Towards a New History for the Egyptian Old Kingdom

Perspectives on the Pyramid Age

Edited by

Peter Der Manuelian and Thomas Schneider



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CHAPTER 7

Harvard University–Boston Museum of Fine Arts Expedition Contributions to Old Kingdom History at Giza: Some Rights and Wrongs

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Abstract

This paper summarizes the work and achievements of the Giza Archives Project at the Museum of Fine Arts, Boston, over ten years (2000–2011), supported by the Andrew W. Mellon Foundation. Examples illustrate the value of the Harvard University–Boston Museum of Fine Arts Expedition's massive archaeological archive for reconstructing aspects of Old Kingdom history. Some of the pitfalls for researchers arising from the Expedition records created by George Reisner and his staff are also highlighted. Current progress by the Giza Project at Harvard includes ongoing archaeological efforts by an international Giza consortium, as well as new modes of presenting Giza in 3D as a research and teaching tool.

1 Introduction

The symposium that is the subject of this volume was conceived to focus on big picture topics related to Old Kingdom history and research. For the site of Giza, I would like to consider some of the approaches the Giza Project has been experimenting with in recent years. Until recently, our focus has centered on the Harvard University–Boston Museum of Fine Arts Expedition, directed by George A. Reisner between 1905 and 1942. The goal of Reisner's excavations, as he saw it, was—first and foremost—to enhance our knowledge of Egyptian history: "The main purpose of the expedition has always been historical research. The objects found, although necessary for the continuation of subscriptions, have always been regarded by the expedition as a by-product of historical research."¹ In the pages that follow I will summarize five discrete topics relating to the study of Giza, past and present: 1) Some HU–MFA contributions

¹ Reisner, "Egyptology 1896–1928," 242.

to Giza research; 2) HU–MFA data problems; 3) Small research details with larger historical implications; 4) Visualization as a research tool; and 5) "Giza international," a plea for data sharing.

2 Some HU-MFA Contributions to Giza Research

Aspects of social and mortuary development demand a reasonably large dataset to provide meaningful conclusions (Fig. 7.1). The Harvard University-Boston Museum of Fine Arts Expedition corpus was in its time the largest collection of archaeological data from Giza, and is rivaled today only by the assemblage compiled by Mark Lehner and his team from Ancient Egypt Research Associates, although of course with a contemporary, interdisciplinary, and thus very different, focus.² The Giza cemeteries are so large that, in order to avoid documentary chaos, Reisner numbered the cemeteries east and west of the Great Pyramid. This four-digit numbering system is still in use today, and remains one of his most practical contributions to accessing the site.³ Streets progress from lower numbers (1000s) in the west to higher numbers in the east (7000s).⁴ By this method one can discern instantly that G 1000-6000 numbers represent Western Cemetery tombs, while any tomb with a G 7000 number belongs in the Eastern Cemetery (Fig. 7.2). Major mastabas bear "round numbers" such as, moving from south to north: G 4410, G 4420, G 4430, G 4440, with the next row (further east) increasing by a factor of one-hundred: G 4510, G 4520, G 4530, G 4540. Subsidiary and/or intrusive

² See http://www.aeraweb.org, with lists of publications collected there.

³ Some tomb renumbering has, nevertheless, introduced some confusion into the Western Cemetery. For example, the Cemetery en Echelon, the nucleus cemetery closest to the Khufu Pyramid, was renamed from the 2000s to the 5000s, *e.g.*, Seshemnefer II's tomb was originally mastaba G 2200, but now bears the number G 5080. Similarly, part of the cemetery east of the large mastaba G 2000 (= Lepsius 23) was originally given G 2000s numbers that duplicated those further west, excavated in 1915 by Clarence Fisher and published in *The Minor Cemetery at Giza*; see Roth, *A Cemetery of Palace Attendants*, 3: "Confusingly, Giza mastabas numbered from 2086 through 2099 occur in Clarence Fisher's 1924 publication of the tombs he excavated at the far west end of the Western Cemetery, duplicating the numbers of mastabas in the cluster studied here. Reisner apparently renumbered Fisher's mastabas as 3086 through 3099 after their publication. All of Reisner's notes and records, as well as subsequent publications by other scholars (including the Porter and Moss *Topographical Bibliography*), use Reisner's numbers."

⁴ One exception is the G 6000 cemetery, occupying its own space southwest of the mastaba of Hemiunu (G 4000); see Weeks, *Mastabas of Cemetery G 6000*.



FIGURE 7.1 General view of the Western Cemetery at Giza at different stages of excavation by the Harvard University–Boston Museum of Fine Arts Expedition. Above: photograph by A.M. Lythgoe, 1906 (B772_NS = B7243_NS). Below: photograph by Mohammedani Ibrahim, April 4, 1936 (HU–MFA Expedition photograph A7558_NS). COURTESY MUSEUM OF FINE ARTS, BOSTON.



FIGURE 7.2 Overview plan of Giza. DRAWING BY ELISABETH MAJERUS WITH ADDITIONS BY THE AUTHOR.

mastabas from later periods received intercalary numbers such as G 4511, G 4518, G 4523, *etc.* Reisner lettered burial shafts belonging to original mastaba constructions from the front of the alphabet (A, B, C), while exterior or later, intrusive shafts received letters from the end of the alphabet (Z, Y, X).⁵

⁵ Reisner, Giza Necropolis I, 61–62.



May 28, 1938 (A8030_NS)

FIGURE 7.3 General views from the top of the Khufu Pyramid, showing the Central Field at Giza before and after excavation. Above: photograph by Mohammed Shadduf, Sept. 13, 1913, (HU–MFA Expedition photograph A1076P_NS). Below: photograph by Dahi Ahmed, May 28, 1938 (A8030_NS). COURTESY MUSEUM OF FINE ARTS, BOSTON.

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In the course of work aimed at increasing accessibility to Giza Plateau scholarship, staff from the Giza Project, based first at the Museum of Fine Arts, Boston, and subsequently at Harvard University, have tried to extend the logic of Reisner's tomb-numbering system to areas outside of the original HU-MFA Expedition concession. The Central Field, excavated primarily by Selim Hassan, is the largest zone requiring such structured tomb numbers. With the blessing of the Supreme Council of Antiquities, we have now labeled this as the G 8000 Cemetery, with famous monuments, such as those belonging to Khentkaus (G 8400), Rawer (G 8988), Khamerernebty II (G 8978), and Debehen (G 8090) fitting well into the system (Fig. 7.3). The G 9000 cemetery is now the area just to the north of Khafre's causeway; Campbell's tomb, for example, takes the number G 9500 (= Lepsius 84).⁶ Other zones that still require four-digit number assignments include, but are not limited to, the rock-cut tombs at the eastern edge of the Eastern Cemetery, currently under investigation by the Russian Archaeological Mission, directed by Eleonora Kormysheva;⁷ the Abu Bakr tombs of the far Western Cemetery, in recent years re-examined by the Cairo University-Brown University Expedition under Tohfa Handoussa and Edward Brovarski;⁸ and the mastabas excavated by Wahiba Saleh in the 1990s to the northwest of the Khentkaus Pyramid.

3 HU–MFA Data Problems

There can be no dispute about the magnificent contribution of the Harvard University–Boston Museum of Fine Arts Expedition to our understanding of the Giza Plateau. For example, early in his tenure at Giza, Reisner apparently became the first to discern the significance and identification of the Sphinx with Khafre. (Some are not aware today that Auguste Mariette never made the

⁶ PM III.1, 290–91 (currently available online at http://www.griffith.ox.ac.uk/topbib.html), plan 3; Hassan, *Excavations at Gîza* IX, folded plan, R/S-4/5, not drawn; Montagno-Leahy, "Wahibreemakhet at Giza."

⁷ See Kormysheva and Malykh, "Lepsius Tombs in the Giza Necropolis Rediscovered;" Kormysheva, Malykh and Vetokhov, *The Tomb of Khafraankh G 7948* [Giza 1] and *Minor Cemetery* [Giza 11]; Vetokhov and Kormysheva, "The door of the tomb of Khafraankh reconsidered"; Kormysheva, "Minor cemetery on the eastern edge of the eastern necropolis in Giza," "Report on the activity of the Russian archaeological mission at Giza, tomb G 7948...1998," and "Report on the activity of the Russian archaeological mission at Giza, tomb G 7948...1999."

⁸ Abu Bakr, Excavations at Giza; Brovarski, "The Washerman of the God, Senenu," 145, 163.

connection of the Khafre Valley Temple with that king's mortuary complex).9 Based upon his excavations of the Menkaure Valley Temple in 1908 and 1910, Reisner compared the mortuary statuary of that king with the Sphinx, and the Valley Temple's location east of the Menkaure causeway with the similar layout of the Khafre complex.¹⁰ Unfortunately, his conclusions led to wild interpretations in the popular press that he never quite lived down (Fig. 7.4). But despite so many new insights into Giza's history and development, Reisner's interpretation of the dataset has in some contexts become unnecessarily complex for purposes of research. His nucleus cemetery concept helped bring order to the chaos of certain sections of the cemeteries east and west of the Khufu Pyramid. But here his four-digit numbering occasionally created an artificial modern divide between tombs that should be considered in the same nucleus or cluster. For example, Reisner numbered the large mastaba G 2220 due to his belief that it stood apart from the tombs immediately to the south. In actuality it belongs to that very nucleus cemetery G 2100, to the south, but this misnumbering has separated it conceptually for modern scholarship.¹¹ It deserves a number in the 2100 range.

Reisner's predilection for typologies led to the systematic "dismemberment" of his finds, in direct contrast to the more holistic approaches taken by Hermann Junker and Selim Hassan at Giza. While the latters' publications contained chapters devoted to individual mastabas in their entirety, Reisner's magnum opus, *A History of the Giza Necropolis* I (dated to 1942, but owing to the Second World War not actually appearing until 1946) presented typologies and charts devoted to mastaba casings, chapel types, burial shafts, canopic equipment, and other sub-elements of mortuary architecture and material culture. Some of these categories have proved immensely resilient, and are still in use today. Others have fallen by the scholarly wayside. Reisner planned additional volumes, wherein detailed examination of individual tombs would appear, but his death in 1942 prevented him from moving these *Giza Necropolis* volumes beyond the manuscript stage.¹² Nevertheless, one wonders at the wisdom of this strategy and sequence; would it not have made more sense to provide the entire excavation record of an individual mastaba in a single location, and

⁹ Corteggiani, The Great Pyramids, 49–52.

¹⁰ Reisner, "Solving the Riddle of the Sphinx," and "The Dawn of Civilization in Egypt."

¹¹ Manuelian, *Mastabas of Nucleus Cemetery G 2100*, 33, 427–54. Tombs G 2135 and G 2155 may have been "pushed" further south due to the existence of G 2220.

¹² Reisner's *Giza Necropolis* 11, 111, and IV are available, in multiple versions and in manuscript form, on the Giza Project website, at this writing located at www.gizapyramids.org.



FIGURE 7.4 Fantastical and distorted press coverage of George Reisner's identification of the Sphinx with Khafre, 1912.

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FIGURE 7.5 Mastaba G 2139, shaft A, human remains, looking east. Photograph by Mohammedani Ibrahim, Sept. 17, 1913 (HU–MFA Expedition photograph C5245_NS). COURTESY MUSEUM OF FINE ARTS, BOSTON.



FIGURE 7.6 Mastaba G 2131, shaft B, burial chamber, collapsed wood coffin, looking west. Photograph by Mohammedani Ibrahim, Sept. 17, 1913 (HU–MFA Expedition photograph C5254_NS). COURTESY MUSEUM OF FINE ARTS, BOSTON.

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then to proceed with interpretive analyses, typologies and categorizations afterwards?

In addition to the extreme parsing of the Giza data, the long-running success of the HU-MFA Expedition created its own legacy of challenges for modern scholars. This derived no doubt from the personnel turnover and inevitable communication gaps arising from four decades of near-continuous excavation (1904–1947), and not just at Giza but at twenty-three sites up and down the Nile.¹³ For example, portions of the Giza Necropolis were first excavated by the Expedition during one decade, and then re-cleared, most often for purposes of clarification, completion, and publication, during another. Without modern databases and search algorithms, it was often hard for Expedition staff to determine which areas or shafts had already been explored. In the Western Cemetery, shaft A of tomb G 2139 is first described in Reisner's Expedition Diary on March 17–20, 1912. Human remains were found in the burial chamber, and an Expedition photograph documented them on Sept. 13, 1913 (Fig. 7.5). The bones were then removed. However, this area was reexamined much later, on May 5, 12, and 14, 1938. At that time shaft A is described in the Reis's diary as "open and empty." The association with the human remains, and indeed the earlier examination in 1912, seems never to have been made. Nor is this an isolated occurrence. Shaft B of mastaba G 2131 preserved large amounts of planks from a wood coffin, photographed on Sept. 17, 1913 (Fig. 7.6). This shaft too was re-cleared in 1936 and described in the Reis's Diary as "open and empty."

While Reisner had developed a meticulous system for creating field numbers and recording each object in his ledger-sized Object Registers, it seems that the human remains are perhaps the most inconsistently recorded of all objects retrieved by the Expedition. Giza skeletal remains from the HU–MFA Expedition are now in Berkeley (Hearst Museum), Cambridge, MA (Peabody Museum, Harvard University), Giza (storage magazines), and Cairo (Qasr el Aini medical facility). Efforts as of this writing are still incomplete in uniting and recording all the human remains, and it remains a *desideratum* of Giza scholarship.

Beyond the problem of accurate osteological recording, modern researchers should also beware the origin of some of the Expedition's early field numbers. Some of these seem to have been arbitrarily retrofitted to objects discovered at a time when no object register books were being kept. This applies, for example, to the 1906–07 excavation of the Menkaure Pyramid Temple. The earliest excavation of this temple dates to fall 1906, but the earliest extant diaries date

¹³ For Reisner's Nubian work, see now the excellent summaries in Fisher, Ikram, Lacovara, and D'Auria, *Ancient Nubia*.

to three years later: 1909. The Menkaure Valley Temple was cleared between 1908 and 1910. In Reisner's *Mycerinus* publication, the 1908 excavation description of the Valley Temple corridor, where the famous triads appeared, seems to be reconstructed on dated excavation photos.¹⁴ One particular photograph was omitted from the stack used for this reconstruction, which led to inaccuracies in the excavation description. Objects were given field numbers, such as 08-7-1 (= 1908, month of July, object number 1, unfinished diorite statuette, now MFA 11.731)¹⁵ solely for the publication, when in fact no such object register for 1908 existed. An annotated concordance of the Mycerinus publication, noting and correcting these problems would be highly desirable.¹⁶

One final item that might cause confusion in the HU–MFA Expedition archives are the numbers assigned to the excavation photographs. The Expedition's primary series of glass plate negatives came in three sizes, A (18×24 cm), B (13×18 cm), and C (9×12 cm).¹⁷ But in the course of his many decades of work, Reisner came to renumber the archive. Thus an "Old Series" and a "New Series" of glass plate negatives exist, and the renumbering seems to have taken place around 1905. Old Series A100 might represent a burial at Deir el-Ballas, while new Series A100 could show a Giza mastaba. My best explanation for this change derives from the transformation of Reisner's Hearst Expedition into the Harvard University–Boston Museum of Fine Arts Expedition.

Even more confusing is a renumbering of New Series negatives that took place around the same period. The result is that many thousands of images taken around 1905–06 have two negative numbers, and often the Photographic Register lists them under one sequence, while their physical location in storage cabinets lies under the other sequence. Both numbers must therefore remain with these images in perpetuity. For example, Fig. 7.7 shows men at work in the area of G 2003 and G 2002, not far from the great anonymous mastaba G 2000 (= Lepsius 23). This image, taken by Albert M. Lythgoe in 1905–06, bears two numbers: C1217_NS and C12009_NS. Yet another image, C12009_OS (Fig. 7.8), taken by Reisner in 1905, shows a completely different scene, mastaba G 1225.

¹⁴ Reisner, Mycerinus, 35–36.

¹⁵ For an *in situ* image, see HU–MFA Expedition Photograph B285, from July 4, 1908; and Reisner, *Mycerinus*, 112 and pl. 62a; Markowitz, Haynes, and Freed, *Egypt in in the Age of the Pyramids*, 60 cat. No. 8.

¹⁶ I am grateful to Diane V. Flores, who for more than a decade worked so diligently on the Giza Archives Project to correct countless errors from the original HU-MFA Expedition. Her work on the documentation from the Menkaure complex remains unsurpassed today.

¹⁷ See Manuelian, "George Andrew Reisner on Archaeological Photography," 16 and 23.



FIGURE 7.7 Excavations near G 2003 and 2002, looking west towards G 2000. Photograph by A.M. Lythgoe, 1905–6 (HU–MFA Expedition photograph C1217_NS = C12009_NS). COURTESY MUSEUM OF FINE ARTS, BOSTON.



FIGURE 7.8 Mastaba G 1225-Annex, chapel filled with sand, looking northwest. Photograph by George Reisner, 1905 (HU–мFA Expedition photograph C12009_OS). COURTESY MUSEUM OF FINE ARTS, BOSTON.

4 Small Research Details with Larger Historical Implications

One reason for the significance of exploring such minutiae of the HU-MFA Expedition's documentation process as described above is that precisely these minutiae can alter our interpretation of the larger Giza dataset. Often the tiniest of research considerations can suggest conclusions worthy of further scrutiny. Elsewhere I have discussed the old scholarly debate on the original cult focus—false doors versus slab stelae.¹⁸ A major source of evidence for that debate is the mastaba of Nefer in the Western Cemetery (G 2110), with its exterior stone chapel that converts an east facade niche into a west wall false door. But the casing is clearly secondary, and the false door too; the chapel itself even chokes the street, and could not represent the original mastaba plan. As to whether a slab stela could have preceded the construction of the exterior stone chapel, a tiny fragment was recently identified, and it seems to contribute to this larger debate. The fragment bears only two hieroglyphs, and was mislabeled as deriving from a (Fifth Dynasty) Cemetery en Echelon tomb G 5236 (field number 38-2-3), but then subsequently corrected on a random Expedition note card as deriving from G 2110. The two hieroglyphs fit perfectly into the so-called linen list of a typical slab stela, and thus seem to confirm the original existence of a slab stela for Nefer prior to the construction of his exterior chapel.¹⁹

The above example is by no means the only one in which a seemingly insignificant note card or other document has provided major new information. A relief fragment thought to derive from the mastaba of Seniwehem (G 2132), and now in a European museum, has recently obtained a "new" provenance much further to the west, thanks to a 1940s sketch made at Giza by William Stevenson Smith.²⁰

As another example of small research details with larger historical implications, a fragmentary lintel relief found in 1904 may hold the clue to the entire history of the Giza Necropolis prior to Khufu's reign. This fragment, belonging to a baker named Nebu, was found near tomb GW 38 in the so-called Wadi Cemetery (just north of the Western Cemetery and mastaba G 2000, and off the Plateau), and only recently (re)located and identified in the Museum

¹⁸ Manuelian, Slab Stelae of the Giza Necropolis, 161–65.

¹⁹ For further discussion of this fragment, see Manuelian, "A 'New' Slab Stela for Nefer from G 2110?"

²⁰ This reattribution will be described in *Mastabas of Nucleus Cemetery G 2100*, Part 2, forthcoming.

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of Fine Arts, Boston (Fig. 7.9).²¹ The archaeological context is extremely significant in this area, which was first discovered by Reisner during his search for a suitable place to dump the excavation debris from his initial Western Cemetery excavations. Remains of dismantled buildings were apparently heaped by the ancient Egyptians on top of the modest mud brick tombs of the Wadi Cemetery, on top of Nebu's and surrounding tombs. Two interesting points emerge from the study of this area: 1) the possible existence of the Wadi Cemetery (and Nebu's tomb) prior to Khufu's layout and construction of the Western Cemetery, and 2) the presence of pre-Khufu structures up on the Plateau itself that were removed in order to build the Western Cemetery tombs such as mastaba G 2000. The iconography of Nebu's little fragment thus has much to tell us about the pre-Khufu history of Giza.²²

In 2011 Teodozja Rzeuska argued that no canopic jar was ever found in a canopic pit; and where canopic jars were present, then the recesses and pits themselves were missing. Thus the pits must have been used for something else, for "most certainly no canopic jars were found in them."23 The results of that study suggested that fragments of intentionally broken red vessels, remains from funerary meals, and other items were dumped into caches, and that "unfinished" pits at Giza and elsewhere were in fact planned deposits. This type of conclusion requires access to a large corpus of comparative data, in this case hundreds of burial chambers at Giza. While the Giza Project has done much in recent years to make this material accessible online, we are still far from universal coverage, particularly in some of those areas excavated by teams other than the HU-MFA Expedition. But we can certainly point to examples of canopic jars in the vicinity of canopic pits. For Western Cemetery mastaba D 112, for example, Georg Steindorff and Uvo Hölscher provided the following description: "In der S.O.-Ecke befand sich eine aus Steinplatten aufgebaute Kiste von 70 × 70 cm Grundfläche und 50 cm Höhe, ohne Deckel. Darin standen oder lagen 3 Kanopen aus Ton, während die vierte ausserhalb lag." (see Fig. 7.10).24

²¹ The fragment currently bears the accession number MFA APP.1921.1.

²² Cf. Manuelian, "On the Early History of Giza."

²³ Rzeuska, "And where are the viscera...?," esp. 250–51.

I would like to thank Antje Spiekermann for bringing this particular image to my attention. A detailed account of this tomb is available online at http://www.giza-projekt.org/ Mastaba/Mastaba_D112.html. The Steindorff/Hölscher manuscript is at http://www .giza-projekt.org/Archivalien/Manuskript/Manuskript.pdf, see p. 151 (accessed August 1, 2013). See also Steindorff and Hölscher, *Die Mastabas westlich der Cheopspyramide*, 88, pl. 15, and Junker, *Gîza* IX, Plan I. For more on burial equipment, see recently Alexanian, "Grabinventare als Ritualzeugnisse."



FIGURE 7.9 Limestone offering niche lintel inscribed for Nebu, from mastaba GW 38. Photograph by George Reisner, 1904 (ни–мға Expedition photograph C11998_OS). COURTESY MUSEUM OF FINE ARTS, BOSTON.



FIGURE 7.10 Canopic pit and vessel in Steindorff Western Cemetery mastaba D 112. Photograph by Friedrich Koch Steindorff–Hölscher Expedition, 1926 (D112-N-9161; Ägyptisches Museum der Universität Leipzig N-ÄMUL 9161, Neg.-Nr. 549). COURTESY PELIZAEUS-MUSEUM, HILDESHEIM.



FIGURE 7.11 Mastaba G 7530-sub, Meresankh III, shaft A, burial chamber: sarcophagus, canopic pit, and jars, looking west. Photograph by Mustapha Abu el-Hamd, June 4, 1927 (HU–MFA Expedition photograph A4735_NS). COURTESY MUSEUM OF FINE ARTS, BOSTON.

Another example comes from the Eastern Cemetery, where Meresankh III's burial chamber (G 7530-sub, shaft A) shows perhaps the oldest set of canopic jars, in proximity to the canopic pit on the south side of the burial chamber (Fig. 7.11). These examples indicate that we may need to reassess Rzeuska's new interpretation of pits in burial shafts.

5 Visualization as a Research Tool

Taking some of the more traditional documentation described above one step further, I would like to mention briefly some experiments with visualization which reveal interesting potential as a research tool. One of the goals of the Giza Project at Harvard University is to build the most unified, integrated Giza Plateau model yet attempted. We have far to go before achieving this goal, but the benefits are already apparent. Beyond the obvious advantages, such as the ability to digitally restore findspot, provenance and georeferenced context information, we can blend original archaeological data with new 3D approaches. And we can animate the process too. For example, we can superimpose the original excavators' plans and sections over 3D architectural models (Fig. 7.12). Visualization affords us a perspective that mortals cannot normally achieve, such as with underground or "bedrock views" of clusters of burial shafts (Fig. 7.13). This subterranean context helps us understand the relationships and chronological development of discrete portions of the Giza cemeteries.

Moreover, well-known monuments might still have something to tell us, thanks in part to 3D visualization. In fact, the digital construction process forces us to consider questions Egyptologists might not normally ponder, since they rarely "build" entire ancient structures. One example is the significance of floor sockets or statue emplacements, and their role in determining the original size of the statues that once occupied them. In the Khafre temples at Giza, do the sockets indicate the base of the entire (colossal?) statues, or merely a plinth upon which much smaller statues once sat? In Queen Hetepheres's enigmatic tomb shaft, to cite another example, we have been able to reconstruct the second chair digitally. This item was so fragmentary that it has been never physically reconstructed or restored, either in Cairo or in Boston.²⁵ And



FIGURE 7.12 Mastaba G 7530-sub, Meresankh III, chapel, looking north, with original excavation plans and sections superimposed over computer model. COURTESY GIZA PROJECT, HARVARD UNIVERSITY, DEVELOPED BY RUS GANT AND DAVID HOPKINS.

²⁵ I hope to present this reconstruction in a forthcoming study elsewhere.





b

FIGURE 7.13 Above: Computer reconstruction of the burial shaft arrangement for the G 2100 family complex, looking east. Below: Computer reconstruction of G 2100, shaft A, burial chamber, looking southeast. BOTH IMAGES COURTESY DASSAULT SYSTÈMES.

finally, the role of seemingly minor architectural elements, such as windows, may illustrate orientation, solar significance, and even the construction sequence of neighboring structures, as they allowed—or blocked—the path of sunlight.²⁶ Animations and avatars in our virtual models allow us to raise questions about mortuary ritual, such as the opening of the mouth ceremony: its location, the time of day, the number and nature of attendees (royal, priestly, private, mourners), the amount of statuary, and more.

6 "Giza International," a Plea for Data Sharing

The brief descriptions above highlight the advantages gained from pooling our collective Giza repositories of archaeological knowledge: past and present, active and archival. If nothing else, this small note might serve as a plea for continued collaboration across all Giza collections. The solution to vexing problems and questions in one dataset may be lurking in another. The Giza Project at Harvard aims to assemble and make accessible all sorts of documentary information, not only from actual excavations, but also including travelers' accounts, aerial views (from present-day satellite imagery back to the Graf Zeppelin's single passage over the site in April 1931, and beyond),²⁷ and other miscellaneous and less well-known types of collections.²⁸ Older division systems of data, where objects and artifacts are separated from notes, and papers are separated from photographs, no longer serve an integrated approach to comprehensive research. It will assist all our goals if our curators and keepers of these disparate types of data can find a way to open up their respective bailiwicks to greater cross-disciplinary LAM (Libraries, archives, and museums) collaboration. I will close with a quote from a recent symposium held at Harvard University: "Our job as curators is LAM integration, but we all do it so idiosyncratically...[There is] a split among museum curators dividing those who prefer the old, idiosyncratic systems of organization and those who

²⁶ My Giza Project colleague, Rachel Aronin, is currently preparing a study of this phenomenon in relation to mastabas in the Eastern Cemetery and elsewhere at Giza.

²⁷ A view of Giza from a balloon, taken by Eduard Spelterini on February 21, 1904, may be the earliest aerial image of the Plateau known. I am grateful to Rus Gant of the Giza Project at Harvard for bringing this image to my attention. See Stadler, *Eduard Spelterini— Photographs of a Pioneer Balloonist*, 64.

²⁸ A welcome recent publication illustrates the 1920s climb of Herbert Ricke to the top of the Khafre Pyramid, including detail views of its preserved limestone casing; see Schmidt, *Westcar on the Nile*, 146–47, figs. 101–102.

recognize the value added by integration . . . Our audiences simply expect integration, and there's no escaping it."²⁹

Abbreviations

All abbreviations not included in this list follow those used in the *Lexikon der Ägyptologie*.

MÄU Münchener Ägyptologische Untersuchungen

PM 111.1 B. Porter and R.L.B. Moss. Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs, and Paintings 111: Memphis, Part 1 (Abû Rawâsh to Abûsîr). 2nd edition, revised and augmented by J. Málek. Oxford: The Clarendon Press, 1974.

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²⁹ Holly Witchey, Johns Hopkins University, and interim director of the Marcus Institute for Digital Education in the Arts, speaking at a Harvard Library Strategic Conversation; see Leddy, "Linking libraries, museums, archives."

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