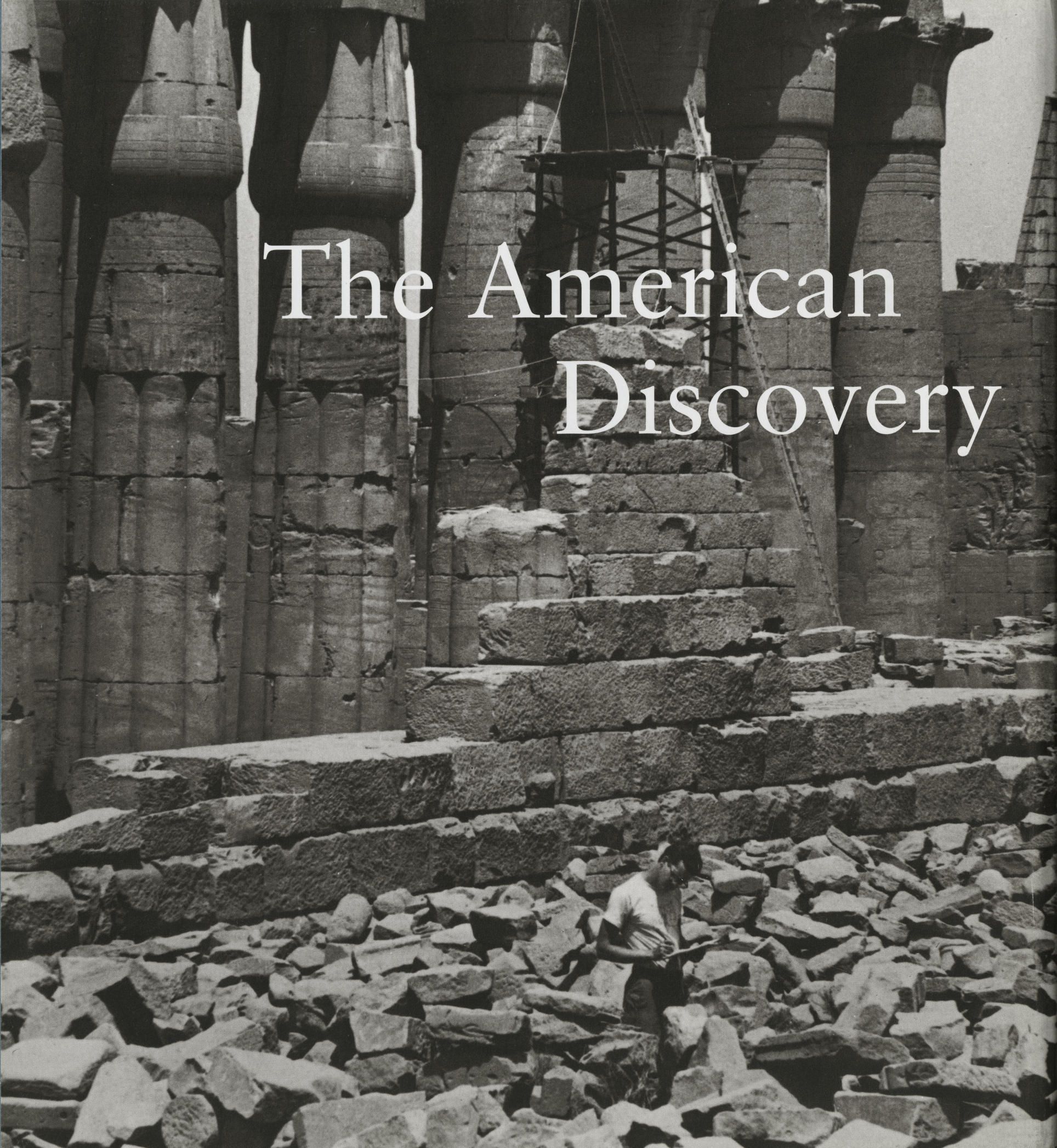


**Essays**



## **The American Discovery of Ancient Egypt: Essays**



A black and white photograph of an ancient Egyptian temple under excavation. The scene features large, papyrus-bundle-shaped columns and a wide staircase made of massive stone blocks. Scaffolding is visible on the stairs. In the foreground, a man stands amidst a field of rubble and smaller stone fragments.

# The American Discovery





of

# Ancient Egypt

## Essays

Edited by

*Nancy Thomas*

With essays by

*James P. Allen, Dorothea Arnold, Lanny Bell,  
Robert S. Bianchi, Edward Brovarski,  
Richard A. Fazzini, Timothy Kendall, Peter Lacovara,  
David O'Connor, Kent R. Weeks*

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COVER: James Henry Breasted and team  
surveying the temple of Ramesses II at Abu  
Simbel during the University of Chicago's  
first epigraphic survey, 1905-6.

TITLE PAGE: Raymond Johnson, staff member  
of the Epigraphic Survey of the Oriental  
Institute of the University of Chicago, collating  
loose blocks at Luxor temple.

RIGHT: Staff member of the Epigraphic  
Survey of the University of Chicago working  
at Karnak temple.

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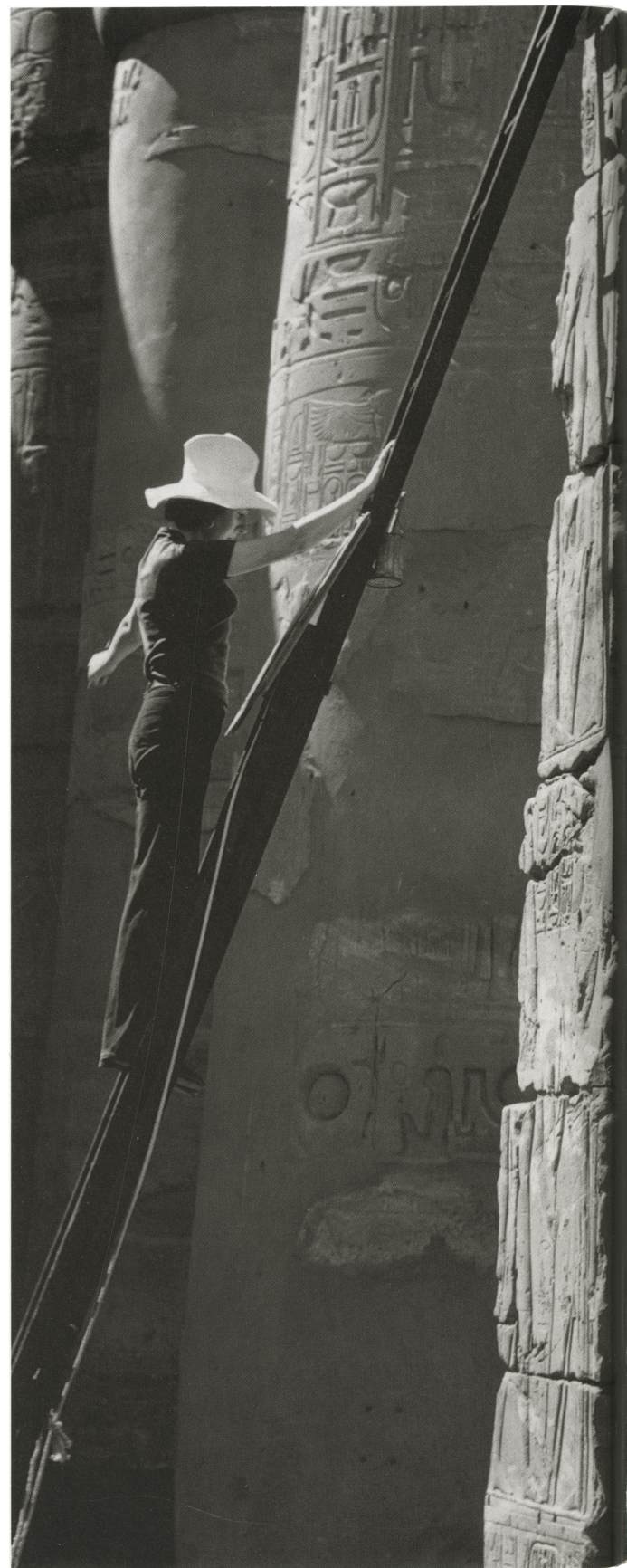
#### Exhibition Itinerary

LOS ANGELES COUNTY MUSEUM OF ART  
November 5, 1995-January 21, 1996

THE SAINT LOUIS ART MUSEUM  
February 29-May 27, 1996

THE INDIANAPOLIS MUSEUM OF ART  
July 13-September 29, 1996

This exhibition was co-organized by the  
Los Angeles County Museum of Art and the  
American Research Center in Egypt.  
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its Famous-Barr and Lord & Taylor divisions  
in St. Louis, and its L.S. Ayres stores in  
Indianapolis. Additional funds were provided  
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Cultural Affairs Department.





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# Foreword



Americans carry varied mental images of Egypt, images derived from sources as diverse as the Bible, Hollywood movies, and documentaries produced for public television. Though some Americans have been fortunate enough to travel to Egypt and experience its monuments firsthand, most of us had our first direct contact with the artifacts of this ancient civilization closer to home, in museum galleries. How those objects came to reside in American collections is a question that few museum-goers stop to consider, yet the story of the American discovery of ancient Egypt is a complex and fascinating one.

The first professionally trained American Egyptologists began working in Egypt only around the turn of the twentieth century, decades after their European counterparts. Within a short time, however, through numerous projects, they had a dramatic impact on the discipline, revolutionizing archaeological field techniques and reshaping our knowledge of this highly sophisticated ancient culture. By the 1920s American expeditions to Egypt were better equipped, more ambitious in their goals, and more generously financed than those sent by any other country to any area. The success of these expeditions sparked the founding of academic research centers and, thanks to the Egyptian Antiquities Department's generous policy for dividing finds, created rich repositories of Egyptian works of art in many major American museums.

The names of European Egyptologists Jean-François Champollion and Howard Carter are universally recognized because of their extraordinary contributions to the understanding of Egyptian culture—the former made the final step toward deciphering Egyptian hieroglyphs in 1822, and the latter, working a century later, discovered the tomb of Tutankhamun—yet American Egyptologists have also made remarkable discoveries. For example, George A. Reisner, working at the Giza Plateau, unearthed the mortuary temple of King Menkaure and cleared more than four hundred private tombs, creating a corpus of information on the Old Kingdom, a seminal period of Egyptian history. In addition, spectacular finds in Nubia allowed Reisner to piece together not only the succession of Nubian and Meroitic



kings but also the history of their monuments. Likewise, Herbert E. Winlock of the Metropolitan Museum of Art worked tirelessly on the museum's excavations at sites such as Deir el-Bahri in order to illuminate the history of the pivotal 11th Dynasty (the first dynasty of the Middle Kingdom) and the enigmatic kingship of the 18th Dynasty female pharaoh Hatshepsut. Clarence Fisher, sponsored by the University of Pennsylvania Museum, brought to light one of the few extant ancient royal palaces in Egypt, belonging to King Merneptah of the 19th Dynasty.

Other crucial American contributions to Egyptology have been in the area of epigraphy, the copying and study of ancient wall scenes and hieroglyphic texts. Modern environmental conditions are causing the rapid deterioration of many of Egypt's monuments, and the efforts of American epigraphers such as James Henry Breasted, founder of the University of Chicago's Oriental Institute, have helped to document records that will soon be irretrievably lost.

Following its peak in the 1920s, the scope of American fieldwork in Egypt gradually declined during the 1930s and 1940s, due to the Great Depression and World War II. With the unearthing of the intact tomb of Tutankhamun in 1922, the Egyptian government began to take steps to ensure that most excavated finds remain in Egypt, curtailing the growth of American collections. Nevertheless, in the early 1960s, with UNESCO's international call to rescue the soon-to-be-submerged monuments of Nubia, Americans returned to the region and initiated a new wave of archaeological projects. This renewed effort continues to the present, although current projects focus on the conservation of monuments and on smaller-scale, multidisciplinary excavations.

As a companion to the exhibition catalogue *The American Discovery of Ancient Egypt*, this volume includes ten essays evaluating projects from the 1890s to the present and examining their relevance to various periods of ancient Egyptian history. For example, Richard A. Fazzini, writing about the Third Intermediate and Late Periods (c. 1100–305 B.C.), weighs the merits of various North American projects and their contribution to the understanding of this complex era. American Egyptologists extended their activities to Nubia, a culturally related region to the south of Egypt, in present-day Sudan; essays by Peter Lacovara and Timothy Kendall evaluate the highly important achievements of American projects in this region.

Preliminary versions of these essays were presented at a symposium organized by the American Research Center in Egypt, held with generous funding from the National Endowment for the Humanities at New York University, October 24–25, 1992. This conference served to promote scholarly discussion and exploration of the subject and to jump-start both the writing process and the organization of the exhibition.



We are hopeful that American archaeological projects in Egypt will continue through the 1990s and into the next century and that the richness of this fascinating ancient culture will continue to unfold. We are very grateful to the co-organizer of this ambitious exhibition and publication project, the American Research Center in Egypt. We continue to be appreciative of our hosts in Egypt, as represented by the Supreme Council of Antiquities. We would also like to thank our many collaborators on this project: the thirty authors who contributed to this two-volume catalogue and the curators, archivists, and researchers from numerous institutions who aided in this joint effort. Without the support of staffs of the Los Angeles County Museum of Art, the Saint Louis Art Museum, the Indianapolis Museum of Art, and the lending institutions, this substantial exhibition could not have been undertaken. I applaud the efforts of the exhibition curators, Nancy Thomas and Gerry Scott III, and of David O'Connor and Peter Lacovara, who assisted them with this enormous task. I take particular pleasure in launching this exciting project, inaugurating my tenure at the Los Angeles County Museum of Art.

ANDREA RICH

*President and chief executive officer,  
Los Angeles County Museum of Art*



# Note to the Reader

## ABBREVIATIONS

AJA	<i>American Journal of Archaeology</i>
ARCE	American Research Center in Egypt
ASAE	<i>Annales du Service des antiquités de l’Égypte</i>
BES	<i>Bulletin of the Egyptological Seminar</i>
BIFAO	<i>Bulletin de l’Institut français d’archéologie orientale du Caire</i>
BMB	<i>The Brooklyn Museum Bulletin</i>
BMFA	<i>Bulletin of the Museum of Fine Arts (Boston)</i>
BMMA	<i>Bulletin of the Metropolitan Museum of Art</i>
BSFE	<i>Bulletin de la Société française d’égyptologie</i>
CdE	<i>Chronique d’Égypte</i>
CG	Catalogue général des antiquités égyptiennes du Musée du Caire
IFAO	Institut français d’archéologie orientale du Caire
JARCE	<i>Journal of the American Research Center in Egypt</i>
JEA	<i>Journal of Egyptian Archaeology</i>
JNES	<i>Journal of Near Eastern Studies</i>
JSSEA	<i>Journal of the Society for the Study of Egyptian Antiquities</i>
KUSH	<i>Kush: Journal of the Sudan Antiquities Service</i>
LÄ	<i>Lexikon der Ägyptologie</i> , 6 vols., ed. H. W. Helck and W. Westendorf (Wiesbaden: Harrassowitz, 1975–86)
MDAIK	<i>Mitteilungen des Deutschen archäologischen Instituts, Abteilung Kairo</i>
MFA	Museum of Fine Arts, Boston
MMA	Metropolitan Museum of Art
NARCE	<i>Newsletter of the American Research Center in Egypt</i>
OIC	Oriental Institute Communications
OINE	Oriental Institute Nubian Expedition
OIP	Oriental Institute Publications
PAHMA	Phoebe A. Hearst Museum of Anthropology
PM	B. Porter and R. Moss, <i>Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs, and Paintings</i> , 7 vols. (Oxford: Griffith Institute, Ashmolean Museum, 1934–81). The second, revised edition is cited for vols. 1 (pts. 1, 2), 2, and 3 (fasc. 1–3).
RdE	<i>Revue d’égyptologie</i>
SAK	<i>Studien zur altägyptischen Kultur</i>
ZÄS	<i>Zeitschrift für ägyptische Sprache und Altertumskunde</i>

## Dates

The dates given for the major periods of Egyptian history, dynasties, and reigns of individual rulers are based upon those used in John Baines and Jaromír Málek, *Atlas of Ancient Egypt* (New York: Facts on File, 1994). A somewhat revised version of this chronology can be found in the article “Egypt,” in the *Encyclopaedia Britannica*, 15th ed. (beginning with the 1988 printing).

## Place Names

The orthography of place names also follows the usage in Baines and Málek, *Atlas of Ancient Egypt*. Frequently used modern names for ancient sites are provided in parentheses, such as Mit Rahina for Memphis or Tell Umm el-Breigat for Tebtunis.

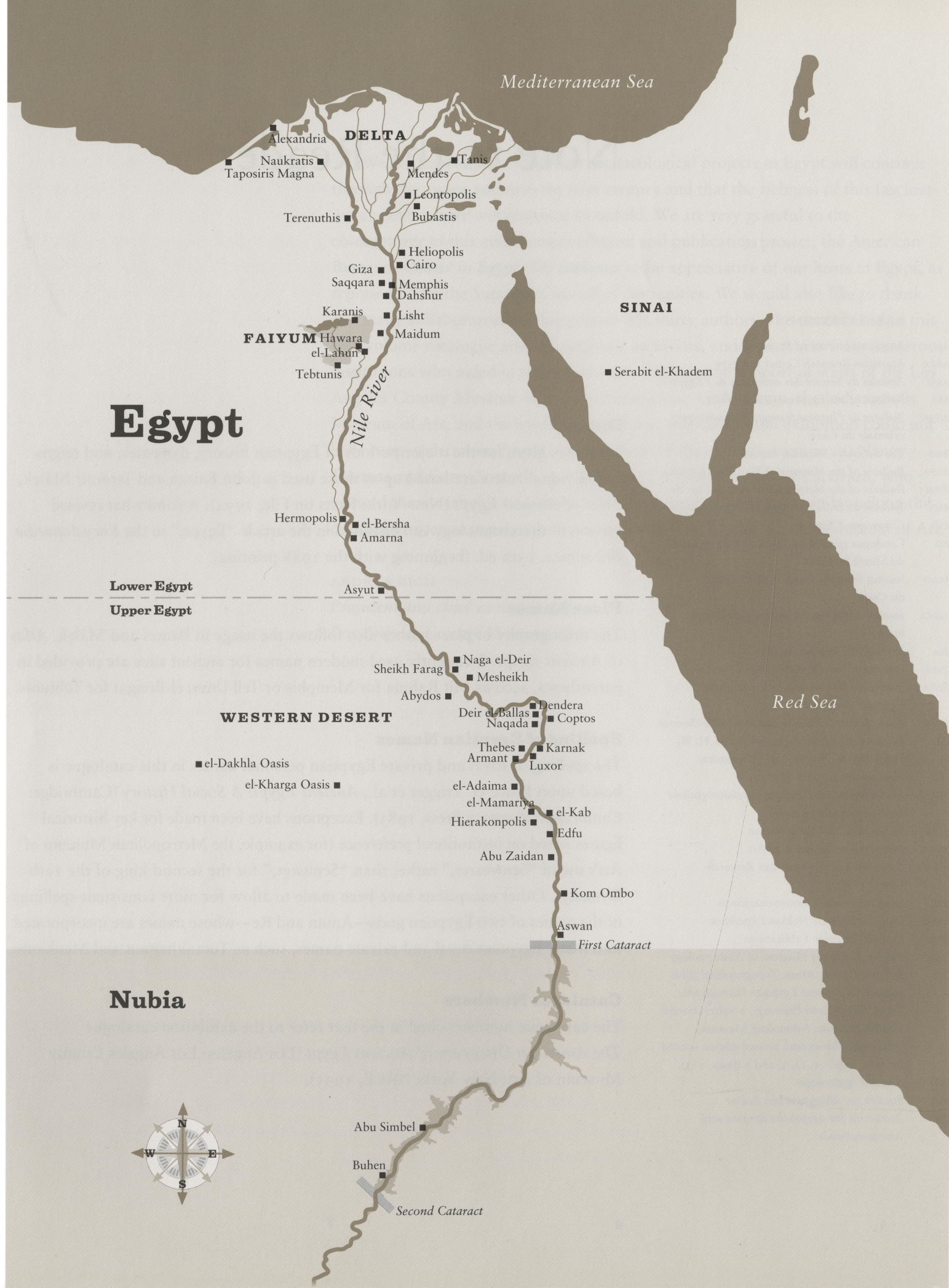
## Spelling of Egyptian Names

The spelling of royal and private Egyptian personal names in this catalogue is based upon Bruce G. Trigger et al., *Ancient Egypt: A Social History* (Cambridge: Cambridge University Press, 1983). Exceptions have been made for key historical figures based on institutional preference (for example, the Metropolitan Museum of Art’s use of “Senwosret,” rather than “Senusret,” for the second king of the 12th Dynasty). Other exceptions have been made to allow for more consistent spellings of the names of two Egyptian gods—Amun and Re—whose names are incorporated into many Egyptian royal and private names, such as Tutankhamun and Menkaure.

## Catalogue Numbers

The catalogue numbers cited in the text refer to the exhibition catalogue *The American Discovery of Ancient Egypt* (Los Angeles: Los Angeles County Museum of Art; New York: ARCE, 1995).





Mediterranean Sea

**DELTA**

Alexandria

Naukratis  
Taposiris Magna

Tanis

Mendes

Leontopolis

Bubastis

Terenuthis

Heliopolis

Giza

Cairo

Saqqara

Memphis

Dahshur

Karanis

Lisht

Maidum

**FAIYUM**

Hawara

el-Lahun

Tebtunis

**SINAI**

Serabit el-Khadem

**Egypt**

Nile River

Hermopolis

el-Bersha

Amarna

Lower Egypt

Upper Egypt

Asyut

Sheikh Farag

Naga el-Deir

Mesheikh

Abydos

**WESTERN DESERT**

Deir el-Ballas

Naqada

Dendera

Coptos

Thebes

Armant

Karnak

Luxor

el-Dakhla Oasis

el-Kharga Oasis

el-Adaima

el-Mamariya

Hierakonpolis

el-Kab

Edfu

Abu Zaidan

Kom Ombo

Aswan

First Cataract

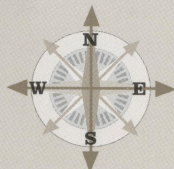
Red Sea

**Nubia**

Abu Simbel

Buhen

Second Cataract





# Egypt

Red Sea

Aswan  
Philae First Cataract

Kertassi  
Dendur

Amada Wadi el-Sebua  
Karanog Areika  
Aniba Shablul  
Toshka

Abu Simbel Gebel Adda  
Ballana Qustul

Buhen Adindan  
Mirgissa Wadi Halfa

Shalfak Second Cataract  
Uronarti Askut  
Semna Kumma

Lower Nubia  
Upper Nubia

Soleb

Third Cataract  
Kerma

Kawa

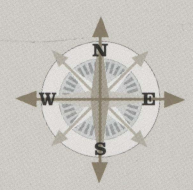
Gebel Barkal (Napata)  
Nuri  
el-Kurru

Nile River

Fourth Cataract

Fifth Cataract

# Nubia



Meroe

Naqa  
Sixth Cataract

Khartoum

White Nile

Blue Nile

Atbara River







# Epigraphic and Archaeological Documentation of Old Kingdom Tombs and Monuments at Giza and Saqqara

*Edward Brovarski*

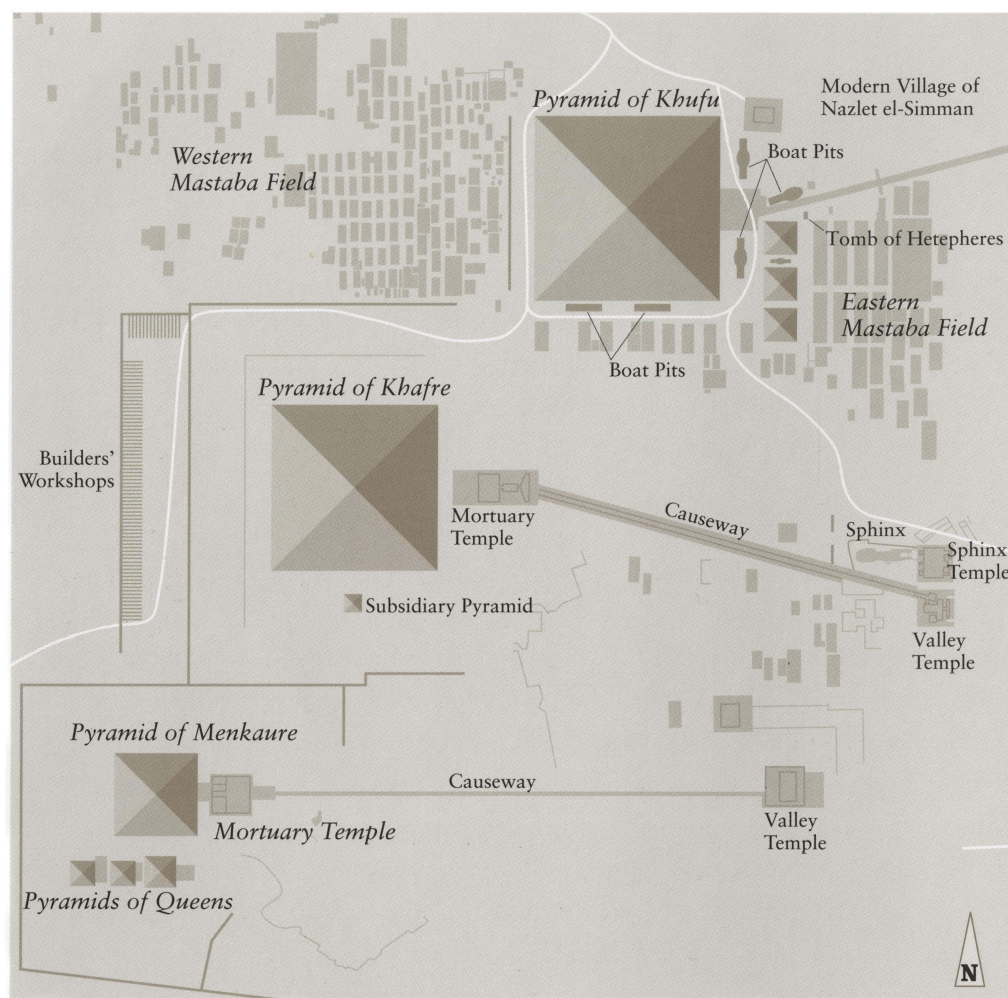
**T**

he mastaba tombs of Egypt's Old Kingdom, or Pyramid Age—from about 2649 to 2134 B.C.—fell into ruin during the troubled times of the succeeding First Intermediate Period. By the 10th Dynasty, a hundred years or so after the end of the Old Kingdom, stones from the mastabas of the Teti pyramid cemetery at Saqqara, for example, were being utilized for the construction of neighboring tombs. Thus, a block with relief decoration from the chapel of Watetkhethor, wife of the vizier Mereruka, was reused as an altar in the stela chapel of Satinteti, a contemporary of one of the last Heracleopolitan sovereigns at the end of the First Intermediate Period.<sup>1</sup> The destruction of the pyramid cemeteries was continued by Egyptians of later dynasties and, in their turn, by the Romans, Byzantines, Copts, and Muslims. Ultimately the tombs were covered by the shifting desert sands. As the famous American Egyptologist James Henry Breasted well observed: "Far from being a destroyer of the tombs, the sand was on the contrary the sole protection which the tombs enjoyed."<sup>2</sup>

Blocks projecting above the sand were plundered by a flourishing antiquities trade, quarried for building stone, or reduced in lime kilns for use in mortar or plaster. An interesting illustration of the plundering of stone exists in the tombs of the Senedjemib complex at Giza, located at the northwest corner of the Great Pyramid. When the German Egyptologist Karl Richard Lepsius investigated the mastaba of the vizier Senedjemib Inti in 1842–43, the right (northern) half of the rear wall in one of the chambers was preserved nearly to its full height, with six registers of agricultural scenes.<sup>3</sup> Later all but the lowest register in the exposed portion was removed, presumably by the villagers of Kafr el-Haram, who made illicit excavations in the complex and removed some stones in or about 1901.<sup>4</sup> When George A. Reisner, on behalf of the Harvard University–Museum of Fine Arts, Boston, Expedition, cleared the entire chamber down to floor level in 1912, he found the blocks from the collapsed left (southern) part of the wall hidden

**FIGURE 10**  
Reisner's excavations at  
the Western Cemetery  
at Giza, April 7, 1939.





**FIGURE 11**  
Giza necropolis.

under the accumulated sand and debris and reconstructed the fallen portion. With the aid of Lepsius's published plate, virtually the entire wall can be restored, at least on paper. Lepsius also copied the reliefs in the neighboring tomb of Senedjemib's son, Mehi, including a table scene on the north wall of the offering room. It was presumably once again the enterprising villagers of Kafr el-Haram who removed the stones from the left end of the wall, which eventually made their way to the Field Museum of Natural History in Chicago.<sup>5</sup>

Unhappily, industrial pollution and vandalism are hastening the deterioration and destruction of ancient monuments at an alarming pace. This is especially so at Giza, where modern urban sprawl extends right to the edge of the pyramid plateau (see fig. 11).

The great cities of ancient Egypt, including its capital of Memphis, have been destroyed by later quarrying or have disappeared below modern towns and cities. The scenes and inscriptions that survive on tomb walls at Giza, Saqqara, and the less important Memphite cemeteries of Abu Rawash, Dahshur, and Maidum, as well as those in rock-cut tombs in the cliffs that border the Nile Valley as far south as Aswan, are therefore a critical source for much of what we know about the politics, economy, religious life, art, and society of Egypt's Old Kingdom, and the task of recording them has become one of considerable urgency.

The first concerted attempt to record the major monuments of the Nile Valley was made by the French engineers and architects who accompanied Napoleon Bonaparte's expeditionary force to Egypt in 1798. The extraordinary results of the scientific and artistic commission attached to the French expedition appeared between 1809 and 1828 in the monumental *Description de l'Égypte*, published in ten folio volumes of lithographed plates, many in color, and nine text volumes.<sup>6</sup> The admirable drawings of the *Description* by Dominique-Vivant Denon and other members of the expedition, made over a period of three years, represented for the first time, with great accuracy, the temples and tombs of the Nile together



with the sculptures on their walls. This magnificent accomplishment was defective in one regard, however. The copies were made before Jean-François Champollion's decipherment of hieroglyphs in 1822, and "for scholarly purposes [recordings of] the inscriptions were a mishmash."<sup>7</sup>

In 1828 a joint French-Tuscan mission visited Egypt, headed by Champollion and his Italian pupil and friend, Ippolito Rosellini. For ten months they and their staff of architects and draftsmen copied and made notes from Alexandria to the second cataract.<sup>8</sup> The results of their efforts appeared in two sumptuous sets of volumes, Champollion's *Monuments* and Rosellini's *Monumenti*.<sup>9</sup> John A. Wilson offered this assessment of the publications: "It is easy to criticize their copies today: sometimes they are inexact for modern use; frequently they restored line or color; repetitive elements—such as a line of marching men—were apparently completed at home. Yet they were pioneers, and their volumes are still highly useful because there has been so much destruction since their day."<sup>10</sup>

In Champollion's time the most logical way to copy a scene or an inscription was to make a freehand drawing. Modern epigraphy, however, is more than the copying of texts and representations on temple and tombs walls for the purpose of publication;<sup>11</sup> it aims at rendering the actual appearance of a wall. Historically, many different recording methods have been used in the pursuit of that goal—the camera lucida, freehand copying, paper squeezes, latex or liquid rubber molds, rubbings, photography, direct tracings, drawing on photographs. The camera lucida has largely passed out of use, and squeezes, impressions, and rubbings in particular have fallen out of favor because of the damage they can inflict on friable surfaces and paint.<sup>12</sup> Freehand copies are infrequently used, since even a keen eye and steady hand are often insufficient to prevent distortions. The other recording methods—photography, direct tracings, and drawing on photographs—will be discussed below.

Epigraphers are frequently asked, "Why not just take a photograph?" But photographs alone rarely, if ever, constitute an adequate record of a sculptured wall surface. No single photograph can capture all the lines carved on the face of a stone wall, even if the wall surface is well preserved. The sculptured lines adequately recorded in a photograph are those that lie transversely in the path of the rays of light falling on the wall. The illumination throws a highlight on one side of the transverse line and a shadow on the other, producing contrasts that emphasize and sharply define the line. Lines that receive no such light and cast no shadows tend to disappear.<sup>13</sup> Breasted once observed that it would be necessary to take at least eight negatives of every inscription, each with a different illumination coming from top, bottom, right, left, and diagonally from each of the four corners to secure all the camera might record. Even then the photographs would not record all the wall discloses to the eye of a trained and experienced epigrapher.<sup>14</sup>







Third Pyramid at Giza and went on to clear hundreds of tombs in the central field at Giza, on the far side of the causeway of Khafre's pyramid and the Sphinx.<sup>19</sup> Reisner worked at Giza between 1902 and 1941 (see fig. 10), Schiaparelli from 1903 to 1905, Steindorff from 1903 to 1907, Junker from 1912 to 1914 and 1926 to 1929, and Hassan from 1929 to 1937. Schiaparelli's excavations appeared in print only in 1963,<sup>20</sup> and Steindorff's work remains largely unpublished.<sup>21</sup> Junker's report, however, came out in twelve volumes between 1929 and 1955.<sup>22</sup> Hassan's excavations were the subject of ten volumes published between 1932 and 1960.<sup>23</sup> Both Junker and Hassan included drawings and photographs of the wall scenes they discovered, as well as lengthy commentaries, analyses, and excursuses. In addition, the English archaeologist W. M. Flinders Petrie; two Egyptians, Ahmed Fakhry and Abdel-Moneim Abu-Bakr;<sup>24</sup> and an American, Clarence S. Fisher (1876–1941),<sup>25</sup> excavated smaller areas at Giza.

Fisher conducted his excavations on behalf of the Eckley B. Coxe Jr. Expedition for the University Museum of the University of Pennsylvania from January to March 1915 and published his results in *The Minor Cemetery at Giza* (1924). The sector of the great Giza cemetery cleared by him (cemetery G3000) proved to be one of the areas set aside for tombs of lower-level bureaucrats, members of the armed forces and constabulary, sailors and dockyard staff, clergy of various mortuary cults, and the like. Most of the tombs were constructed of brick with stone fittings. A surprising number had stone casings, however, usually stepped, but this seems to have exhausted the resources of the owners, since few inscribed objects were found in the stone-cased mastabas. The only mastaba in the cemetery with significant preserved decoration belonged to an inspector of ordinary priests of the cult of King Sneferu, named Sneferuhotep after his deceased master. The offering room of this mastaba tomb had painted offering and agricultural scenes on stucco.<sup>26</sup>

Fisher graduated as an architect from the University of Pennsylvania and learned professional field techniques from Reisner. As a result, *The Minor Cemetery at Giza* is an excellent record of archaeological data and architectural interpretation. Fisher had never received formal Egyptological training,<sup>27</sup> however, and he entrusted the publication of the inscriptions, reproduced in photographs and type-set alone, to Alan Rowe, who made only an adequate job of it. The paintings of Sneferuhotep were reproduced in poor-quality aquarelles by a W. G. Kemp. Nonetheless, Fisher's excavations provide important insights into the personal circumstances and wherewithal of those on the lower rungs of the social ladder in Egypt's Old Kingdom, a class frequently ignored in Egyptological literature.

The lion's share of the Giza necropolis fell to Reisner, who turned his attention to the pyramid cemeteries in 1902. In addition to the tombs of royal family members

and high state officials in the western field, Reisner cleared the great princely mastabas of the sons and daughters of Khufu in the eastern field and excavated the queen's pyramids and temples associated with the pyramid of Menkaure.<sup>28</sup> In 1904 Phoebe Apperson Hearst, Reisner's benefactor, notified him that "owing to a fault in the gold bearing stratum of the Homestake Mine, a large part of her income had been cut off and she was obliged to retrench her expenditures."<sup>29</sup> Thus she could not continue to support the expedition beyond 1905. Fortunately in that year the American concession at Giza was transferred to Harvard University and the Museum of Fine Arts, Boston.

According to Dows Dunham, Reisner's disciple and successor as curator of Egyptian art in Boston,

*[Reisner] was a dedicated man devoted utterly to the service of scholarship, for which he made many sacrifices both of his own comfort and that of his family. He was largely indifferent to the amenities of life as he was to its financial rewards, and to him money was simply a necessary means to furthering the work of the Expedition. His natural bent as well as his thorough training in scholarly methods under the great German archaeologists in his early days, made him a leader in the application of scientific methods to excavation, and he trained many of the leading Egyptologists of [succeeding generations].*<sup>30</sup>

When in the field, Reisner spent the winter excavating in the Sudan and the summer months working at Giza. Unlike many excavators of the day, he had a high regard for his Egyptian workmen and trained individuals to function as assistant draftsman, assistant publication secretary, and photographer for the expedition.<sup>31</sup> While at Giza Reisner lived at Harvard Camp, and there he died on June 6, 1942. His grave in the Mari Gigris cemetery in Cairo is marked by a simple tombstone of red Aswan granite bearing this inscription:

*Erected in memory of George Andrew Reisner by his family by the Trustees of the Museum of Fine Arts, Boston, in honor to the archaeologist and by his Egyptian workmen in memory of their mudir and friend.*

Reisner published his excavations on the Giza Plateau in his awesome *A History of the Giza Necropolis* (1942).<sup>32</sup> The tombs he discovered are discussed in minute detail and from almost every conceivable archaeological and architectural perspective. Reisner was interested in the typology of the wall scenes appearing in the tombs and their distribution, but only a limited number of the representations and texts were copied by the Harvard-Boston expedition. In 1905–6 Norman de



Garis Davies (1865–1941), who had earlier published the reliefs of the chapels of Ptahhotep and Akhethotep at Saqqara for the Archaeological Survey of the Egypt Exploration Fund, recorded the reliefs in a number of mastabas (G1029,

G1151, G1234, G2001, etc.) for Reisner.<sup>33</sup> Davies and his wife, Anna (Nina) Macpherson Davies (1881–1965), later gained fame through the publication of their extraordinary facsimile copies in color of New Kingdom tombs at Thebes.<sup>34</sup> Winifred Firth also copied reliefs for the Harvard-Boston expedition in the chapels of the Menkaure quarry and G2184 in 1906–7.<sup>35</sup> Other individuals also recorded wall scenes in mastabas uncovered by Reisner at Giza, and Elizabeth Eaton copied the wall reliefs from Giza in the Museum of Fine Arts, Boston.<sup>36</sup>

Another member of the Harvard-Boston expedition was Joseph Lindon Smith (1863–1950), an American artist whose reproductions of Egyptian reliefs aimed at realism and three-dimensional illusion (see fig. 13). Smith had the good fortune to attract the attention of several eminent patrons, including Isabella Stuart Gardner, Phoebe Apperson Hearst, and Reisner. From 1910 Smith painted in oil many of the Giza reliefs in the Harvard-Boston concession.<sup>37</sup> Ultimately he became honorary curator of the Egyptian department of the Museum of Fine Arts, Boston.<sup>38</sup> Smith's work leaves something to be desired from the paleographical point of view, as he could not read Egyptian hieroglyphs, yet his canvases are still to be valued because of the subsequent damage and paint degradation suffered by many of the scenes he copied.

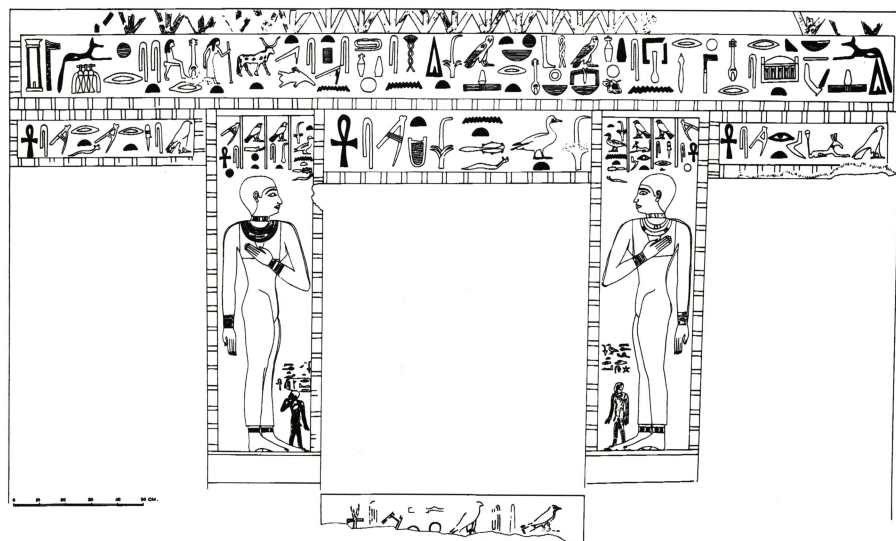
William Stevenson Smith (1907–69), a student of

Reisner's and his second successor as curator of Egyptian art in Boston, incorporated numerous details of the wall reliefs found by the Harvard-Boston expedition into his fundamental study *A History of Egyptian Sculpture and Painting in the Old Kingdom* (1946), and he himself made a number of sensitive aquarelles from tombs in the Boston concession.<sup>39</sup> The systematic publication of the reliefs and inscriptions of the individual tomb chapels, however, was initiated only in 1974 with the appearance of *The Mastaba of Queen Mersyankh III, G7530–7540*, by Dows Dunham and William Kelly Simpson, the first volume in a series entitled *Giza Mastabas* and published by the Museum of Fine Arts, Boston. In the series facsimile line drawings of each scene are presented with accompanying photographs for purposes of control and comparison (see figs. 14, 15). The ability



**FIGURE 13**  
Joseph Lindon Smith  
producing a facsimile  
painting in the tomb of  
Mereruka at Saqqara,  
1907; from Joseph L.  
Smith, *Tombs, Temples,  
and Ancient Art* (1956),  
facing p. 16.





**FIGURE 14**  
View of the interior  
of the tomb of Queen  
Meresankh III, exca-  
vated by Reisner and  
later published by Dows  
Dunham and William  
K. Simpson.

**FIGURE 15**  
Line drawing of scene  
from north wall of  
main room of tomb  
of Meresankh III; from  
Dows Dunham and  
William K. Simpson,  
*The Mastaba of Queen  
Mersyankh III* (1974),  
fig. 6.

to compare is important, for in many tomb publications only a few photographs are reproduced. In the Giza Mastaba volumes the scholarly reader is able in most instances to check the accuracy of the facsimile drawings against a photograph. At the same time all the hieroglyphic texts are translated, and the scenes are described.

Subsequent volumes in the Giza Mastaba series incorporate nearly sixty other tombs, not counting subsidiary burials.<sup>40</sup> Reisner excavated hundreds of tombs at Giza; of these, 180 or so tombs are inscribed or decorated. Thus, approximately one hundred tombs still remain to be copied and published.

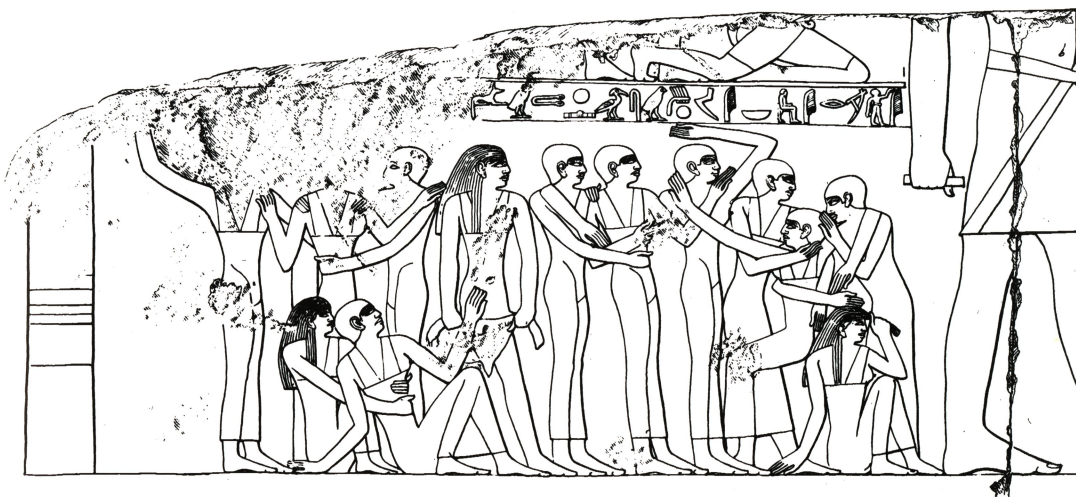
### **American Epigraphy at Saqqara**

As already noted, the Saqqara cemeteries remained largely the preserve of archaeologists from the Egyptian Antiquities Department, either European or Egyptian. An exception, however, was the Sakkarah Expedition of the University of Chicago. Between 1931 and 1937 this expedition busied itself copying the extensive and important relief sculptures of the vizier Mereruka, a high official of King Teti, the first ruler of the 6th Dynasty.

The sumptuous two volumes of *The Mastaba of Mereruka*, published by the Oriental Institute of the University of Chicago in 1938,<sup>41</sup> utilized photographs, paintings, and line drawings to great advantage in reproducing the tomb's wall scenes (see figs. 16–18). As in most modern tomb publications, facsimile line drawings are accompanied by photographs for purposes of comparison and control. The volumes are unique, however, in their use of collotype, a gelatin photographic plate that yields a very rich effect (see fig. 17).

In a 1939 review of *The Mastaba of Mereruka*, Norman de Garis Davies suggested that the “two volumes could have been reduced to one of the same size and have lost little or nothing by compression,” and added that the pages “cannot be rapidly run over without considerable physical fatigue.”<sup>42</sup> He presumably was referring to the fact that the folio volumes measure nineteen by fifteen inches and weigh fifteen pounds apiece. Davies could not deny, however, that they set a new standard of publication.





**FIGURE 16**  
Line drawing of a scene  
of mourning women  
from chamber A13,  
tomb of Mereruka;  
from *The Mastaba of  
Mereruka* (1938), vol.  
2, pl. 130A (left).

**FIGURE 18**  
Facsimile drawing of  
scene of mourning  
women from chamber  
A13, tomb of Mereruka;  
from *The Mastaba of  
Mereruka* (1938), vol.  
2, pl. 131.



**FIGURE 17**  
Collotype plate of  
Mereruka as repre-  
sented on pier 3, west  
side, chamber A13;  
original painting by  
expedition artist  
Vcevolod Strekalovsky,  
from *The Mastaba of  
Mereruka* (1938), vol.  
2, pl. 183.



A more realistic criticism would be that no attempt was made to translate the texts or to discuss the scenes, both of which are standard practice at present. In addition, not every line drawing is accompanied by a photograph by which to check its accuracy. The absence of photographs is particularly regrettable in instances where recutting has taken place.

The famous mastabas of Princess Idut, Kagemni, Ptahhetep, and Ti were included in the Oriental Institute's original plans to salvage and publish ancient Egyptian painting in the Saqqara necropolis, but the program was abandoned and the subsidiary chapels of Mereruka's wife and son were not copied. Nearly half a century later, however, in 1986–87, Ann Macy Roth went to Saqqara as a National Endowment for the Humanities postdoctoral fellow at the American Research Center in Egypt (ARCE) to copy the tomb chapel of Watetkhethor, Mereruka's wife.<sup>43</sup> In 1992 and 1994 an expedition of the Museum of Fine Arts, Boston, and the University Museum, University of Pennsylvania, copied the reliefs in the chapel of the couple's son, Meriteti.<sup>44</sup>



### **Mastaba Chapels in American Institutions**

Another aspect of American involvement with the Saqqara necropolis is the relocation and study of a number of mastaba chapels. These were removed from their original locations at Saqqara and presented or sold by the Egyptian government to various museums abroad, including a number of American institutions. Many of the mastabas, which Auguste Mariette had discovered and then reburied for their own protection in the 1860s,<sup>45</sup> had suffered severely from the depredations of dealers who paid locals to dig out the tombs by night and carry away decorated blocks for sale to museums.<sup>46</sup> After the turn of the century, to discourage this clandestine trade, the Egyptian Antiquities Service decided to offer complete mastaba chambers at a low price to the principal European and American museums, in the hope that the authorities of these museums would thenceforth refuse to buy detached and obviously stolen blocks.<sup>47</sup> Through this arrangement the Leiden museum acquired the chapel of Hetepherakhty in 1902; the Louvre purchased the chapel of Akhethotep in 1903, the surviving parts of the chapel of Werirenptah went to the British Museum in 1904; the Museum of Fine Arts, Boston, acquired the chapels of Sekhemankhptah and Kayemnofret in 1904; and Brussels received the chapel of Neferirtenef as a gift from the Egyptian government in 1905.<sup>48</sup> The offering chamber of Kapure, sent by the Egyptian government to America for exhibition at the Louisiana Purchase Exposition at Saint Louis in 1904, was purchased for the University Museum of the University of Pennsylvania.<sup>49</sup>

In 1907–8, in search of mastabas suitable for sale to museums that applied for them, James Edward Quibell, chief inspector at Saqqara, uncovered a series of tombs, most of them known since Mariette's day, in a long strip alongside the northern enclosure wall of the Step Pyramid, as well as a few tombs outside this area.<sup>50</sup> Copenhagen's Ny Carlsberg Glyptotek purchased most of the chapel of Kaemrehu in 1909,<sup>51</sup> but American museums benefited the most from Quibell's efforts. The mastaba of Perneb and the offering chamber of the tomb of Raemka, along with a wall from the tomb of Nykauhor, were taken down and sold in 1913 to the Metropolitan Museum of Art, New York.<sup>52</sup> Two mastaba chambers from Quibell's excavations, those of Netjeruser and Unisankh, went to the Field Museum of Natural History in Chicago.<sup>53</sup> Finally, in 1926, the west wall of the chapel of Kaemsenu, which had been excavated by Cecil M. Firth at Saqqara in 1921–22, was purchased by the Metropolitan Museum of Art.<sup>54</sup>

James Henry Breasted and T. George Allen reported on the progress made in the publication of the Saqqara mastabas removed to European and American museums in 1936.<sup>55</sup> There is no need to go over ground covered by them here, other than to note that in general the publication of the mastaba chapels in American museums has lagged well behind that of their European counterparts.

While the tomb chapels in European museums were often acquired with state funds, chapels in American collections were frequently purchased by wealthy benefactors. For example, Edward S. Harkness, a trustee of the Metropolitan Museum of Art, met all the expenses incurred in the purchase of the mastaba of Perneb, as well as its excavation, dismantling, and transportation to New York.<sup>56</sup> When the mastaba was reerected in the Egyptian galleries in 1916, a popular preliminary account was published, in which Albert M. Lythgoe detailed the tomb's removal and the principal features of its construction, and Caroline L. Ransom Williams (1872–1952) made a study of its decorative and inscriptional features.<sup>57</sup> Williams published a detailed study of the tomb's decoration in 1932. The volume is a signal contribution to our knowledge of the techniques used by the craftsmen who produced tomb reliefs and contains a fascinating account of the use of color in Egyptian art.<sup>58</sup>

Of the other mastaba sculptures from Saqqara in New York, a selection of scenes from Nykauhor's chapel was published by Quibell in line drawings.<sup>59</sup> Details from the carved relief scenes on the west wall of the chapel have appeared in various publications, especially the scene of a game of draughts and a group of musicians at a banquet.<sup>60</sup> The reliefs from the chapel of Kaemsenu were published in line drawings with commentary and translations shortly after their discovery,<sup>61</sup> and William C. Hayes published a photograph of the west wall, which conveys an impression of the quality of its relief.<sup>62</sup> No complete description of the offering room of Raemka has yet appeared, although Hayes reproduced several of the more interesting scenes, accompanied by an abbreviated commentary and translations of the texts.<sup>63</sup>

John Wanamaker, owner of the well-known Philadelphia department store, purchased the mastaba of Kapure for the University Museum of the University of Pennsylvania (at that time the Free Museum of Science and Art). For some years it was temporarily set up in the basement of the museum, where it might be seen, on application, by anyone who knew of its existence.<sup>64</sup> The chapel was permanently installed in 1926 in the museum's newly opened Eckley B. Coxe Jr. wing.<sup>65</sup> A publication on the tomb is being prepared by David P. Silverman.

Of the two mastaba chambers in Chicago, that of Netjeruser was among the six smaller and lesser-known tombs originally excavated by Mariette which were reexcavated and copied in 1903–4. Facsimile copies of its reliefs made by the Egyptologist Margaret Murray and two English artists, Miss F. Hansard and Miss Jessie Mothersole, were published in 1904.<sup>66</sup> The reliefs in the tomb of Unisankh are essentially unpublished.<sup>67</sup>

Except for a brief notice at the time of their accession to the museum,<sup>68</sup> two later articles on specific aspects of their sculptures,<sup>69</sup> and the illustration of certain



scenes,<sup>70</sup> the tomb chapels of Sekhemankhptah and Kayemnofret in Boston long remained unpublished. In 1975 William Kelly Simpson presented the first complete edition of the chapel of Sekhemankhptah, followed in 1992 by a publication on the other chapel.<sup>71</sup>

### Modern Epigraphic Technique

Two principal methods of copying wall scenes are in wide use today. The first of these is the Chicago House drawn-on photograph technique, which Prentice Duell and his colleagues used in their publication of the mastaba of Mereruka.<sup>72</sup> After the tomb or temple wall has been photographed, an enlarged photographic print is made. Standing before the actual wall, with the enlargement fastened to his or her drawing board, the artist adds in pencil all that can be seen, especially lines visible to the experienced eye but missed by the camera. Back in the drafting room, the artist traces in waterproof India ink the original photographic outlines and the additions made in pencil. The photographic print is then submerged in a chemical solution which bleaches out the photograph, leaving only the inked lines on a white background. A blueprint of the original is then made, and an Egyptologist-epigrapher compares it with the wall itself and makes any necessary additions or corrections. The technical term for this exhaustive process is “collation.”

Before taking the drawing to the wall, the epigrapher intensively studies the inscription, including any earlier published or unpublished photographs or drawings, and searches for parallels to the scene elsewhere. At least two epigraphers, sometimes more, make corrections on the collation sheets in front of the wall. An artist then enters the epigraphers’ alterations and additions on the original India ink drawing, which is checked at least once more by the epigraphers before the drawing goes to the photoengraver and printer. The drawing thus becomes a facsimile of the scene, reproducing the figures and characters carved on the wall “as accurately as may be done by inked lines on a flat surface” (see figs. 71–74).<sup>73</sup>

A second method is used by the Giza Pyramids Mastaba Project of the University of Pennsylvania, Yale University, and the Museum of Fine Arts, Boston, and by other expeditions currently working in Egypt. Sheets of high-transparency drafting paper with one dull surface are spread over the wall surface. An artist or Egyptologist-epigrapher traces the scene directly in pencil on the dull surface of the paper (fig. 19).<sup>74</sup> As with the Chicago House method, before taking the drawing to the wall, the epigrapher studies the inscription, including any earlier published or unpublished photographs or drawings, and searches for parallels to the scene. The Giza Mastabas Project is fortunate to possess the extensive archive of photographs taken by Reisner and a succession of Egyptian photographers during the course



**FIGURE 19**  
Artist Nicholas Thayer  
tracing a broken lintel  
of Prince Minkhaf, east-  
ern pyramid field, Giza.

of Reisner's Giza excavations.<sup>75</sup> The wall surfaces, particularly those outside and exposed to wind-driven sand or gratuitous vandalism, have undergone considerable deterioration in the intervening years, so these photographs, taken when the walls were freshly uncovered, are frequently consulted. After the tracing is collated by a second Egyptologist, the copies are retraced on standard drawing paper, the final tracing inked, and the resulting drawing reduced photographically to one-fifth the original size for publication.<sup>76</sup>

Both methods have advantages and disadvantages. The direct tracing method cannot be used when the wall surface is fragile, the paper is completely transparent only when perfectly smooth, and the wind often makes it difficult to keep the tracing against the wall.<sup>77</sup> The Chicago House method, by contrast, requires an elaborate infrastructure, support staff, and a substantial amount of time. Neither technique adequately accounts for the use of color in the original scene, a shortcoming that is exacerbated by the prohibitive cost of color plates.<sup>78</sup>

There are other methods of recording, however. Ann Macy Roth used 35mm slides to copy all reliefs in the chapel of Watetkhethor at Saqqara in 1986–87. The scenes were first photographed and measured to establish reference points; the resulting slides were then projected onto sheets of drawing paper, and the decoration recorded by tracing the projected images. Subsequently the drawings were collated on site, and the final inked drawings were made on tracing paper, incorporating the corrections.<sup>79</sup>

A relatively new method that holds considerable potential for the future is digital epigraphy. Photographs are scanned into the computer and traced on-screen using a vector drawing program. The drawing files can be edited, scaled, cropped, colorized, shaded, and so forth. Peter der Manuelian of the Museum of Fine Arts, Boston, has been experimenting with digital epigraphy in his publication of cemetery G2100 at Giza with excellent results.

### **Recent Explorations on the Giza Plateau**

A number of recent and current American archaeological projects at Giza should be noted. In a series of related projects, Mark Lehner of the University of Chicago's Oriental Institute has aimed to clarify a variety of issues involving the necropolis and the people who labored and were buried there. From 1980 to 1984, under the auspices of ARCE and with the encouragement of the Egyptian Antiquities Organization, Lehner and James P. Allen (working 1978–81) carried out an architectural, archaeological, and geo-archaeological study of the Giza Sphinx.<sup>80</sup> The Sphinx Project resulted in a set of true-to-scale contoured drawings of the monument, achieved with the help of photogrammetry (the use of aerial photographs to obtain reliable measurements), conventional surveying techniques, and computer-

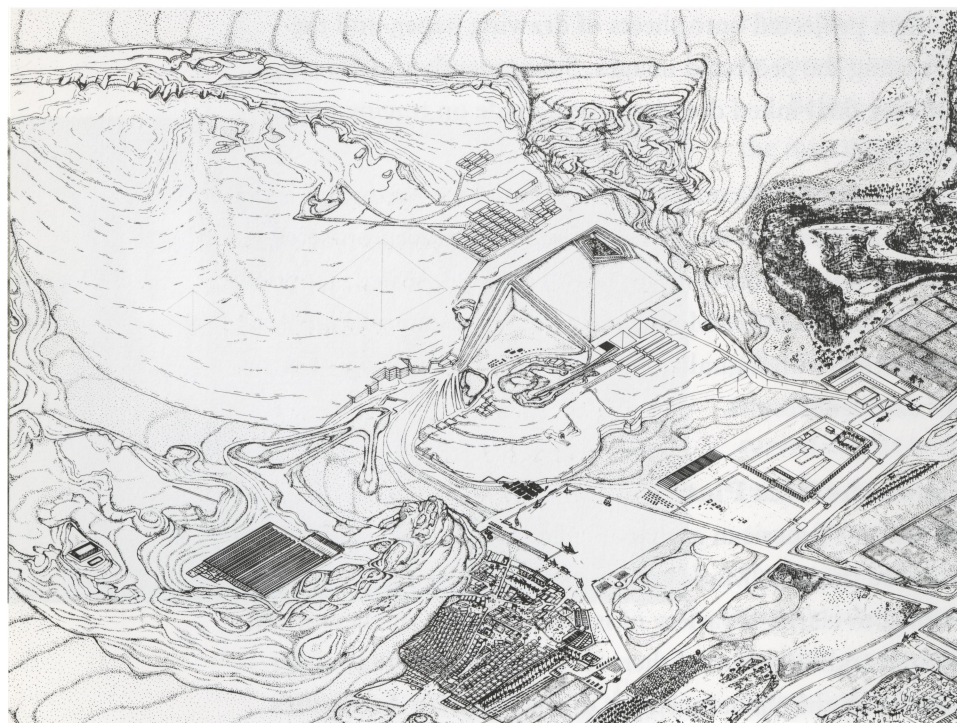




**FIGURE 20**  
Computer-generated  
isometric rendering of  
the Sphinx.

generated models of the Sphinx, both as originally carved in the 4th Dynasty and as renovated during the 18th Dynasty (see fig. 20).<sup>81</sup> Of considerable import was Lehner's demonstration that the solar temple below the paws of the Sphinx definitely dated to the Old Kingdom: as the sedimentary bedrock of the Sphinx was cut from the top down, it was used to raise the walls of the temple.<sup>82</sup>

Since 1983 the Giza Plateau Mapping Project, also under Lehner's direction, has addressed many questions about the origins of the pyramids. Lehner has followed a contextual approach to the Giza Plateau which recognizes its overall spatial patterning and attempts to understand how that patterning relates to the shape and characteristics of the landforms that host the pyramids.<sup>83</sup> The main objective of the project is the production of a large-scale (1:1,000) contoured map that ties together the plans of the major pyramids, temples, and cemeteries with the topography of the site. Other goals include larger-scale archaeological studies of poorly documented structures in the necropolis; a geological study of the limestone formation of the Giza Plateau and the quarried stone forming the pyramids, temples, and tombs at the site to determine the source of the stone and the sequence of quarrying and construction; an examination of rock-cut features left in the floors around the Khufu and Khafre pyramids in an analysis of how stone was used in the layout and orientation of the pyramids;<sup>84</sup> and, to clarify the patterning of areas of various activities, a sedimentological study and spatial analysis to determine deposits resulting from quarrying, masonry, construction ramps, and settlements.<sup>85</sup> One result of the mapping project has been an extraordinary isometric rendering of the Giza Plateau showing how the landscape affected the manner in which the 4th Dynasty Egyptians mobilized to build the Great Pyramid of Khufu, the first major construction project on the plateau (see fig. 21).<sup>86</sup>



**FIGURE 21**  
Isometric reconstruction  
of the Giza Plateau by  
Mark Lehner, 1995.

In 1988–89 the Giza Plateau Mapping Project shifted its focus to the whereabouts of workers' accommodations. Petrie had dug two of the one hundred or so long, narrow galleries contained within a great rectangular enclosure (four hundred by eighty meters) west of the Second Pyramid, and he concluded that they



were the barracks of workmen. Lehner and his team found no evidence that people had once lived there and concluded from the remaining evidence that the galleries were utilized for royal craft work and storage activities only.<sup>87</sup> But in three areas of low desert to the south of the great stone wall south of the Sphinx, Lehner's excavation teams found impressive evidence of food storage and production for pyramid workers.<sup>88</sup>

Lehner and his team work in close collaboration with Zahi Hawass, general director of antiquities of the Giza pyramids and Saqqara. Immediately to the west of the food production complex uncovered by the American expedition, Hawass discovered the cemetery of the workmen who built the pyramids. Unique to the cemetery are beehive-shaped tombs of mud brick that mark the graves of many workers. Thirty large tombs and some six hundred small tombs have been found to date.<sup>89</sup>

### Temple Reliefs

Americans have not played a large role in the publication of Old Kingdom royal temple reliefs. An exception is Hans Goedicke's study of Old Kingdom royal reliefs reused in the pyramid at Lisht of Amenemhat I, founder of the 12th Dynasty.<sup>90</sup> Publication of the reused blocks established beyond reasonable doubt that the pyramid temples and causeways of the 4th Dynasty sovereigns Khufu and Khafre were indeed decorated with relief carvings.



**FIGURE 22**  
Watercolor rendering  
by William Stevenson  
Smith of the blowfish  
hieroglyph from the  
tomb of Kakherptah  
at Giza.

### Old Kingdom Paleography

Although at present no comprehensive hieroglyphic paleography of the Old Kingdom, dealing with the origin and development of signs and their uses and values, exists,<sup>91</sup> American contributions to the field include William Stevenson Smith's tabulation of the coloring of Old Kingdom hieroglyphs, published along with two color plates of fifty or so complicated signs painted in watercolor in *A History of Egyptian Sculpture and Painting in the Old*

*Kingdom*.<sup>92</sup> Extensive color notes by Smith together with a large number of his original watercolor renderings of hieroglyphic signs are conserved in Boston. The individual signs are frequently minor artworks in themselves (see fig. 22). Also on file in Boston are unpublished color notes by Caroline Ransom Williams on tombs in the Harvard-Boston concession at Giza.



No living Egyptologist has done more than Henry G. Fischer (b. 1923) to sensitize colleagues to the form and context of hieroglyphs. In a series of articles and books he has devoted considerable thought to the origin and development of individual hieroglyphic signs.<sup>93</sup> In “Archaeological Aspects of Epigraphy and Palaeography,” he observed that “it is not sufficient only to examine the paleographic development of the signs; one must simultaneously take into account such epigraphic considerations as their location, orientation, layout and spacing. In short, it is not only the form that counts, but the context.”<sup>94</sup> In the same essay Fischer reviewed various contexts, and in a later volume he examined in depth changes in orientation of hieroglyphs within the same inscription.<sup>95</sup>

Fischer has likewise pointed out that the paleographic development of signs, as well as such epigraphic considerations as their location, orientation, layout, and spacing, can be an important aid in dating and establishing the provenance of archaeological material. In periods when few conventional historical documents were produced, such as the late Old Kingdom and the Heracleopolitan period, the signs tended to develop local peculiarities that can even suggest the extent of contact and alliance between various towns and provinces.<sup>96</sup> Expanding on the earlier work of German scholars H. J. Polotsky<sup>97</sup> and Wolfgang Schenkel,<sup>98</sup> Fischer has analyzed some of these idiosyncrasies and has demonstrated how they can aid the scholar in writing the history of these dimly understood epochs.<sup>99</sup> Fischer’s research has underlined the loss of information resulting from standardization of hieroglyphic signs and line drawings by many early epigraphers.<sup>100</sup>

CHAMPOLLION BEGAN THE COLOSSAL TASK of recording the monuments of ancient Egypt in 1829. In the following 150 years, to quote Darwin in another context, “progress has been much more general than retrogression.”<sup>101</sup> But a great deal remains to be done, and it is devoutly hoped that Americans will continue to play a prominent role in the recording and publication of texts and representations from the great mastaba cemeteries of the Pyramid Age.

## Notes

*I would like to thank my wife, Del Nord, and an old friend and colleague, Cynthia May Sheikolislami, for a number of helpful suggestions that have been incorporated in the text.*

**1** Cecil M. Firth and Battiscombe Gunn, *Teti Pyramid Cemeteries, Excavations at Saqqara* 7 (Cairo: IFAO, 1926), vol. 1, 38, 142 [20], vol. 2, pl. 20 c (chapel of Satinteti in situ), 10 (reused block of Watetkhetor). For a second reused block from Watetkhetor's chapel, see vol. 2, 142 [19], 208 [9] (sidepiece of Nes[et]userti).

**2** The Sakkarah Expedition, *The Mastaba of Mereruka*, vol. 1, OIP 31 (Chicago: University of Chicago Press, 1938), xii.

**3** Karl Richard Lepsius, *Denkmäler aus Ägypten und Äthiopien: Ergänzungsband* (Leipzig: J. C. Hinrichs, 1913), xxii [b].

**4** George A. Reisner, "A Family of Builders of the Sixth Dynasty, about 2600 B.C.," *BMFA* 11 (November 1913): 53.

**5** Chicago, Field Museum 31705; Lepsius, *Ergänzungsband*, xvi.

**6** See Sergio Donadoni et al., *Egypt from Myth to Egyptology* (Milan: Fabbri Editori, 1990), 110.

**7** John A. Wilson, *Signs and Wonders upon Pharaoh: A History of American Egyptology* (Chicago: University of Chicago Press, 1964), 30.

**8** Ibid.

**9** Jean-François Champollion, *Monuments de l'Égypte et de la Nubie*, 4 vols. (Paris: Firmin Didot Frères, 1835–45); idem, *Notices descriptives*, 2 vols. (Paris: Firmin Didot Frères, 1844–89); Ippolito Rosellini, *I monumenti dell'Egitto e della Nubia*, 11 vols. (Pisa: Capurro, 1832–44).

**10** Wilson, *Signs and Wonders*, 30.

**11** See Ricardo Caminos and Henry G. Fischer, *Ancient Egyptian Epigraphy and Palaeography* (New York: MMA, 1976), 3.

**12** Ibid., 15–16.

**13** James H. Breasted, *The Oriental Institute, University of Chicago Survey* 12 (Chicago: University of Chicago Press, 1933), 203–4.

**14** Ibid.

**15** George A. Reisner, *A History of the Giza Necropolis*, vol. 1 (Cambridge: Harvard University Press, 1942), 22. Reisner provides a list of scholars who have copied reliefs and inscriptions in the Giza mastabas, beginning with the French expedition of 1798–1801.

**16** For the Ballard excavations, see William Stevenson Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom*, 2d ed. (London: Oxford University Press, 1949), 67–68; PM, 2d ed., vol. 3, 175–76.

**17** George A. Reisner, autobiographical ms., Department of Ancient Egyptian, Nubian, and Near Eastern Art, MFA, Boston, 4–5. All references to this manuscript have been cited with the kind permission of Rita E. Freed, curator of ancient Egyptian, Nubian, and ancient Near Eastern art.

**18** See Reisner, *Giza Necropolis*, vol. 1, 22–23.

**19** Ibid., 23.

**20** Silvio Curto, *Gli scavi italiani a el-Ghiza (1903)*, Centro per le antichità e la storia dell'arte del Vicino Oriente, Monografie di archeologia e d'arte 1 (Rome: Aziende Tipografiche eredi Dotti G. Bardi, 1963).

**21** See Georg Steindorff and Uvo Hölscher, *Die Mastabas westlich der Cheopspyramide nach den Ergebnissen der in den Jahren 1903–1907 im Auftrag der Universität Leipzig und des Hildesheimer Pelizaeus-Museums unternommenen Grabungen in Giza*, 2 vols., ed. and rev. by Alfred Grimm (Frankfurt am Main: Peter Lang, 1991). For texts and objects from the excavations, see PM, 2d ed., vol. 3, 108–18, 177.

**22** Hermann Junker, *Giza: Bericht über die von der Akademie der Wissenschaften in Wien auf gemeinsame Kosten mit Dr. Wilhelm Pelizaeus unternommenen Grabungen auf Friedhof des Alten Reich bei den Pyramiden von Giza*, 12 vols. (Vienna: Hölder-Pichler-Tempsky and Rudolf M. Rohrer, 1929–55).

**23** Selim Hassan, *Excavations at Giza*, 10 vols. (Oxford: Faculty of Arts of the Egyptian University; Cairo: Government Press, 1936–60); Warren R. Dawson and Eric P. Uphill, *Who Was Who in Egyptology*, 2d rev. ed. (London: Egypt Exploration Society, 1972), 134.

**24** See W. M. Flinders Petrie, *Gizeh and Rifeh*, Publications of the Egyptian Research Account 13 (London: Bernard Quaritch, 1907), 8–9, pls. 7A–D; Ahmed Fakhry, *Sept tombeaux à l'est de la grande pyramide de Guizeh* (Cairo: IFAO, 1935); and Abdel-Moneim Abu Bakr, *Excavations at Giza, 1949–1950* (Cairo: Government Press, 1953).

**25** For Fisher's achievements as an excavator, see David O'Connor and David Silverman, "The Museum in the Field," *Expedition* 21 (Winter 1979): 22–26.

**26** Clarence S. Fisher, *The Minor Cemetery at Giza*, Eckley B. Cox Jr. Foundation, n.s., 1 (Philadelphia: University Museum, 1924), pls. 53–55.

**27** For Fisher's career, see O'Connor and Silverman, "Museum in the Field," 23.

**28** In both the western and eastern fields the tombs of lesser officials and descendants or funerary priests of the original owners filled the streets and any available spaces.

**29** Reisner, autobiographical ms., 5–6.

**30** Dows Dunham, *The Egyptian Department and Its Excavations* (Boston: MFA, 1958), 23.

**31** Reisner, *Giza Necropolis*, vol. 1, viii–ix.

**32** The second part of *History of the Giza Necropolis*, vol. 1, chaps. 9–14, on the service equipment of the chapels and the funerary equipment found in the burial chambers, is presently being edited for publication by Edward Brovanski.

**33** See Reisner, *Giza Necropolis*, vol. 1, vii. A watercolor reconstruction of the portico of Tjetu I (G2001) and two more details from the portico by Davies are published in William Kelly Simpson, *Mastabas of the Western Cemetery*, pt. 1 (Boston: MFA, 1980), frontispiece and color plates A and B. Davies also copied and published the reliefs in a number of Old Kingdom tombs for the Egypt Exploration Fund; see Norman de Garis Davies, *The*

*Mastaba of Ptahhetep and Akhetetep at Saqqarah*, 2 vols., Memoirs of the Archaeological Survey of Egypt 8, 9 (London: Egypt Exploration Fund, 1900–1901); idem, *The Rock Tombs of Sheikh Said*, Memoirs of the Archaeological Survey of Egypt 10 (London: Egypt Exploration Fund, 1901); idem, *The Rock Tombs of Deir el Gebrāwī*, 2 vols., Memoirs of the Archaeological Survey of Egypt 11, 12 (London: Egypt Exploration Fund, 1902–3).

**34** Nina Davies included four copies of Old Kingdom scenes in the first of two folio volumes of idem, *Ancient Egyptian Paintings* (Chicago: University of Chicago Press, 1936).

**35** See Reisner, *Giza Necropolis*, vol. 1, vii. On G2184, see Sue D'Auria, Peter Lacovara, and Catharine H. Roehrig, *Mummies and Magic: The Funerary Arts of Ancient Egypt*, exh. cat. (Boston: MFA, 1988), no. 14.

**36** Reisner, *Giza Necropolis*, vol. 1, vii, no. 14.

**37** Ibid., vii.

**38** For an eminently readable account of Smith's life, see Joseph L. Smith, *Tombs, Temples, and Ancient Art*, ed. Corinna L. Smith (Norman: University of Oklahoma Press, 1956).



- 39** See, e.g., Kent R. Weeks, *Mastabas of Cemetery G 6000, Including G6010 (Neferbaupth), G6020 (Iymery), G6030 (Ity), G6040 (Shepseskaf-ankh)*, Giza Mastabas 5 (Boston: MFA, 1995), color plates 6B, 7A–B, 8.
- 40** Simpson produced three more volumes in the series: *The Mastabas of Qar and Idu*, G 7101 and 7102, Giza Mastabas 2 (Boston: MFA, 1976); *The Mastabas of Kawab: Khafkhufu I and II*, G 7110–20, 7130–40, and 7150 and *Subsidiary Mastabas of Street G 7100*, Giza Mastabas 3 (Boston: MFA, 1978); *Mastabas of the Western Cemetery*, pt. 1, *Sekhemka* (G 1029); *Tjetu I* (G 2001); *Iasen* (G 2196); *Penmeru* (G 2197); *Hagy*, *Nefertjentet*, and *Herunefer* (G 2352/53); *Djaty*, *Tjetu II*, and *Nimesti* (G 2337 X, 2343, 2366), Giza Mastabas 4 (Boston: MFA, 1980). In 1995, after a long hiatus, a fifth volume in the series appeared, *Mastabas of Cemetery G 6000*, authored by Kent R. Weeks, professor of Egyptology at the American University in Cairo. At present six additional volumes are well advanced or projected: Ann Macy Roth, *A Cemetery of Palace Attendants (Hntyw-š)*; Edward Brovarski, *The Senedjemib Complex*, pt. 1; William K. Simpson, *The Mastabas of the Seshemnofer I and II*; Peter der Manuelian, *Mastabas of Nucleus Cemetery G 2100*;
- Edward Brovarski, *The Senedjemib Complex*, pt. 2; idem, *The Princely Mastabas of the Eastern Cemetery*.
- 41** The Sakkarah Expedition, *The Mastaba of Mereruka*, 2 vols., OIP 31, 39 (Chicago: University of Chicago Press, 1938).
- 42** Norman de Garis Davies, review of *The Mastaba of Mereruka*, JEA 25 (1939): 223–24.
- 43** Ann Macy Roth, “The Test of an Epigraphic Method,” NARCE, no. 141 (Spring 1988): 7–13.
- 44** The codirectors of the project were Rita Freed and Edward Brovarski, Museum of Fine Arts, Boston, and David Silverman, University of Pennsylvania. This was one aspect of the work in the Teti pyramid cemetery, which also included the two Middle Kingdom chapels of Ihy and Hetep.
- 45** Auguste Mariette, *Les mastabas de l’ancien empire: Fragment du dernier ouvrage de A. Mariette* (Paris: F. Vieweg, 1889).
- 46** As James H. Breasted and T. G. H. Allen noted (foreword, *Mastaba of Mereruka*, vol. 1, xiv), the reexcavation and full publication of the Saqqara tombs discovered by Mariette remain a responsibility for the future.
- 47** James E. Quibell, *Excavations at Saqqara (1907–1908)*, Excavations at Saqqara 3 (Cairo: IFAO, 1909), 22–23.
- 48** Breasted and Allen, in *Mastaba of Mereruka*, vol. 1, xvi–xvii.
- 49** Ibid., xvii.
- 50** Quibell, *Excavations at Saqqara*, 1907–1908, 22–23.
- 51** As Breasted and Allen noted (*Mastaba of Mereruka*, vol. 1, xvii), the east wall of the chapel had been removed by Mariette and remained in Cairo (CG 1534).
- 52** Quibell, *Excavations at Saqqara*, 1907–1908, 24, 25; MMA, *The Tomb of Perneb* (New York: [Gilliss Press], 1916), 26–29.
- 53** Quibell, *Excavations at Saqqara*, 1907–1908, 23.
- 54** William C. Hayes, *The Scepter of Egypt: A Background for the Study of Egyptian Antiquities in the Metropolitan Museum of Art*, vol. 1 (New York: MMA, 1953), 104.
- 55** In *Mastaba of Mereruka*, vol. 1, xvi–xvii. The surviving parts of the chapel of Werirenptah in the British Museum have been republished in modern line drawings with a brief descriptive text, in T. G. H. James, *Hieroglyphic Texts from Egyptian Stelae, etc., in the British Museum*, 2d ed.
- (London: British Museum, 1961), vol. 1, pls. 28–30. A definitive publication of the chapel of Neferirtenefer in Brussels has appeared in Baudouin van de Walle, *La chapelle funéraire de Neferirtenefer* (Brussels: Musées royaux d’art et d’histoire, 1978). The first complete edition and commentary on the Louvre mastaba appeared in Christiane Ziegler, *Le mastaba d’Akhethetep: Une chapelle funéraire de l’Ancien Empire* (Paris: Réunion des Musées Nationaux, 1993).
- 56** MMA, *The Tomb of Perneb*, 28–29.
- 57** Caroline Ransom Williams, *The Decoration of the Tomb of Perneb*, Publications of the Department of Egyptian Art 3 (New York: MMA, 1932).
- 58** See Breasted and Allen, in *Mereruka*, vol. 1, xvii.
- 59** Quibell, *Excavations at Saqqara*, 1907–1908, pls. 62–66.
- 60** PM, 2d ed., vol. 3, 498.
- 61** Firth and Gunn, *Teti Pyramid Cemetery*, vol. 1, 32, 157–64, vol. 2, pls. 62–63.
- 62** Hayes, *Scepter of Egypt*, vol. 1, 105, fig. 60.
- 63** Ibid., 94–102, figs. 54–57.
- 64** David P. Silverman, “The Title *wr bzt* in the Tomb Chapel of K3.(j)-pw-R(TM),” in *For His Ka: Essays Offered in Memory of Klaus Baer*, ed. David P. Silverman, Studies in Ancient Oriental Civilization 55 (Chicago: Oriental Institute, University of Chicago, 1993) 245, and the following article.
- 65** See Cornelia H. Dam, “The Tomb Chapel of Ra-Ka-Pou,” *Museum Journal* 18 (1927): 188–200, for a brief description of the scenes and small-scale photographs. For the conversation of the workmen depicted on the mastaba walls, see [C.] P[hilippus] M[jiller], “Conversations and Calls Recorded on the Walls of the Tomb of Kapuire,” *University Museum Bulletin* 7 (April 1937): 26–30. The author’s name and this article were brought to my attention by David P. Silverman, curator of the Egyptian Section, University of Pennsylvania Museum of Archaeology and Anthropology.
- 66** Margaret A. Murray, *Saqqara Mastabas*, pt. 1, Memoirs of the Egyptian Research Account 10 (London: Bernard Quaritch, 1904), 19–24, pls. 20–23, 32.
- 67** See PM, 2d ed., vol. 2, 616–17.
- 68** L. E. Rowe, “Two Mastaba Chambers,” *BMFA* 8 (1910): 19–20.
- 69** Dows Dunham, “A ‘Palimpsest’ on an Egyptian Mastaba Wall,” *AJA* 39 (1935): 300–309; Emily Teeter, “Techniques and Terminology of Rope-Making in Ancient Egypt,” *JEA* 73 (1987): 71–77.
- 70** For specific references, see PM, 2d ed., vol. 3, 454–55, 467–68.
- 71** William Kelly Simpson, *The Offering Chapel of Sekhem-ankh-ptah in the Museum of Fine Arts, Boston* (Boston: MFA, 1976); idem, *The Offering Chapel of Kayemnofret in the Museum of Fine Arts, Boston* (Boston: MFA, 1992). Both folio volumes include a concise commentary and translations of the hieroglyphic texts coupled with facsimile drawings and photographs of the chapels. The drawings are presented at a usable scale (1:5) that communicates the artistry of the ancient sculptor, and details are provided at larger scales. The numerous photographs provide a standard for verifying the accuracy of the drawings.
- 72** This summary of the Chicago House method closely follows Breasted, *The Oriental Institute*, 205–12.
- 73** Ibid., 209–12.

**74** The Egypt Exploration Society in its work in the New Kingdom necropolis south of the Unas causeway at Saqqara utilizes an allied method, except that tracings are made with a fine-tipped marker on clear plastic film; once the facsimile tracings have been transferred to paper or photographically reproduced, the tracings can be washed off and the film used again.

**75** See Reisner, *Giza Necropolis*, vol. 1, viii; and Peter der Manuelian, ed., "George Andrew Reisner on Archaeological Photography," *JARCE* 29 (1992): 1-34.

**76** See William Kelly Simpson, "The Pennsylvania-Yale Giza Project," *Expedition* 21 (Winter 1979): 61-62.

**77** Ibid.

**78** As Ricardo Caminos has noted: "Paint is inseparable from the inscriptions and figures on which it is laid, and no record is either satisfactory or complete that fails to give an adequate account of it, no matter how large or small the amount of color still extant may be" (*Ancient Egyptian Epigraphy and Palaeography*, 22).

**79** Roth, "The Test of an Epigraphic Method," 8-9.

**80** For a concise summary of the work, see Mark Lehner, "Reconstructing the Sphinx," *Cambridge Archaeological Journal* 2 (1992): 3-26. The Sphinx Project actually began in 1980, with James P. Allen, then Cairo director of ARCE and now associate curator of Egyptian art at the Metropolitan Museum of Art, as project director and Mark Lehner as field director.

**81** Ibid., 8-24, figs. 3-11.

**82** Mark Lehner, "The ARCE Sphinx Project: A Preliminary Report," *NARCE*, no. 112 (Fall 1980): 14-15.

**83** Ibid., 23-24.

**84** See Mark Lehner, "Some Observations on the Layout of the Khufu and Khafre Pyramids," *JARCE* 20 (1983): 7-25.

**85** Ibid., 26-27.

**86** Mark Lehner, "Excavations at Giza, 1988-1991: The Location and Importance of the Pyramid Settlement," *The Oriental Institute: News and Notes*, no. 135 (Fall 1992): 1.

**87** Ibid., 2.

**88** Ibid., 6-7.

**89** Zahi Hawass, personal communication.

**90** Hans Goedicke, *Re-used Blocks from the Pyramid of Amenemhat I at Lisht*, MMA Egyptian Expedition 20 (New York: MMA, 1971). Modern facsimile drawings by Lindsley Hall in the volume are very fine.

**91** Nathalie Beaux has embarked on just such a study, beginning with the hieroglyphic signs inscribed on the walls of the tomb chapels of the Harvard-Boston concession at Giza.

**92** Smith, *Egyptian Sculpture and Painting*, 366-82, pls. A, B. In *Saqqara Mastabas*, vol. 1, pls. 41-45, Murray gives a list in tabular form of the colors of the hieroglyphs found in the tombs published in the volume.

**93** See esp. Henry G. Fischer, *Varia*, Egyptian Studies 1 (New York: MMA, 1977); and idem, *Ancient Egyptian Calligraphy: A Beginner's Guide to Writing Hieroglyphs*, 3d ed. (New York: MMA, 1988). Fischer, in the latter volume, encouraged a better standard in writing Egyptian hieroglyphs and contributed numerous insightful remarks on the origin and development of hieroglyphic script. He has published in his articles and books numerous Old Kingdom monuments in line drawings and photographs.

**94** Caminos and Fischer, *Ancient Egyptian Epigraphy and Palaeography*, 29.

**95** Henry G. Fischer, *The Orientation of Hieroglyphs*, pt. 1, *Reversals*, Egyptian Studies 2 (New York: MMA, 1977).

**96** Caminos and Fischer, *Ancient Egyptian Epigraphy and Palaeography*, 30.

**97** H. J. Polotsky, *Zu den Inschriften der 11. Dynastie*, Untersuchungen zur Geschichte und Altertumskunde Ägyptens 11 (Leipzig: J. C. Hinrichs, 1929).

**98** Wolfgang Schenkel, *Frühmittelägyptische Studien* (Bonn: Bonn University Press, 1962).

**99** E.g., Henry G. Fischer, *Inscriptions from the Coptite Nome, Dynasties VI-XI*, *Analecta Orientalia* 40 (Rome: Pontificum Institutum Biblicum, 1964); idem, *Dendera in the Third Millennium B.C. down to the Theban Domination of Upper Egypt* (Locust Valley, N.Y.: J. J. Augustin, 1968).

**100** See, e.g., the instances of the practice cited by Caminos, *Ancient Egyptian Epigraphy and Palaeography*, 4-6.

**101** Charles Darwin, *The Descent of Man and Selection in Relation to Sex* (1871), chap. 4.