

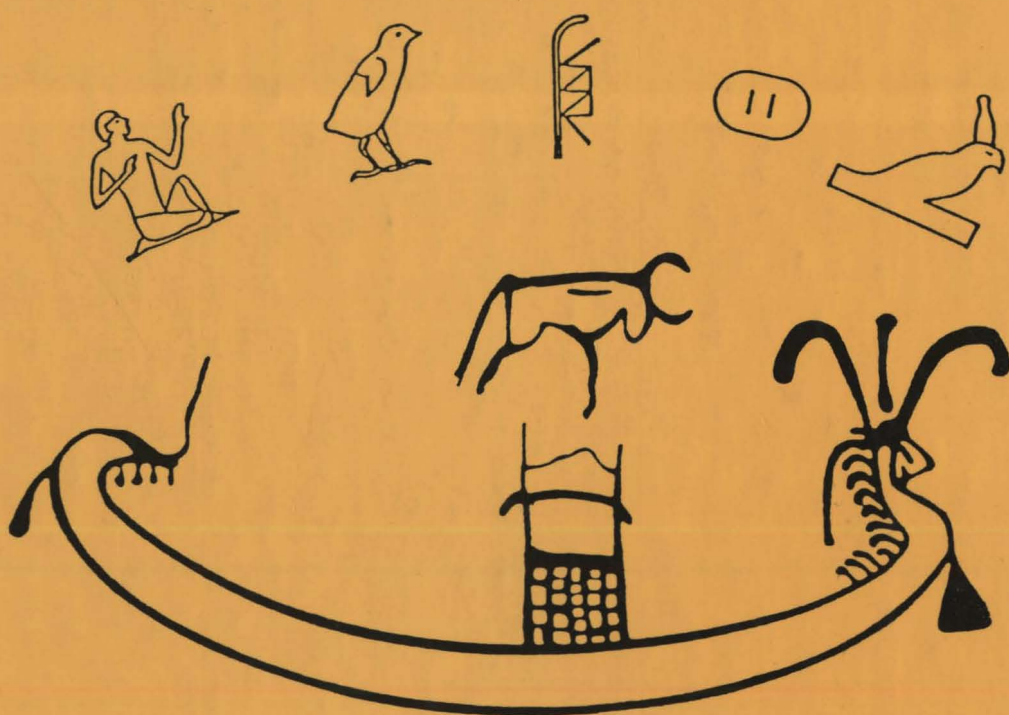
# The Followers of Horus

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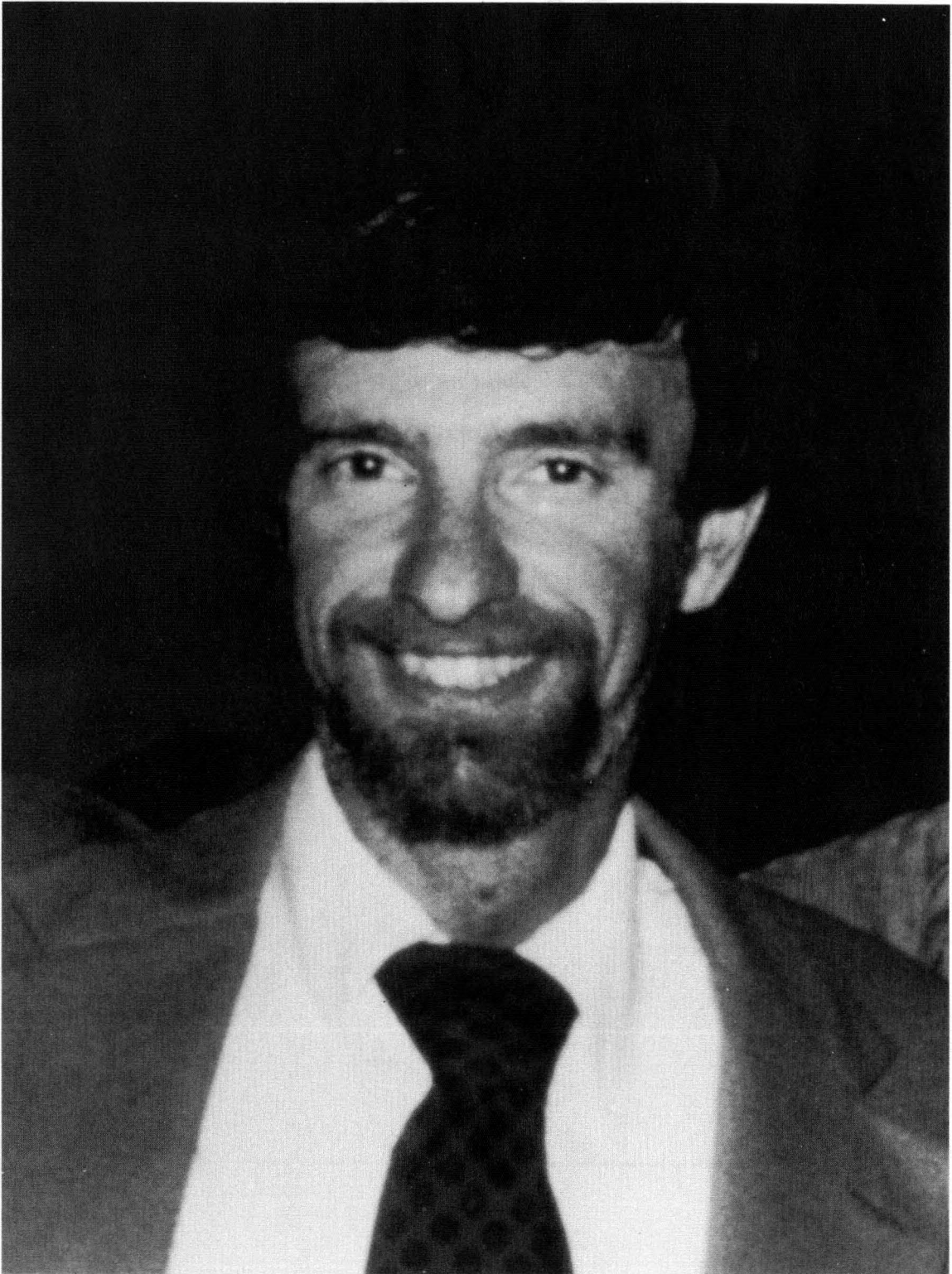
*Studies dedicated to  
Michael Allen Hoffman*

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Edited by  
*Renée Friedman and Barbara Adams*



Egyptian Studies Association Publication No. 2  
Oxbow Monograph 20



Michael Allen Hoffman  
1944 - 1990

# **The Followers of Horus**

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# A Burial with an Unusual Plaster Mask in the Western Cemetery of Khufu's Pyramid

*Zahi A. Hawass*

I would like to dedicate this article to the late Michael Hoffman. Michael was a close friend and one of the few American archaeologists that developed good relationships with many Egyptians, not only in the field of archaeology, but in other fields. For instance, he was a close friend of the late Egyptian film director Shadi Abdel Salam, and he shared with him the dream of making a film about the life of Akhenaton. Michael had many dreams and new ideas for the benefit of archaeology. He wanted to establish a field school at Hierakonpolis to train young Egyptian archaeologists in excavation techniques. He also wanted to open a laboratory for bone analysis at Saqqara. One of his most important achievements was the exhibit on "The First Egyptians". I had the honor to attend the opening of this exhibit in South Carolina, and to lecture at the conference that he organized, "The First Egyptians and the Pyramids". Michael's death was very sad news to his friends. We lost a great scholar and a good friend. It is to the soul of Michael that I dedicate this article.

In 1987, a beautiful Old Kingdom plaster mask was found during Egyptian Antiquities Organization excavations of the Western Cemetery of the Pyramid of Khufu. We carried out these excavations as part of our overall site management plan for the Giza plateau. Before discussing the plaster mask and its associated burial, it is appropriate to sketch out the principal phases of this plan.

## Site Management Plan: Phase I

In the first part of Phase I, we established a controlled entrance and exit to the entire Giza Plateau through a gate on the northwest side, and set an admission fee for the entire site. Previously, only those who visited the interior of the pyramids paid admission. Now, visitors purchase an admission ticket to the entire plateau that includes access to all the tombs and pyramids which are open to the public. This change raised the monthly income from admissions to the Giza monuments from 60,000 Egyptian pounds to almost one and a half million pounds. This income will be used for the restoration of the monuments and the reorganization of the Giza Plateau.

In the second part of Phase I, the access to the

plateau of the horse and camel drivers was restricted. They now gather in an area north of the plateau's base, and may drive tourists only upon a designated route along the western edge of the site.

Finally, we hired a private cleaning company to take complete responsibility for site sanitation, making Giza one of the cleanest archaeological sites in the world.<sup>1</sup>

## Phase II

This phase concentrated on the conservation and restoration of the monuments at Giza, namely, the three major pyramids of Khufu, Khafra, and Menkaura, the Sphinx, the valley temple of Khafra, and the tombs of the officials and nobles, located to the west and east of the Great Pyramid and south of the causeway of Khafra. Conservation work was carried out on the pyramid of Khafra from 1987 to 1988, and on the pyramid of Khufu from 1988 to 1989 (Petrie and Hawass 1990:102-105). Restoration work was carried out on the interior of the pyramid of Menkaura from 1989 to 1990.

This restoration work inside the pyramids was necessitated by the following:

1. Salt had accumulated on the surfaces of the pyramid chambers and passageways to thicknesses as great as five centimeters. This was the case in the corridors and burial chambers of the Khafra and Menkaura pyramids, as well as in the Queen's Chamber and Grand Gallery of the Khufu pyramid (Petrie and Hawass 1990:102-105).<sup>2</sup>

2. Many areas inside the pyramids had become weak, and the stone was becoming detached from the walls. There were 500 such areas inside the Great Pyramid of Khufu alone.

3. Black spots and modern graffiti defaced the walls of the passages and chambers.

4. The lighting systems inside the three pyramids were inadequate and outdated.

The salt accumulations, blackened areas, and modern graffiti were removed. The lighting systems were entirely replaced with indirect lighting by means of sodium lamps. The old electrical cables were replaced, and the wiring was redone to accommodate the new system. The cracked and flaking stone

surfaces were repaired by using linen, sand, and araldite. Where appropriate, the cracks were filled by using a special mortar, composed of three parts sand, two parts lime powder, and one part kaolin (Petrie and Hawass 1990:102-105).

Other changes included the opening to the public of the original entrance to the Descending Passage and the Subterranean Chamber of the Great Pyramid. All the blocks in the Grand Gallery were recorded in drawings and photographs. A video monitoring system was installed in order to control the circulation of visitors.

The result of these efforts by the Egyptian Antiquities Organization is that the monuments of the Giza Plateau are now in the best-preserved state since they were opened to visitors.

This phase of the site management also included the commencement, in 1989, of the most scientific conservation and restoration work ever undertaken on the Great Sphinx. Those who performed the work on the site include Egyptologists, restorers, an architect, a geologist, and an artist. The work has focused on three areas:

1. The removal of modern cement which was used in previous restorations. This cement created serious conservation problems, and has been replaced by a much more benign mortar.

2. The replacement of the large stones that were added to the masonry cover around the lower part of the Sphinx from 1982 to 1987. These additions had seriously altered the proportions of the monument.

3. Photogrammetric drawings and old photographs of the Sphinx were studied in order to replace the large stones with ones of the same proportions as those that existed prior to 1982.

The mortar used in the current restorations consists of lime and sand. A quarry of fine limestone was opened in Helwan especially for this restoration work. The masonry along the southern side of the Sphinx has been entirely replaced and modeled. A course of limestone blocks was added beneath the Sphinx's chest to support badly-weathered layers of natural limestone. Specialists from UNESCO examined the head and neck of the Sphinx and reported that they were in good condition. The Getty Conservation Institute placed an electronic device to monitor weather and atmospheric conditions on the back of the Sphinx. The Institute of Astronomy and Geophysics examined the water table, and measured it at seven meters below the base of the Sphinx.

In March, 1992, an international symposium will be held at Giza to discuss all current and previous restoration work on the Sphinx and to propose solutions to outstanding problems of the monument's deterioration — particularly in the area of the chest and upper north side of the Sphinx's body.

In addition to the work described above, twenty tombs located in the Eastern and Western Cemeteries of the Khufu Pyramid and south of the Khafra causeway were restored and opened to the public.<sup>3</sup>

### Phase III

The aims of Phase III are as follows:

1. All asphalt roads will be removed and replaced by sand roads that blend in with the site.

2. All the electricity pylons will be removed and we will install indirect, ground-based lighting.

3. No vehicles will be permitted on the plateau and parking areas will be provided at the base of the plateau.

4. A picnic area will be established south of the Third Pyramid of Menkaura, with an entrance via the Fayum Road, away from the Giza Plateau.

5. A cultural center will be opened near the pyramids to provide information on the history of the site to visitors.<sup>4</sup>

As of the writing of this article, the Egyptian Antiquities Organization has already begun Phase III in two areas of the plateau. East of the Great Pyramid, the Organization has removed the asphalt road that covered the boat pit located to the north of the foundations of the Khufu Mortuary Temple. The boat pit is being re-excavated and the Khufu Causeway and Queens' Pyramids are being cleaned down to the bedrock and restored on the interior.

The work around the pyramid GI-a, the northernmost of the three Queens' pyramids, revealed part of the pyramid casing, as well as holes around the pyramid base-line that may have been used for surveying (see Maragioglio and Rinaldi 1965:76; Lehner 1983:7-25). We are also re-excavating and restoring the Saite pit located in the sanctuary of the upper temple of Khufu (Lauer 1947:245-259). All the archaeological features located in this area, such as the tomb shaft of Hetep-heres, the trial passages, and the tombs of the nobles, will be cleaned and restored. The whole site will thus become an open-air museum.

Another aspect of Phase III concerns work in the Western Cemetery of the Khufu Pyramid. We are continuing the excavation of this site, and cleaning the debris away from the long and narrow streets. All the tombs will be restored and numbered.<sup>5</sup> During the work in this area, we found the burial with the plaster mask near tomb G5520. Although several major expeditions have excavated in the Western Field, there are still new discoveries to be made because of the enormous quantity of debris encumbering the tombs. A systematic excavation of this area is essential to retrieve the stratigraphic sequence of the site, as well as to locate and record hitherto unknown tombs.





Figure 1. Excavating in the Western cemetery.

Our first season of excavation was carried out in February and March of 1989. The work began on the east side of the Western Field, and extended from the tomb of Sy-ankh-n-ptah (G5520) (*PM*<sup>2</sup> III:164) to the south as far as tomb G5412. The purpose of this work was to remove the debris from around the tombs and to return fallen stones to their original positions. During work in the debris, we found a false door, in very poor condition, belonging to the tomb of Ka-Nefer (G5350) (*PM*<sup>2</sup> III:160). This false door has been cleaned, restored and returned to its original position in the tomb.

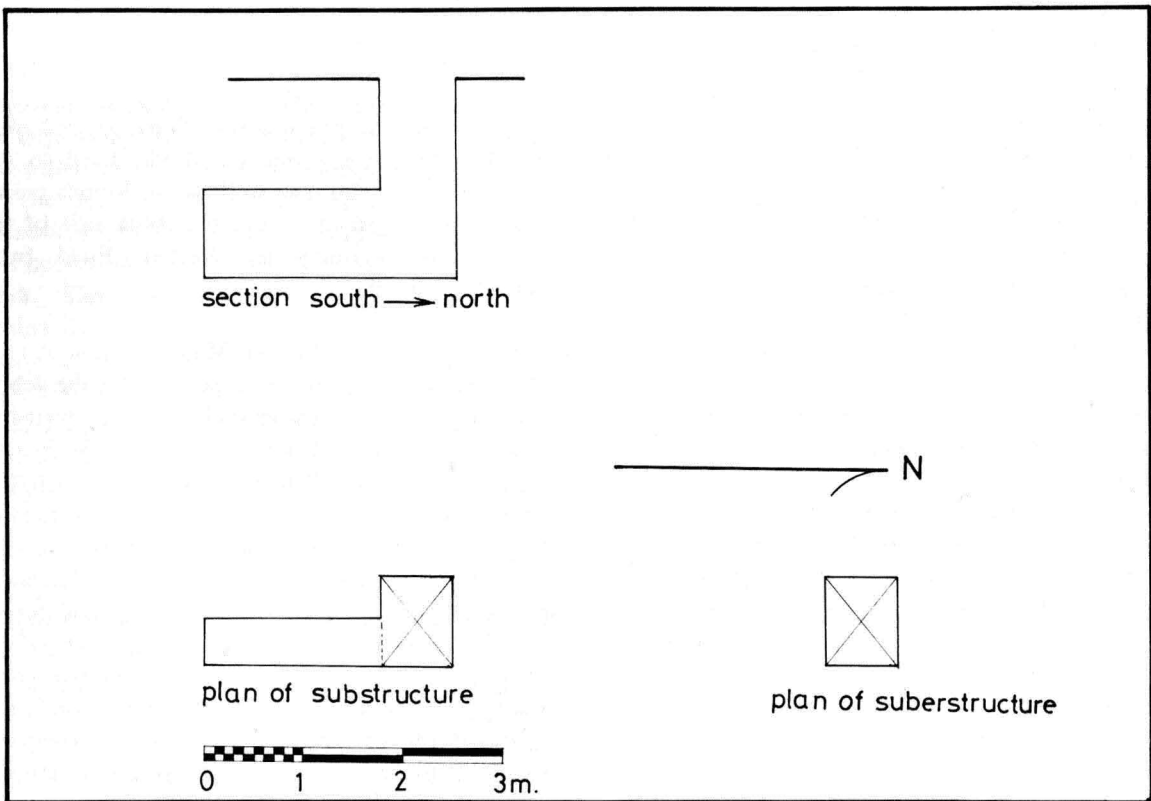
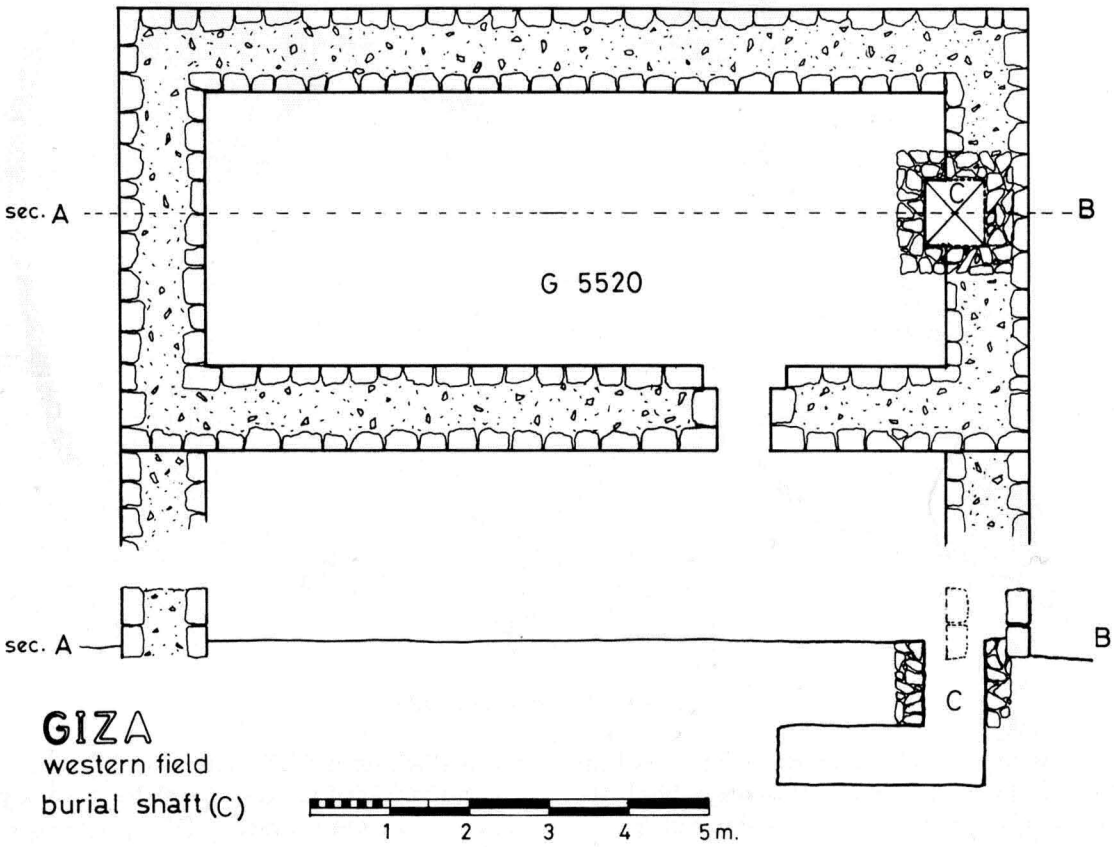
We also worked south of the tomb of Ihy (G5330) in the southeast corner of the Western Field (*PM*<sup>2</sup> III:159). We cleared the corridor south of this tomb and found two tomb shafts. Shaft number I was encased with mud brick on its four sides to a depth of about 113 cm. We found the burial niche in the north wall of this shaft. It contained a skeleton in the foetal position. In shaft number II, we found red pottery vessels and pottery sherds in the style of the First Intermediate Period. This shaft has a rectangular shape and a depth of about 277 cm. The burial niche in the western wall of the shaft was closed with

mud brick. It contained a skeleton lying on its left side, with the head to the north. In the general area, we also found many pottery sherds dated to the Graeco-Roman Period, as well as two Roman coins.

We also began to restore the south side of the ancient wall dividing the Western Field from Khafra's pyramid.

#### The Burial with the Plaster Mask

In this same season, we began to clear the debris around tomb G5520, a stone-built mastaba located in the northern corner of the Western Field beside the family mastaba of Senedjem-Inty (*PM*<sup>2</sup> III:164; Reisner 1942:264-5). We discovered a shaft next to the northern wall of the mastaba. A burial niche was found in the southern wall of the shaft. The niche was closed with limestone blocks and mud brick. This shaft was lined with gypsum to a depth of 89 cm., and the remainder of the shaft was encased with mud brick for a total depth of 180 cm. The burial niche was 75 cm. long and 52 cm. high (figures 2 and 3). Within this burial niche, we discovered the body with the plaster mask. We found a group of four types of pottery around the top of the burial shaft:



Figures 2 and 3. Plans of G5520.

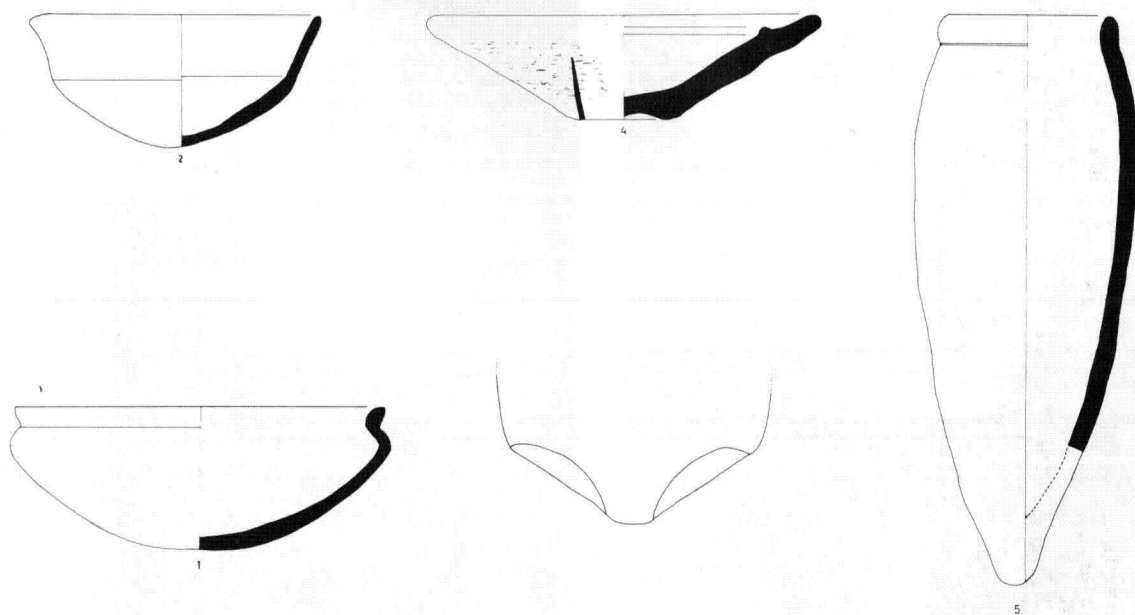


Figure 4. Pottery from G5520.

1. Nile clay, wheel-made bowl with recurved rim and round base (figure 4.1). The core is black and bordered with two red zones, exterior and interior surfaces are red (*Munsell* 10R 4/6). The bowl was probably used to hold liquids.

2-3. Nile clay, wheel-made bowl, keeled, with spout (figure 4.2-3). Two examples of this type were found. The first one is red-polished on the interior surface (*Munsell* 10R 4/6). The exterior surface is light reddish-brown (*Munsell* 5YR 6/4). The second bowl resembles the first one except that the interior surface is light red (*Munsell* 2.5YR 6/8). Both were probably used to hold liquids.

4. Nile clay, wheel-made bowl, hand-finished with flaring lip (figure 4.4), with a black core bordered by two red zones. Exterior and interior surfaces are light red (*Munsell* 2.5YR 6/8). Four rather deep grooves run from the base upward. These were used to hold the string with which the lid was tighten to the vessel.

5. Nile clay, hand-made, rough beer jar (figure 4.5). The exterior and interior surfaces are pink (*Munsell* 7.5YR 8-7/4). This type of jar was used in the cemetery to imitate the actual beer jars made of marl clay, which were used domestically. A lump of mud was found in the jar.

This group of pottery dates to Dynasty IV. Numbers 1 and 2 are similar to types found by Ricke in the Funerary Temple of Userkaf (beginning of Dynasty V) at Saqqara (Kaiser 1969: types XIV and XXX). Numbers 3 and 4 are of types well represented in Reisner's excavations at Giza (Reisner and

Smith 1955: types CLXV and XIV).<sup>6</sup>

The burial and its plaster mask belong to a young woman. The body, which is 150 cm. in length, was found lying on its back with its head directed to the north, and its feet toward the south. The face and neck were completely covered with a layer of white plaster which show the facial features of the woman.

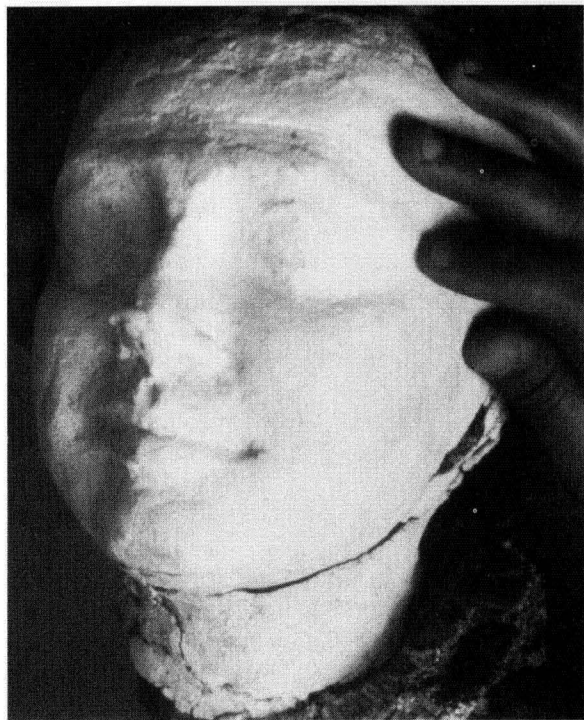


Figure 5. Mask before restoration.



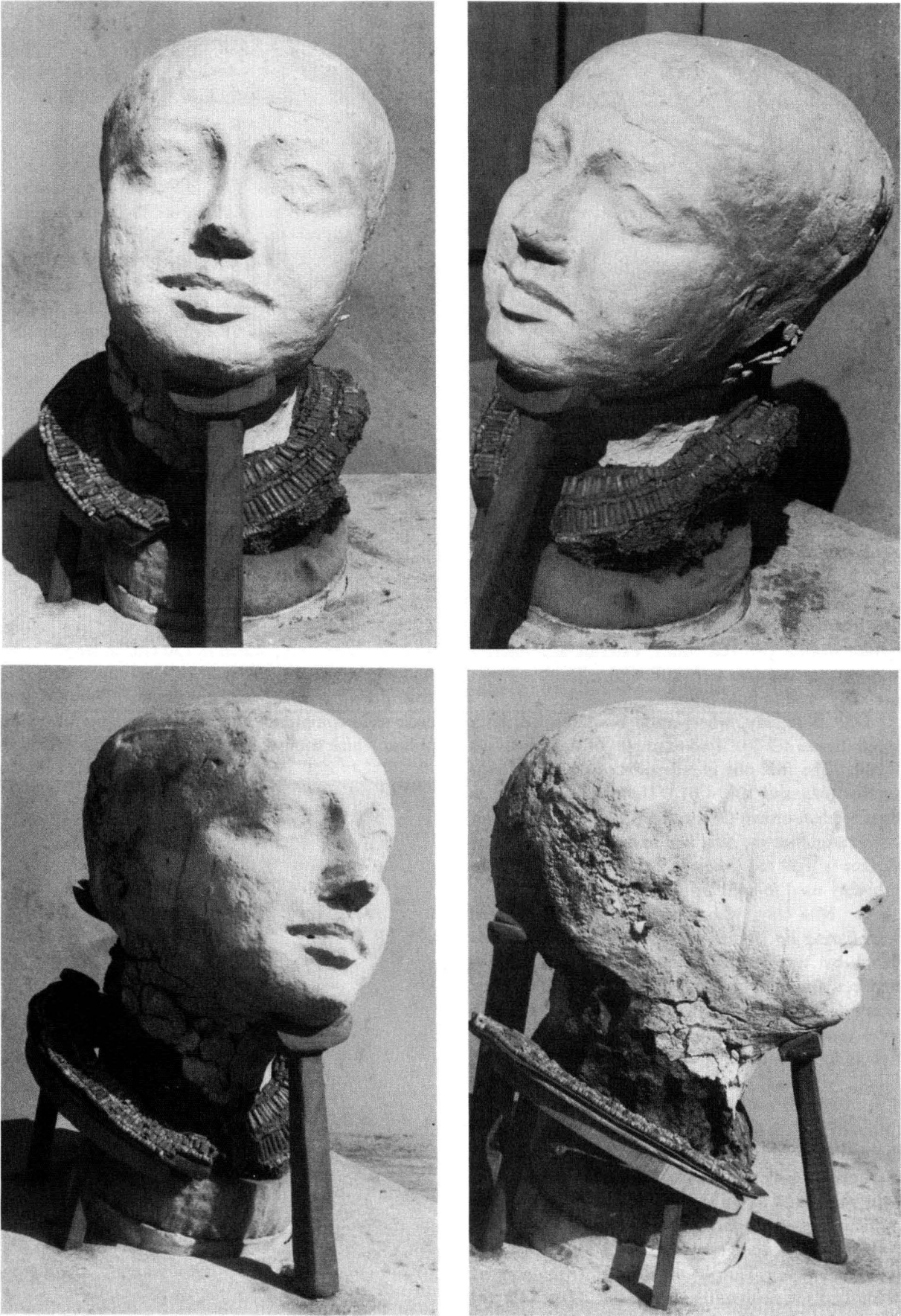


Figure 6. Mask after restoration.

The back part of the head was not covered with plaster. The skull showed where the plaster had broken away. The plaster was very close to the skull, but there was a thin layer of mud between the plaster and the skull (figure 5, mask before restoration).

The plaster mask exhibits very fine, delicate modelling, particularly of the forehead, nose and lips. The eyes are less well-defined. The preservation of the mask is excellent. The best parallel with which this one can be compared is in the Boston Museum of Fine Arts (figure 7).<sup>7</sup> The mask features a subtle smile which reminds one of the Mona Lisa (figure 6, after restoration).<sup>8</sup>

Around the top of the head was found a copper headband, which was covered with a thin layer of gold and faience beads. This band was found in small pieces. The entire body was found intact and covered with a very thin layer of mud. The body wore a necklace consisting of three rows of faience beads. On one wrists was a bracelet made of faience.

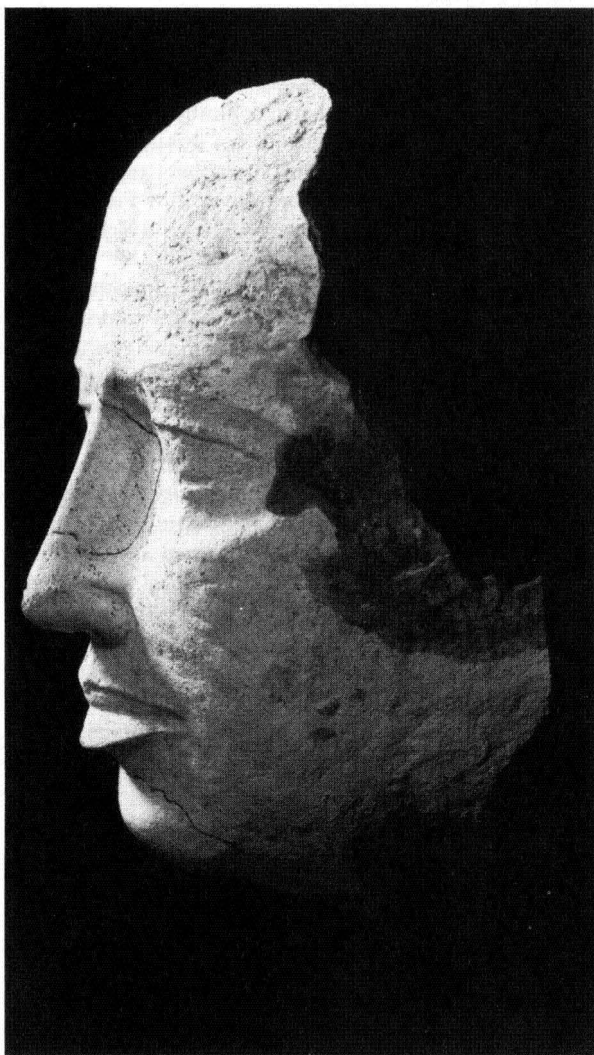


Figure 7. Mask in the Boston Museum of Fine Arts. (BMFA 39.828; courtesy of BMFA).

We found a great quantity of beads around the body. The woman's teeth were found broken into small pieces beside the head. This must indicate that the teeth were removed before the plaster was applied to the face.

The Restoration and Conservation Department at Giza cleaned the mask and carried out an emergency restoration. Later, they sent the mask to the laboratory of the Egyptian Antiquities Organization for further restoration (figure 6) and analysis.<sup>9</sup> Mr. Nasry Iskander, Director of Conservation at the Organization, carried out a chemical analysis of the plaster mask (see Appendix I and II). Dr. Fawzia Hussein and Dr. Azza Mohammed of the National Center for Research analyzed the anatomical data of the plaster mask and skeleton.

The skeleton is represented by bones of the upper and lower limbs, pelvis (hip bones and sacrum), left clavicle, most of the bones of the hands and feet, and some of the teeth. The pelvic bones indicate that this was a 20-25 year old female. Her stature was estimated to be about 163.3 cm (*ca.* 5 feet, 4 inches), based on measurements of bones of the lower limbs. The sacrum shows unilateral sacralization of the fifth lumbar vertebra, a congenital anomaly which may affect walking, unless compensated by other parts of the spine (figure 8).

Reisner and Junker found many plaster masks at Giza (see Smith 1946:27-28; Junker 1944:113-116; D'Auria *et al.* 1988:91-92, especially fig 23). The most complete one, now in Boston, is illustrated in figure 7, and comes from Tomb G2037, dated to Dynasty VI. There are also fragments of four other

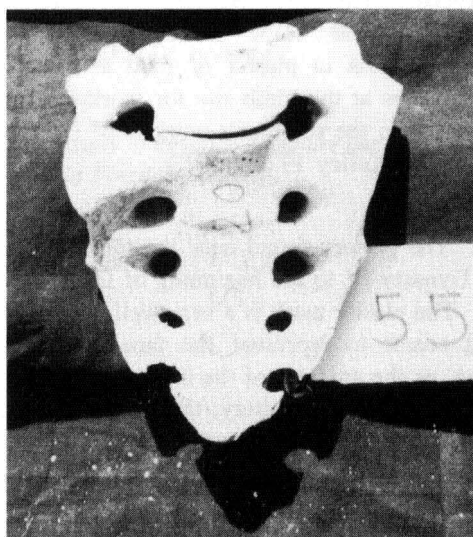


Figure 8. The sacrum showing unilateral sacralization of the fifth lumbar vertebra.



masks in Boston from Reisner's excavation (BMFA 15-11-64; 36-2-7 (37.644); 37-10-44; and 39-2-7). There are also others in the Cairo Museum (Smith 1946:27-28). The body with its mask in the Saqqara tomb of Nefer is the best preserved of all (Moussa and Altenmüller 1971). They all seem to be modelled over the bandages wrapping the body, and the bones show clearly in many of them. Smith stated that all the heads which he listed are modelled plaster over linen. As for the function of these masks, he stated: "They are not ordinary death-masks, in the sense that they are not casts taken from the actual face, such as that found in the Teti Pyramid Complex by Quibell, but are a rounding out of the shrunken features of the dead man to simulate his appearance in life" (Smith 1946:27; Quibell 1909:20, 112-113, pl. 55).

Reisner dated most of the masks to the end of Dynasty V and Dynasty VI (D'Auria *et al.* 1988:92). Mummification in the Old Kingdom has been discussed by many scholars; only members of the royal family were actually mummified (Sternberg 1982; Dawson 1927:40-49; Elliot-Smith and Dawson 1924; Koln 1982; Lucas and Harris 1962:270-326). It is certain, based upon the style of art in the Old Kingdom, that these portraits or masks simulate the actual appearance of the deceased in life.

The reserve heads, carved in limestone and found at Giza, may represent the actual appearance of the deceased. They are dated mainly to Dynasty IV. They have delicate rendering of the nose and mouth. These reserve heads function as substitutes for the body's head (Smith 1946:223; D'Auria *et al.* 1988:82). They are found inside the tomb shaft (*ibid.*; cf. Kelley 1974:5; Millet 1981:113). Another explanation is that the reserve heads are "sculptor's prototypes". This idea "postulates that molds were taken from at least some of the heads and used to produce replicas in plaster or mud at other work sites, perhaps at the tomb site for workers on relief portraits or in the sculptor's workshop" (D'Auria *et al.* 1988:82; Kelley 1974:113ff.).

### Conclusions

1. The pottery found near the tomb shaft dates from Dynasty IV to the beginning of Dynasty V.
2. The plaster mask is a very well-modeled face, and it seems to represent the face of the young woman, as the analysis of the bones indicated.
3. Based on the pottery, the plaster mask could be dated to the end of Dynasty IV.
4. The plaster masks may fulfill the same function as the reserve heads. They also served to preserve the skeleton, and represent an early stage in a process leading to the full mummification of non-royal bodies.

### Notes:

1. In 1989, the British Guild for Travel Writers awarded us a prize for the work of Phase I at Giza.
2. In the mid-fifth century B.C., Herodotus reported seeing salt that covered the interior of the pyramid.
3. The architecture as well as the relief scenes and inscriptions were restored in the tombs. The following tombs are now open to the public: (Western Field) Ka-em-Ankh, Nensedjerkai I, Nefer, Seshem-Nefer I, Jasen, Nesut-Nefer, Seshem Nefer II, Senedjem-Ib-Inti, Ka-Hif, Kai; (Eastern Field) Khufu-Kaf I, Sneferu-Kha-ef, Nefer-Maat; (Central Field — south side of Khafra's Pyramid) Debehen, Kha-ef-Ankh. See Simpson 1976; 1978; 1980; other unpublished tombs were also opened.
4. The project is supported by His Excellency Farouk Hosni, the Minister of Culture.
5. Many scholars have excavated in the cemetery west of Khufu's pyramid, including Reisner, who first worked under the aegis of the Hearst Expedition of the University of California (1902-5) and then for Harvard University and the Museum of Fine Arts in Boston. Reisner excavated at Giza longer than any other archaeologist (1905-1939). His *magnum opus*, *A History of the Giza Necropolis*, Volume I, (1942), provides a systematic exposition of the historical and architectural features of Giza. For this, he drew upon a vast file of material, but paradoxically, relatively little has made its way into his book in any detailed form. In a series of appendices, a few of the larger structures were given detailed treatment. The Museum of Fine Arts in Boston houses the files and records from which Reisner worked, and these remain to be published. W. S. Smith used some of these for *Giza II*, published posthumously with Reisner (1955), but the focus of this work is the fabulous Hetep-heres material, while giving a general corpus of pottery types in Giza. W. K. Simpson is currently publishing more of the Boston material in his series, *Giza Mastabas*. This hardly exhausts the material. C. S. Fisher, on behalf of the Eckley B. Coxe Expedition of the University Museum of the University of Pennsylvania, worked for a three month period in 1915, in the G3000 cemetery. This area is published as *The Minor Cemetery at Giza* (1924). The unpublished work of the University of Leipzig was conducted by Georg Steindorff, from 1903 to 1906 in the central portion of Giza's Western Field. Schiaparelli, of the Turin Museum, conducted some excavations in Giza's Western Field from 1949-53.
6. Number 4 is also similar to the pottery found in the tombs of the pyramid builders at Giza, southeast of the Sphinx, T. N. 1908.
7. I would like to thank Rita Freed and Peter Lacovara of the Egyptian Department at the Museum of Fine Arts Boston for allowing me to use this photograph.
8. I would like to thank my colleagues at the Giza Plateau who actually did the work during the excavation at the Western Field. Miss Amal Samuel, Chief Inspector of the Giza Pyramids; Mrs. Ahmed Abdou El Hamied; Mr. Mohammed Salah, and Mr. Mohammed Alaa Ed Din, Inspectors of the Pyramid. I would also like to thank my colleague, Dr. Ali Hassan, Head of the Pharaonic Monuments, who came to the site with His Excellency, The

Minister of Culture to see this discovery. During the discovery, I was in the United States, accompanying the Ramesses II exhibit in Dallas, Texas.

9. Mr. Nasry Iskander was responsible for the restoration and conservation of the plaster mask assisted by Mr. Osama Abu-El-Kheir, Conservation Laboratory Research Center, Egyptian Antiquities Organization.

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## Appendix I

## Report on Mummy Head Unearthed at Giza Pyramids Area

Nasry Iskandar and Osama Abu-El-Kheir  
1 January, 1991

## Description of the Object

The object consists of the head of a mummy with a crown and collar of faience beads. The head is a human scalp covered by a mud layer which is also covered by a plaster layer having the form of a face. The plaster layer is composed of gypsum ( $\text{CaSO}_4$ , as determined by X-ray diffraction analysis). The mud and gypsum layers covered the entire head and neck except for a portion of the back of the head.

Under the neck and on the left side of the face exists a mud block representing a part of the collar affixed to the head. The collar consists of seven rows of small blue faience beads. The collar is composed of two groups of different sized beads of faience. The first group of beads is fixed on the mud layer of the left side of the face. The second one is made up of an unknown quantity of faience beads of different shapes and sizes.

The crown consists of a group of fragments from completely corroded bronze, some of which are covered by thin plates of gold.

## Condition of the Object Before Treatment

The scalp was in a good state. The mud layer was highly friable. The gypsum layer was weak with some fissures observed in the neck and behind the left ear. It was observed that there was a clear separation between the plaster and mud layers. The bronze portions of the crown were completely corroded. The collar's beads were more or less calcified.

## Treatment and Conservation

1. A wooden base was designed to enable handling of the object during reconstruction and restoration.
2. The mud layer was strengthened by using Bramal 3 percent several times in order to achieve complete saturation.
3. The plaster layer was consolidated using paraloid 5 percent. Cracks were treated with Bramal 5 percent and the separated parts fixed with Bramal 5 percent.
4. The crown was mechanically cleaned and reassembled to form its original circular shape using araldite and immersed in (treated with) wax to prevent chemical reactions with the atmosphere.
5. The groups of faience were mechanically cleaned and then washed using distilled water and alcohol 10 percent mixture. The final step was the restringing of the faience beads into the original shape of the collar. It was then fixed to the mud layer.

## Appendix II

Nasry Iskander  
1991

The following samples have been examined by the X-ray diffraction method and the results are tabulated below.

## Sample 1: Mud

Major: ( $\alpha$ -quartz) Silicon IV oxide ( $\text{SiO}_2$ )  
Minor: Calcium and chloride silicate  
( $\text{Ca}_4 \text{PB}_6 \text{Cl}_2 \text{Si}_3 \text{O}_{21}$ )  
Calcium Aluminum Silicate ( $\text{Ca Al}_2 \text{Si}_2 \text{O}_8$ )  
Calcium Aluminum Silicate hydroxide  
( $\text{Ca Al}_2 (\text{Si}_2 \text{Al}_2) \text{O}_{10} (\text{OH})_2$ )  
(Calcite)  $\text{Ca CO}_3$

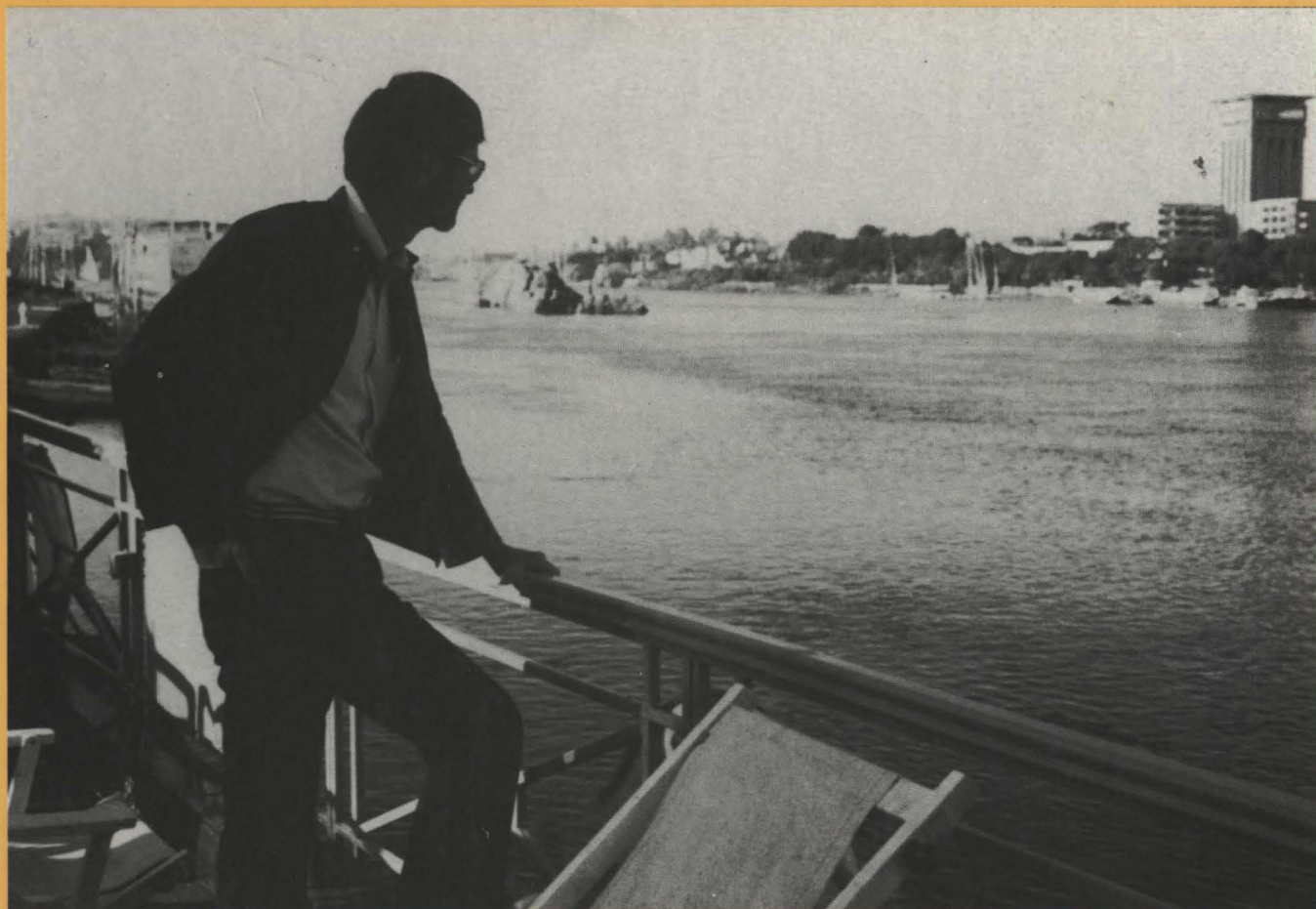
## Sample 2: Plaster layer

(Gypsum) Calcium sulfate hydrate ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ) (98%)  
Impurities (2%)

## Sample 3: Faience beads

( $\alpha$ -quartz) Silicon IV oxide (82%)  
(Cuprite) Copper (I) oxide  $\text{Cu}_2\text{O}$  (17%)  
undefined





*When Michael Hoffman brought his New World, model-orientated, anthropologically-biased viewpoint, his methodical archaeological techniques and his multi-disciplinary research approach to the Nile Valley some twenty-four years ago, Egyptian archaeology was still struggling to emerge as a science. It was in no little way due to his influence that the number of missions working in the archaeology of settlement sites has increased dramatically in Egypt and the Sudan in the last twelve years. On the simplest level, he showed that it is possible to locate, define and excavate mud-brick and other organic-based structures in desert and alluvial contexts, as well as to derive fundamental information from the analysis of all organic remains. On a higher plane, he demonstrated that, while these particular methods are fundamental, it is necessary to rise above the results they produce in order to present an overview of the development of early Egyptian civilization, from a site to a regional to a national level.*

*This collection of studies by his friends and colleagues is a measure of his inspiration and influence, and of the respect and affection with which he was regarded.*