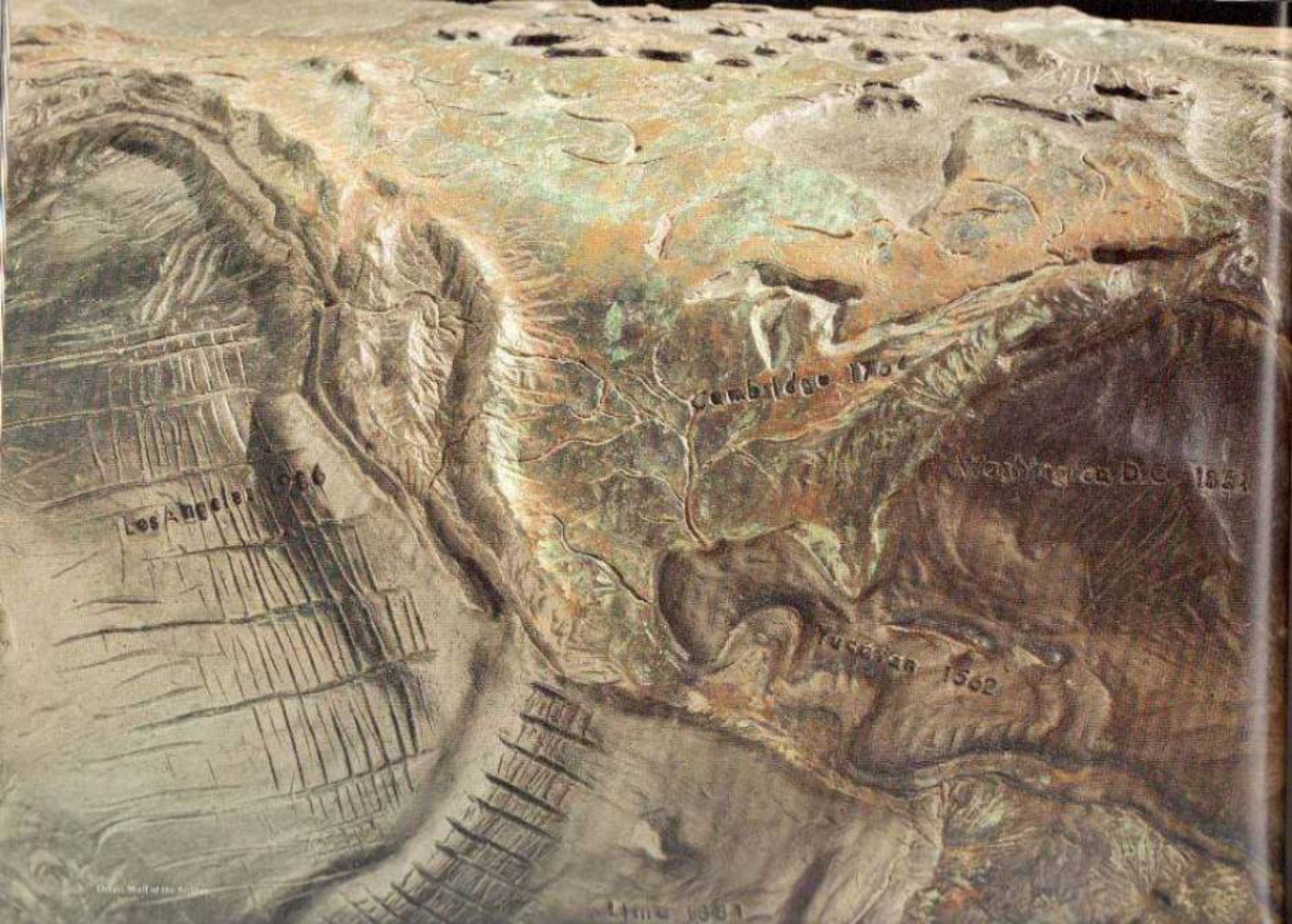
Imperial Library. Constantinople 477
The library was incinerated during a revolt in 477. Over 120,000 volumes burned, including a copy of the *Iliad* on a twelve-foot snakeskin.

Ibn Hiban. Baghdad 1258
Libraries in Baghdad were crushed in 1258 when sacked by the Mongolians, under Hulagu Khan. Among these was the library of Ibn Hiban (d. 965), the qadi of Nishapur who bequeathed living quarters and his vast personal library for the use of foreign students.

Somapuri University and Library. India 11th century
The library and the university were important to Indian education since the 8th century. In the middle of the 11th century, they were destroyed by fire, but shortly later they were rebuilt by the monk Vipul Srimitra.

Taxlia University and Library. India 5th century
Taxlia was the capital city of Gandhara. Its university and library were the first of their kind in the world, probably built in the 5th century B. C., and were visited by many, including Alexander the Great. They were destroyed by the Huna in the 5th century A. D.

Polonnaruna 13th century
King Parakramabahul (12th century A. D.) constructed many libraries, including a royal library called "Pol Gul-Vehera," in the city of Polonnaruna. All of these libraries were destroyed by the Magha of Kalinga in the 13th century.


Los Angeles 1866
Cambridge Mass
Washington D.C. 1851
Tucson 1862

CHAPTER THREE STEPS

THE STEPS ARE IN FOUR SECTIONS. The selections of texts from specific places and times show the changing pictorial shape of communication. In material and image the steps correspond to the conceptualizations of their adjacent pools. The steps depict specific pictorial patterns of language as it has been represented by various people throughout recorded time. In making selections, the innovative patterns for recording thought were the primary concern, more than speculation of what the respective authors or chroniclers were trying to say.

There are eighty selections that present different graphic and technological approaches to written communication. They can only suggest the extraordinary number of familiar and unfamiliar written systems which have been devised over time around the world. Language is one of the defining characteristics of humanity. Language, like art, has accumulated rather than evolved. It has always been itself. The visual representation of language continues to be one of humanity's highest, most distinctive, and most varied, achievements.

THE FIRST SECTION IS THE ARCHAIC. This section consists of red incisions on green/yellow/ bronze copper. It is difficult to read and suggests the distant past. These images show the beginning of hand-inscribed communication—signs, symbols, pictographs, hieroglyphs, picture-writing. Pictorial images can be viewed as storage containers of information, for in most cases they represent, signify or symbolize the thing shown. Until recently, scholars of early writing held a strong bias against largely pictorial writing. Assuming that the purpose of writing was the storage of spoken language, these scholars considered the writing that best communicated the spoken language to be the most developed. But the influence of the moving image in the twentieth century has changed this assumption. Pictures contain information rather than language. They are pre-linguistic, pre-syllabic, non-alphabetic.

The first step in this section is blank, silently gesturing with its unmarked surface what cannot be seen or known about the past. The absence of marking on this step suggests that origins are truly unfathomable. The concept of "the archaic" is one of the notable inventions of the twentieth century. Just as the first European renaissance looked back to Hellenized Rome for models and archetypes in all aspects of social organization, the twentieth century has looked back to a deeper past in which it has imagined it sees the very beginnings of civilization. This is called "deep time." In times of crisis, a culture will often look back for earlier remembered or mythological models of stability, and the values presented by that revival extend into all aspects of creative and technological invention. The discovery of "deep time" during this century has led numerous scholars, artists, and scientists to ask more about how people lived before history was recorded.

THE SECOND SECTION SHOWS THE EMERGENCE OF WRITING, the codification of language, and the development of alphabets, syllabic marks, and

hand-written information. On these steps, there is green incised text on slightly patinated brass. The text is easier to see than the previous "Archaic" section, but obscure compared to the next section. Selections in this section represent the visual shape of writing as it developed over a three thousand year period.

Oral traditions emphasized personal memory and individual training. Writing by hand emphasized logic, consensus, and communication. Complex systems of writing usually were the possession of a special class and tended to support hierarchies of learning or aristocracies of knowledge. Simple and flexible systems of writing adapted more easily to vernacular language. As writing became more widespread, the silent power of words became more evident. Oral cultures worried about sounds. Manuscript cultures worried about thoughts.

Writing invents reading. Ideas which are passed along over time become the heritage of the entire human race. When writing occurs, it reads as both form and content. In its broadest sense, writing means the conveyance of ideas or sounds by marks on a suitable medium. In the ancient past, the medium of choice would have been stone, wood, or clay. With technical innovations of papyrus and parchment and paper, writing became portable. More than any other single invention, writing transformed consciousness. Oral cultures feared that writing would weaken the mind, destroy memory, and create a passive and unnatural world. Every culture negotiates with technology in one way or another. Whether it is writing-as-image or writing-as-text, there is no doubt that writing creates readers. For the people who read, that act of reading has long been considered a high form of consciousness.

THE THIRD SECTION SHOWS THE GROWTH OF PRINT and graphic reproduction. These steps display text and image reproduction in printed form. In this section, there are white incisions on black copper plates. In contrast to the first two sections, these steps are easy to read. Before moveable type and printing became established, there were no dictionaries, no grammars, no textbooks. The mechanical reproduction of print brought with it a uniformity of reading and a clarity of presentation. Even though this section emphasizes the form that printing has taken, the substantive influence of the technology of typefounding and the craft of printing on the development of culture should not be overlooked.

Printing from moveable types was the first mechanization of a complex handicraft. Technique informs every aspect of civilization, and nowhere in civilized life has technology been so predominant as in the spread of printing from moveable types. If written communication is a lesson in the history of the sentence, then printed communication can be considered a treatise on the history of the printed book. Print established the rights of the sentence, the page, the chapter, and the book. Printing created the public, a literate public organized and informed by the linear marching of printed ideas.

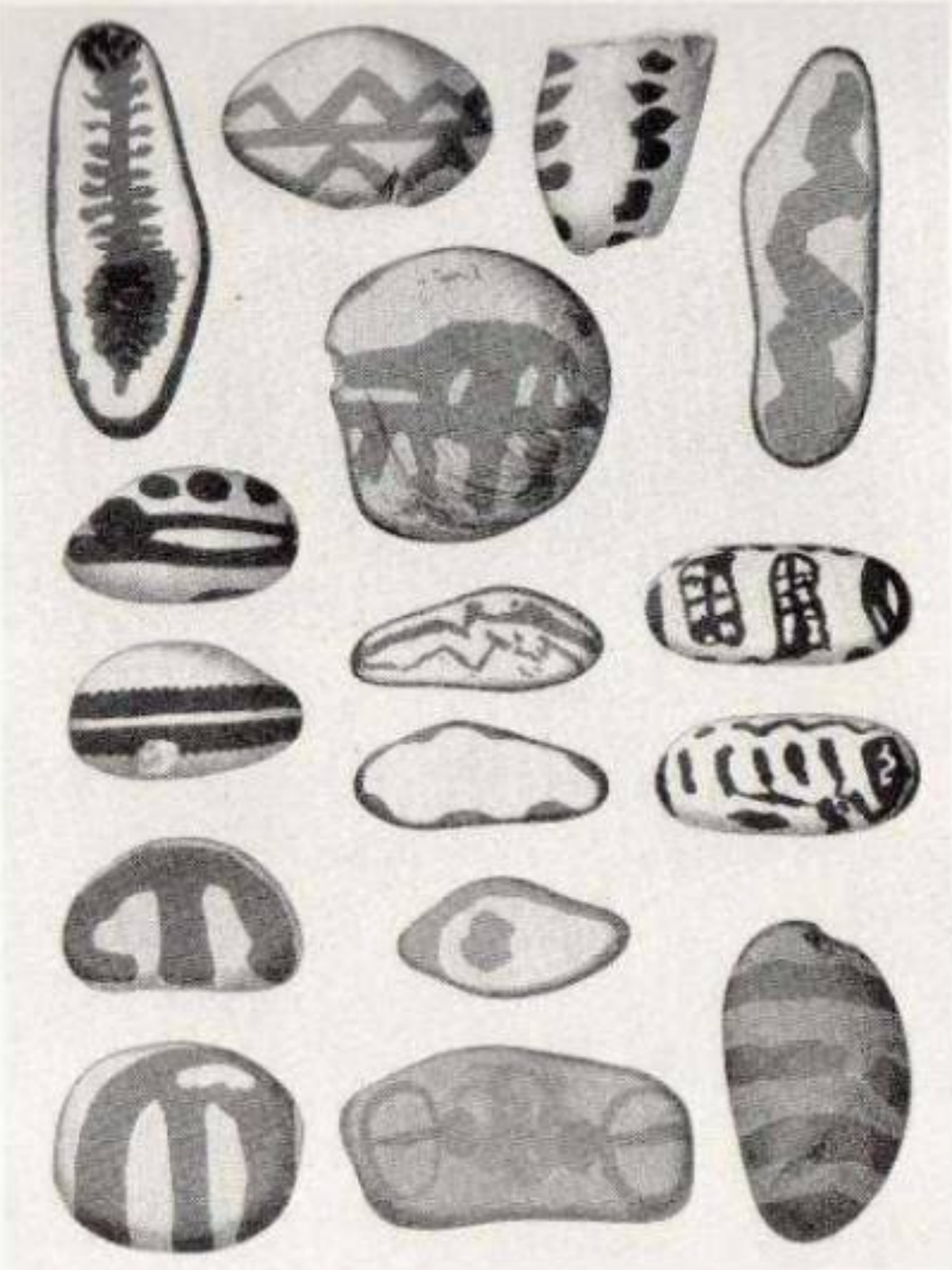
The first two centuries of printing from metal typefaces were motivated much more by the desire to disseminate the texts of handwritten ancient and medieval books than by the need to read and write new ones. The printed book changed reading, learning, and the storage of information. From 1500 on, pictures printed in books brought language out of the privateness of orality, as printed images and typography permeated every phase of the arts and sciences. As communication technologies have changed, the new technology has in a sense converted the older technology into an art form. Commercial printing, for example, created a condition for handwriting (calligraphy) to be considered an art form. Continuing advancements in typography and printing have generated a greater appreciation for visual poetics, fine printing, and bookmaking as art forms.

THE FOURTH SECTION IS THE POST-LITERATE and features the period of time before and after the advent of electronic communication. These steps have black incisions on stainless steel plates. The images are clear, distinct, and dark on an invisible ground. During the period of time prior to the electronic age, there was an intense concentration in higher math and science, and a corresponding expansion of art and poetry. Twentieth century printing is characterized by the growth of techniques for rapid production of texts, high quality visual image reproduction, and a corresponding dissolution of the potency of the sentence through photography, newspapers, magazines, advertising, experimental poetry, and political propaganda.

Emotional communication through moving pictures and images marks the post-literate (electronic) period. Everyday examples from the past forty years include still photography, black and white television, color television, global satellites, computer networks, and international banking where money moves at the speed of light. While the computer can be viewed as an emerging model of information concentration and management, the book is still the most efficient means for organizing ideas, thoughts, and observations. The book is the most valued means of preserving the lessons of history. The visible qualities of communication technologies are the subject matter for contemporary media ecology: the study of the (human) organism in the (global) environment. To know the world, one must know the books of the world.

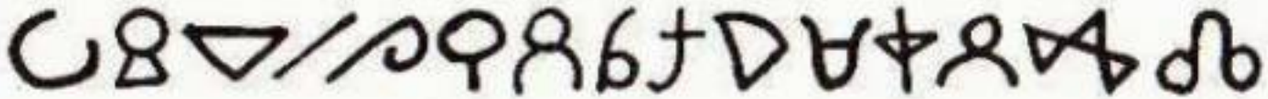
The last step is blank because the future is unknown. In *Canto XIII*, Ezra Pound writes about the Chinese philosopher, Kung, who remembered "the time when historians left blanks in their writings" to express what they did not know. The absence of any marking on these steps reminds us of what we are still contemplating, what we need to know in order to survive as a species, and what remains to be discovered.


BRIGHT



Rock-drawings (petroglyphs when carved, petrograms when painted) date from as long ago as the late Paleolithic (20,000–10,000 years B. C.). Picture-writings from prehistoric times have been found throughout the world—in Europe, South Africa, Russia, Australia, India, Polynesia, Melanesia, Crete, Egypt, Syria, the Bahamas, North and South America—and new discoveries are reported each year. This selection shows prehistoric engraved symbols from Katanga.

Katanga (Congo)



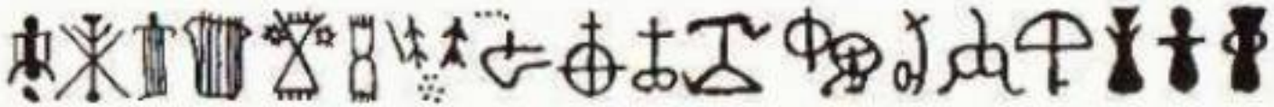
The practice of representing data directly, without the intermediary of coded language, goes back to the origins of human history. These prehistoric geometric symbols were found in Zimbabwe.

Zimbabwe

Painted pebbles or flint-stones of the Azilian Paleolithic period (c. 12,000–8,000 B. C.), painted with peroxide or iron, were found at Mas d'Azil, Ariège, south of France. They are no more than three and a half inches in length and are painted with signs in red and black.

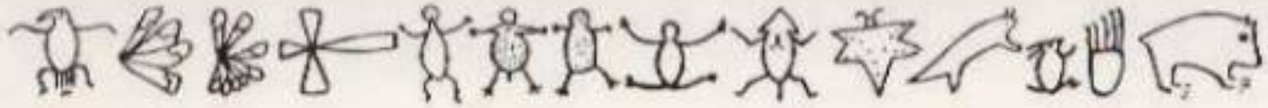
Southern France

Italy Ideas can be transmitted visually by various means: by objects, by abstract and/or geometrical patterns and designs, or by pictorial representations of human beings. The prehistoric stylized figures and signs shown here are from Italy.



Spain Pictures have always been an important means of information storage. How essential this information was to the social and economic life of the people who made the images, such as these prehistoric conventionalized figures and signs from Spain, remains largely a mystery.

Australia Pictures can express ideas, thoughts, sentences, words, and sounds. Pictures bring together technique and narrative which merge into a single expression when the viewer understands them. Images that people leave behind them, from contemporary national monuments to totemistic petroglyphs (as depicted here, found at prehistoric sites in Australia), reflect the mythological ground—the sacred as well as the profane—of the culture.



These petroglyphic images were found at prehistoric sites in the Bahamas. **Bahamas**

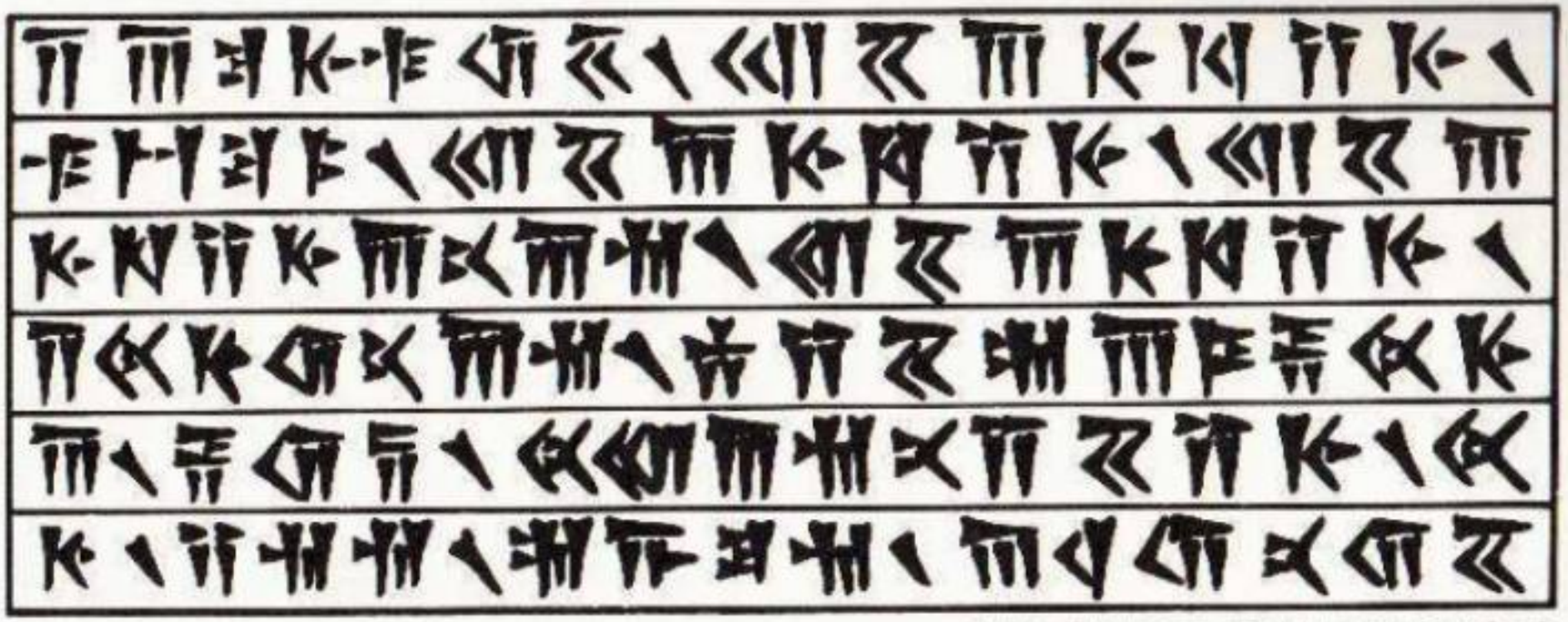
The connection between language and writing is not as self-evident as some scholars have assumed in the past. The conventionalized figures of humans, animals, animated objects, and geometrical symbols in this selection come from rock-paintings or carvings at prehistoric sites by indigenous people in what is now California. Elements of art and information storage are merged in these images. **California**

Pictographic images, such as the examples shown here from rock-paintings and carvings at prehistoric locations in California, constitute a kind of storytelling that can be interpreted in different ways over time. In addition to whatever information can be deciphered from each individual image, pictographs show how tools have been used to record thoughts, observations, and experiences. Media studies have concentrated on the form as well as the content of communication. **California**

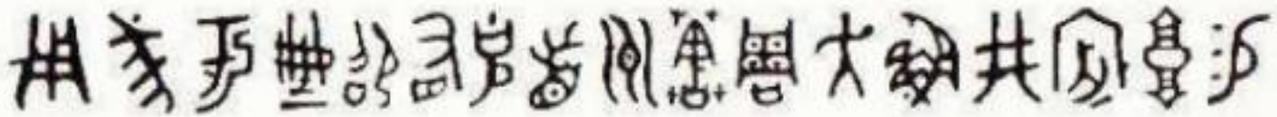
Sumerian Sometime around the middle of the fourth millennium B. C., a people of unknown ethnic and linguistic affiliation known as the Sumerians entered the southern part of Mesopotamia and conquered the area from its original inhabitants. For 1,500 years they were the dominant cultural group in what is now called the Middle East. The early Sumerians used a simple pictographic script, as seen in this example from around 3,000 B. C., which evolved into "cuneiform" (from Latin *cuneus*, "wedge," and *forma*, "shape"), the most ancient writing system.

Cuneiform This early Sumerian pictographic cuneiform example dates from around 2,400 B. C.

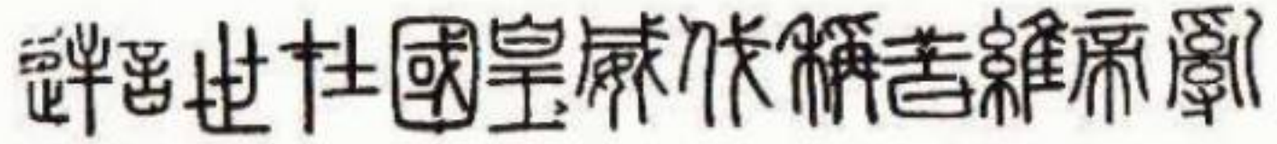
Old Persian From an inscription, which translated, reads: "Darius, the great King, the King of Kings, the King of the countries, son of Hystaspes, the Achaemenid, who built this place." Official transcriptions of history have almost always told the stories of the powerful ruling classes. Studying this inscription, one may wonder: *"Who actually built this place?"* It also may be reasonable to ask at the same time: *"Who wrote this message?"*



Early Chinese Scratches found on Neolithic pots at Yang-shao culture site, Pan-p'o village, east of Sian in the Wei River Valley date from approximately 5,000 B.C. Although it is certain that the scratches were part of some marking system, there was no attempt, it seems, to organize these scratch-marks into words.



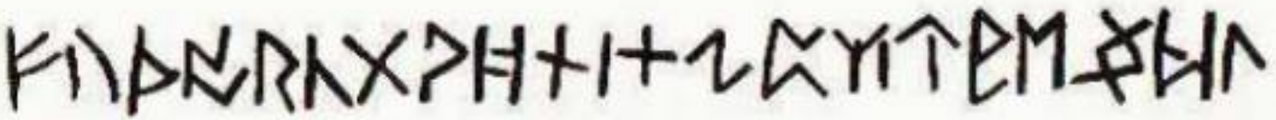
Early Chinese Inscribed Chinese bronze vessel from the Western Chou period (1050–771 B.C.). Cast inscriptions on vessels of this period included long narrative compositions such as records of military campaigns, covenants, treaties, appointments, rewards, ceremonial events, and other political and social affairs.



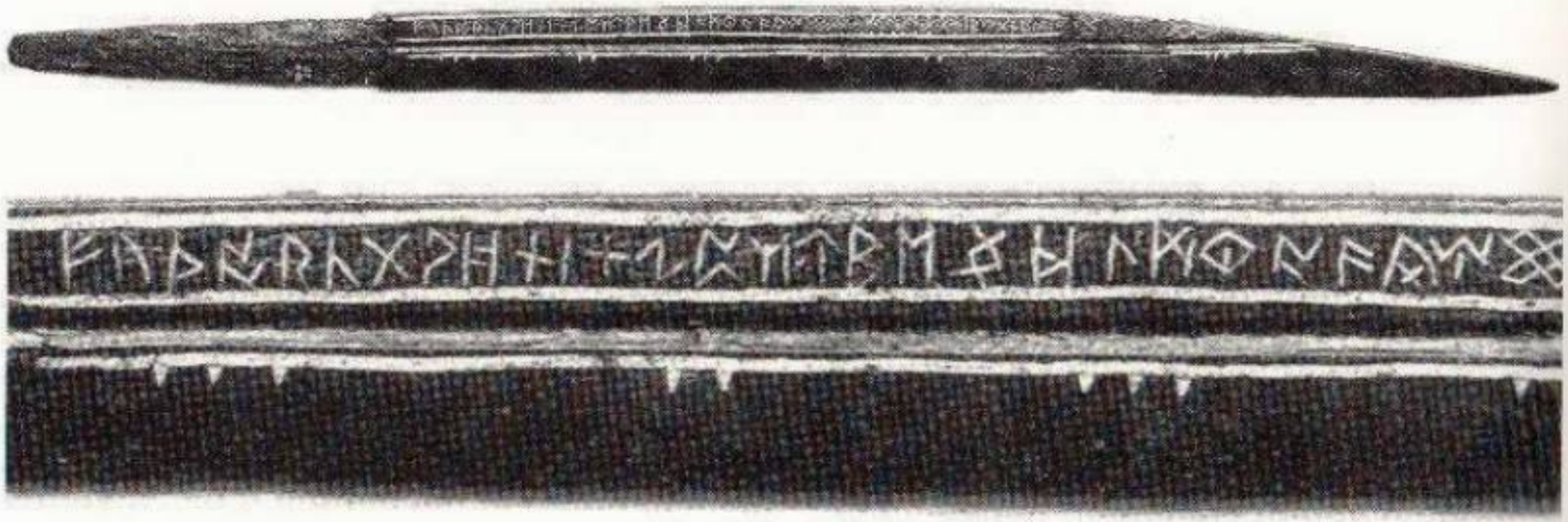
Chinese Pictograms The characters represented in this example come from a stele supposedly erected by Ch'in Shih Huang Ti, the First Emperor, two years after he unified China in 221 B. C. This stele was one of several "propaganda posters" he erected in various parts of China, praising his benevolent rule. These characters are derived from an earlier script known as *hsiao chuan*, "lesser seal." The term "seal" refers to the fact that the marks were engraved or cast on the seals or "chops" of wood, ceramic, or bronze by which administrators, in particular, would sign their documents and correspondence.

[illegible] rubbing [illegible] stele erected by Ch'in Shih Huang Ti on Mount Yi [illegible] in 219 B.C.

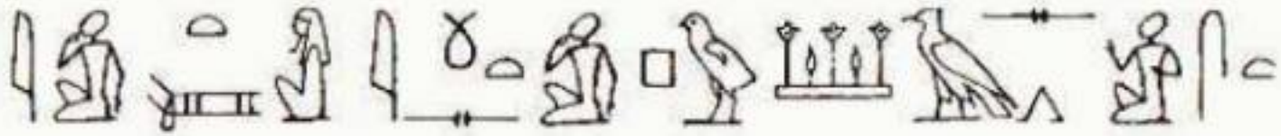
Crete The Minoan civilization of Crete dates from around 2800 B. C. to 1100 B. C. From the beginning, the Minoans practiced seal-engraving which included picture-symbols at first, and then later short pictographic inscriptions. Numerous symbols were engraved on the early seals made of steatite and ivory; later seals were made of rock crystal, jasper and cornelian, and on clay tablets as well. The symbols on this step are from the middle Minoan period and represent human figures, parts of the body, domestic animals, religious symbols, food, etc. The direction of the writing is sometimes left to right and sometimes *boustrophedon* (alternately from left to right and from right to left—in the manner of an ox plowing a field).



Runes The earliest inscriptions extant which can be described as "runes" belong to the third through fifth centuries, A. D. Considered as the "national writing" of the Teutons, especially the North Germanic peoples, the "runes" or "Runic scripts" were used chiefly for memorial or ceremonial inscriptions. They were cut or carved on metal, stone or wood, and also were used for messages, divination, and magical purposes.

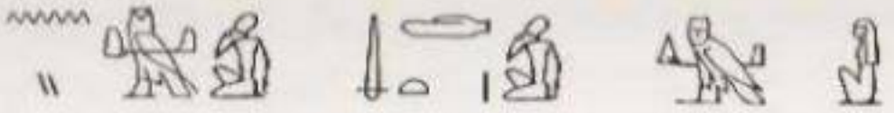


Egyptian Ancient Egyptian not only is one of the oldest recorded languages (probably only Sumerian is older), but it also has the oldest documented history of any language. Egyptian was first written down at the end of the fourth millenium B. C. and thereafter remained in continuous recorded use until the eleventh century A. D., a period of over 4,000 years. Hieroglyphics were the earliest form of Egyptian script, and examples can be found from 3,000 B. C. up to 394 A. D.



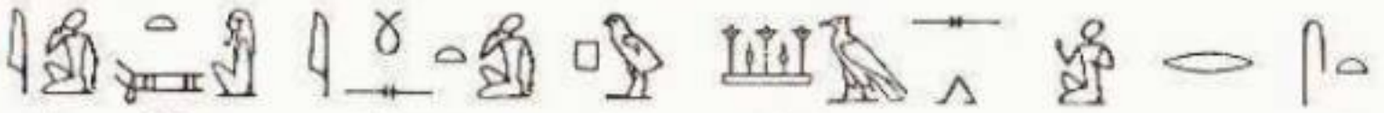
Egyptian A translation of the Egyptian hieroglyphics above reads: "What manner of place is this into which I have come?"

Easter Island On Easter Island ("Rapanui" by its native name), the most easterly of the Polynesian chain of islands, wooden tablets called *Kohau rongo rongo* ("news boards") were covered with script-signs arranged in lines. The largest extant tablet is about 35 inches long and about 4 inches wide; it contains 1,547 script-signs in all, which are cut into the wood in eight lines on each side. A peculiar feature of the arrangement of the lines is that every other line is upside down with respect to the preceding one, so that in reading it one must turn the tablet round after every line.



nimā *meṭet* *emmā - t*

Who hath had word with thee?



à *Tem* *ȧśeset* *pu* *śas* - *à* *er* *set*

Hail Tmu, what is it which I have come into it?

I. e., "What manner of place is this into which I have come?"


RAIANOAVGGERMDACIN
TTOZENITYM