

## Human Burials at Kom el-Hisn

Dr. Anthony J. Cagle  
University of Washington

### Introduction

Kom el-Hisn (Figure 1) contains some of the best preserved domestic architecture from the Old Kingdom found in the Delta, and is one of the few Old Kingdom sites in all of Egypt that is not directly associated with a temple or mortuary complex to be systematically excavated. In addition, it contains extensive cemeteries from virtually the entire period of occupation except, apparently and somewhat paradoxically, the Old Kingdom. Both sets of remains can be useful in addressing intrasite functional variation at any given period and over time. Domestic material is a direct result of subsistence and economic behaviors and is vital when assessing the functional configuration of the site as a whole. To establish contemporaneity among the various deposits and track changes in the functional layout of the site over time, spatial and temporal control must be tightly maintained. Establishing chronological control is, of course, a necessary part of all archaeological analysis but is especially vital when assessing the spatial configuration of site functions both synchronically and diachronically. In this context, burials not only provide clues to social differentiation through burial practices and the material goods contained within them, but can provide important chronological control since they most often occur outside of contemporary domestic areas, form discrete deposits within the stratigraphic column, and serve as chronological and cultural markers.

The present work is the result of excavations carried out during three seasons between 1984 and 1988 in the primarily Old Kingdom portions of the site concentrating on domestic architecture and remains. While work concentrated on deposits associated with habitation structures, several burials were also unearthed. In all, four adults and three child/infant burials were found over the course of three seasons. While few grave goods were found with any of the interments, the burials themselves can still provide important chronological information through the contents of over- and underlying deposits and their relationship to surrounding structures. Thus, the inhumations provide excellent stratigraphic markers that were used in the overall stratigraphic reconstruction of Old Kingdom Kom el-Hisn (Cagle 2003).

The goals of this paper are to evaluate the implications of our burials within the context of the stratigraphic development of the site; compare the types of burials we found with those of earlier excavations at Kom el-Hisn; and integrate these findings with results from other similar sites in order to date our burials more accurately and place them within the larger cultural context of the Delta at this time.

### Past work at Kom el\_Hisn

Kom el-Hisn has seen various expeditions over the past century with most geared towards identifying the ancient Egyptian place-name of the site and the overall chronology of occupation (e.g., Petrie 1886, Edgar 1909-1915, Coulson and Leonard 1981). Existing monuments and textual references at the site and elsewhere suggest that Kom el-Hisn was known as Imu (*imꜣ*), capital of the third nome of lower Egypt (*Imnt*), in which some texts have placed the so-called

'Estate of the Cattle' (Moens and Wetterstrom 1988). The interest of early researchers was directed primarily at the extensive New Kingdom structures at the site which included the remains of a large enclosure wall, pylons, and all of the inscribed stone monuments. Other major monuments of note are the limestone tomb of Khesu-wer, a Middle Kingdom official under Amenemmes (Amenemhat) III (Silverman 1988), and a collection of dressed stones to the far north of the site which have been variously described as a double tomb structure or simply blocks piled from the adjacent fields.

Early fieldwork at Kom el-Hisn concentrated mainly on the New Kingdom architecture and inscribed monuments. Petrie visited the area in 1884 and noted an offering tablet to Sekhmet, part of which read *hꜥtp di nsw nbt im3-sꜥht* or "the king gives an offering (to) the mistress of Imu, Sekhmet" (see Petrie 1886, pl. XXXVI, #2). Petrie also noted similar inscriptions to the "Mistress of Imu" at Kom el-Hisn though he did not mention the specific monuments on which these occur. F.L. Griffith worked at the site in December of 1885 and published his observations as an appendix in Part II of the Naukratis monographs (Griffith 1888). At that time, the enclosure walls were still visible together with the foundation of one pylon at the southern end of the enclosure and four inscribed statues (labeled I-IV in the 1888 volume). All of these statues are Ramesside monuments. Two of these statues are still extant at Kom el-Hisn as determined by Coulson and Leonard (1981:81-83) and make various references to Sekhmet or Sekhmet-Hathor in relation to Imu. Two of the statues described by Griffith (I and II) remain at Kom el-Hisn today, now placed near the rest house. The whereabouts of statue number III are unknown but Edgar (1909-1915) states that the best preserved of Griffith's four statues, number IV, was removed to the Egyptian Museum.

The other major monument at Kom el-Hisn is the tomb of Khesu-wer (*Hsu-wr*). The tomb lies in the southwest portion of the site near the modern village and is constructed of limestone blocks with (in Edgar's time) traces of mud brick walls surrounding the structure. Khesu-wer was described as being "Overseer of the women" who were, presumably, servants of the Hathor cult and Khesu-wer himself is also described as a priest of Hathor. Edgar dated the tomb to the reign of III based on the character of the religious texts (Edgar 1909-1915:61) and by the form of a basalt head found in the tomb (pl. XXXII in the original) which he argued is typical of those found during the Middle Kingdom reigns of Amenemhat III or Senwosret III (both 12th Dynasty). Still, as both Edgar and Coulson and Leonard (1981:83) note, the head was obviously intrusive and the dating is best determined through a more detailed analysis of the inscriptions.

### **The excavations of Hamada, el-Amir, and Farid**

Abdel Hamada, Mustafa el-Amir, and Shafik Farid (hereafter referred to only as Hamada and Farid) excavated at Kom el-Hisn for seven seasons between 1943 and 1952 (Figure 2) and are most relevant to the present discussion. They excavated over 1200 graves, but only published partial results of this work for the first four seasons (Hamada and el-Amir 1947, Hamada and Farid 1947, 1948, 1950); the remaining three seasons (1948, 1949, and 1950-52) are only known through records kept in the Egyptian Museum (Orel 2000:41). Of the published reports, only a few of the individual graves are described in any detail and this was not done systematically. Individual graves also were not always placed within the grid system they devised (see Figure 2). This is problematic when trying to assess any spatial patterns in burial practices, especially when comparing those from areas near where our modern excavations occurred. Nevertheless, a good deal of useful information can be gleaned from their published

reports and the subsequent work done on the unpublished documentation (Orel 2000).

Most of Hamada and Farid's work was carried out north of the main midden area in the *gezira* deposits (Pleistocene sands and gravels) on which the mound rests, but in the 1946-47 season they ventured farther south into the areas containing Old Kingdom architecture. Here, they encountered some graves that

were forced inside the walls. Others were made in the rooms, but in a higher level than that of the floor. It is most probable that these burials were made after the destruction of the dwellings (Hamada and Farid 1948:299).

They also noted the domestic artifacts found while clearing the rooms including "some pottery jars, fragments of quartzite corn-grinders, loom weights of limestone and pottery head-rests" (Hamada and Farid 1948:299). Several of these were noted to be "completely under the enclosure wall" that surrounded the entire site, since almost completely destroyed (e.g., burial #s 167 and 175 in Hamada and Farid 1947:205).

They recognized several types of burials based on the type of interment and gave a lettered designation for each:

- Type A: Sand-pit burial
- Type B: Sand-pit with plaster
- Type C: Massive brick tomb
- Type D: Brick-built tomb
- Type E: Wooden coffin
- Type F: Clay coffin
- Type G: Pot burials

Type A burials were the most common and were thought to date primarily to the Second Intermediate Period and later. These seem to be defined as any grave without a defined superstructure such as mud brick or a coffin. It is assumed that these can occur anywhere on the site, not just those areas with sandy deposits. This is important when considering any spatial patterns that may be observed between the graves in the *gezira* sands as opposed to the midden areas. No distinction is made by Hamada and Farid between the two areas as far as the distribution of types.

Type G pot-burials were also numerous in certain parts of the site, notably the area excavated in the 1948 season where 43% of the burials of that season were of this type. The excavators noted that the bulk of these were of children, but verification of this is difficult given the paucity of surviving records. And while most burials contained only a single individual, several contained more than one person, occasionally holding more than ten bodies. Many of the burials contained no grave goods and in the 1946 season they noted that most contained none.

The position of the bodies were predominantly "extended at full length on one side, which was in most cases the left, with head to the north" although "burials lying on back were not few" (Hamada and Farid 1948:300). Since the published reports do not describe individual graves with their locations, it is impossible to determine the distribution of grave types within the midden

area and compare them to the main cemetery. Grave goods were few during the 1946-47 season and usually were found in Type B graves. Materials included stone and ceramic vessels, jewelry, and various amulets and scarabs. Of special concern here are 19 copper mirrors found mostly in Type B graves. These were found in other seasons as well, and their distribution is not restricted to female burials (Hamada and Farid 1947:197), though weaponry (axe heads, daggers, and spear heads) were restricted to males.

Hamada and Farid dated the cemeteries to primarily Middle to New Kingdom times. In the published work, the majority of graves were assigned to the Second Intermediate Period based largely on the ceramics, at least through the 1946 season. In the 1947 season they argued for New Kingdom dates on numerous graves located in the northwest portion of the site, based on apparently New Kingdom sherds collected from this area in 1946 and wares from intact graves in 1947. Many of these graves were dated by seals or scarabs to the New Kingdom. For example, the following are illustrated in Hamada and Farid (1950): an oval seal with the name of Thutmose III (pl. VII, #16); a scarab with the name of Thutmose III within a cartouche (pl. VII, #17); and a scarab with the name of Amenophis III within a cartouche (pl. VII, #19; all 19th Dynasty; objects are described on page 371 of that volume).

They also found several pot burials of children (Type G) during this season which they thought were of New Kingdom date. Orel has argued that these are more likely Greco-Roman based on parallels with Kom el-Kharaz which are securely dated to that period (2000:45).

Guy Brunton later reanalyzed many of Hamada and Farid's artifacts and found them to be more comparable to First Intermediate and Middle Kingdom objects elsewhere, particularly the ceramics (1947). Orel, in her analysis of both published and unpublished material, also concluded that there was a "clear preponderance" of First Intermediate and Middle Kingdom wares (Orel 2000:44). Leaving aside the New Kingdom graves, it seems that the bulk of the graves are no later than Middle Kingdom and most likely First Intermediate Period including, presumably, those found within the midden area.

Hamada and Farid observed some spatial patterning in their data. "It was noted that each part [of the site] had particular features with regard to the type of burial, attitude of the body and the antiquities found" (Hamada and Farid 1948:299). Some of the differences they note have to do with the existing structures present: the intrusion of burials into the Old Kingdom habitations in the southeast, for example, found in the 1946 season. Yet there remains some discernible spatial variation as well. For example, during the 1946 season they noted that "the west part was distinguished by the frequency of massive brick tombs divided into two or three divisions" (Hamada and Farid 1948:299). Further, the New Kingdom graves tend to occur farther to the northwest and the Type G pot burials also seem to have been restricted to certain areas. The graves in the Old Kingdom habitation areas also contained very few grave goods as they note that nothing was found in most of the graves dug during the 1946 season. Little more can be said beyond these general observations since existing documentation is not sufficiently detailed to assign frequencies of burial types, periods, or grave goods to particular areas.

### **Modern excavations**

The current research program concentrated on the Old Kingdom structures generally to the

west and slightly south of Hamada and Farid's 1946-7 excavations. Work began in 1984 with the excavation of a series of randomly selected 1X2-meter test pits and three trenches (ST1-3). Based on the results obtained from this work, excavations in 1986 used a stratified random sample design to place several 2-meter *sondages*, two small step trenches, and a larger trench (72 m<sup>2</sup> in extent) that was used to expose a larger area of architecture. The large trench revealed substantial and relatively well-preserved mud brick architecture. After relatively shallow excavations in 1986, this trench – designated Area A – was considerably enlarged and deepened in 1988 to reveal more architectural elements, shown in Figure 3. During this last season, excavation units were defined by wall boundaries (“rooms”) rather than 2-meter units. Another shallow trench (Area B) was opened in an area partially excavated in 1984 (ST-1) and quite close to an area used by Hamada, el-Amir, and Farid (Figure 4). All of the burials used in this analysis were found within these two excavation areas.

Most of the site is covered with a lag deposit largely composed of salt-encrusted ceramics in a reddish matrix to a depth of about 10-20 centimeters (referred to as the “Upper Pottery Layer” or UPL; Cagle 2003), thought to represent extensive *sebahkin* activity. The architecture shown in Figures 3 and 4 lie directly beneath this covering of UPL. Radiocarbon dates and epigraphic finds suggest an occupation date during Dynasties 4 through 6 with the majority occurring during Dynasties 5-6 (ca. 2500-2290 B.C.; Wenke, et al. 1988). A small area in the southwestern end of the excavated areas is Middle Kingdom based on ceramic data, but more extensive Middle Kingdom deposits are known (Kirby 1998). All of the burials were located within the Old Kingdom structures.

A detailed analysis of the stratigraphy (Cagle 2001, 2003) revealed six distinct occupation layers. Level 0 is uppermost and was defined as any deposit not demonstrably of Old Kingdom date – that is, deposits containing no artifacts diagnostic of First Intermediate or later periods. These deposits include the Upper Pottery Layer and any occupation deposits later than Old Kingdom. Level 3 is the main occupation level at the site and includes most of the architecture in Figures 2 and 3. Occupational features below the Level 3 architecture were numbered sequentially based on stratigraphic position; two additional levels were found, Levels 4 and 5.

The floors of most rooms were covered by wall collapse deposits indicating some period of abandonment of the structures allowing the walls to partially collapse and decompose. The burials, all defined as Level 2, were intrusive into these sorts of post-abandonment deposits, either excavated into collapsed walls or cutting into the structures themselves, exactly as Hamada and Farid had indicated earlier. All Old Kingdom deposits lying stratigraphically above the burials, or above wall collapse deposits tightly associated with the structures themselves, were defined as Level 1. The majority (7 of 10 deposits) in Level 1 were dump/refuse deposits, suggesting that after abandonment this area was used for refuse dumping. Some light occupational debris were also found in this level, much like the temporary “squatter’s camps” described by Giddy (1987) at Dakhla Oasis.

### **Description of burials**

The following section describes each of the burials along with relevant stratigraphic information. The deposits follow the naming convention of Cagle (2001, 2003) where each deposit is designated as a ‘Depositional Unit’ or DU, and numbered sequentially (e.g., DU-1, DU-2, etc.), though not necessarily in direct stratigraphic order from top to bottom (i.e., DU-1 does not

necessarily lie stratigraphically above DU-2). See Figures 1 and 2 for the locations of the burials.

Infant 1 (I-1): Room 4 (Figure 5)

Excavated in 1988, this individual was judged to be between 1 and 2 years of age. The burial itself was cut into both wall collapse material (DU-2) and into a standing wall (DU-3). The body was also overlain by collapsed wall material and the excavator interpreted some of this material as having been deliberately deposited on top of the burial. A later (Level 1) dump deposit, DU-1, was noted as being stratigraphically above the deposits containing the burial.

The body was placed in the grave in a fetal position facing south with the head to the east. Preservation was fairly good and, though fragile, all of the bones were articulated and largely intact; the skull was slightly crushed but displacement only occurred along the sutures. No grave goods were found in direct association with the body. The few ceramics near the burial were judged to be intrusive, as part of the wall collapse deposit in which it was interred. A few articulated sheep/goat ribs were also above the body, as seen in Figure 5, but the excavator did not believe these were deliberately placed with the body. This is probably analogous to a Type A (sand-pit) burial.

Infant 2 (I-2): Room 13

This individual was again judged to be between 1 and 2 years of age, and was placed against the south wall in Room 13. The body was again placed in a shallow depression excavated into the wall and was both over- and underlain by collapsed wall deposits. The body was extended, on its right side, facing south directly into the wall and with the head to the west. This skeleton was also fully articulated and in a good state of preservation. Little crushing was noted although a large section of the left half of the skull above the parietal had caved in. No grave goods or other adornments were found. This is also probably a Type A burial.

Infant 3 (I-3): Room 5

Another infant burial, this was excavated in 1986. The grave was excavated out of wall collapse material and also cut into a mud brick circular structure in the room. The age of this individual is probably close to that of the others, between about 1 and 3 years. The orientation of the body had the head to the north in an extended position lying on its back. Unlike the two previous skeletons, this one was fully articulated but was fairly well crushed *in situ*. No grave goods were present and also probably represents a Type A burial.

Adult 1 (A-1): Room 5 (Figure 6)

This was also excavated in 1986 and is located near the previous infant (I-3) and enclosed entirely within the room structure (Room 5). The grave was cut into wall collapse and dump material and also cut through two brick pit structures (DU-8 and DU-9). The body was placed in a wooden plaster-covered coffin making it a Type E burial. The body, a male, was extended on its back, head to the north. As with the infant in this room, the skeleton had been crushed by overlying sediment and, presumably, from the collapsed coffin. The outlines of the coffin were clearly defined and showed sharp 90-degree corners. No decoration was noted in the plaster lining the coffin.

Adult 2 (A-2): Room 15 (Figure 7)

This was a Type D tomb structure built fully within the confines of a much larger room structure.

This larger structure, as seen in Figure 3, was not excavated as a unit but split between Rooms 10 and 15. The deposits overlying the burial itself consist of two wall collapse deposits (DU-2 and 4) separated by a dump (DU-3). The dump deposit was humped up along the middle of the eastern wall and tapered down to the opposite corners suggesting dumping occurred from this side, perhaps in a single or short-term episode of dumping. The underlying wall collapse deposit directly covering the body was heavily decomposed, showing very few individual brick pieces. This unconformity indicates that the tomb walls were allowed to collapse and dissolve before the dumping occurred.

Remains of (undecorated) plaster were discovered sloping away from the walls towards the body. This suggests that the interior walls of the tomb were plastered, as Hamada and Farid note in several of their Type D burials. No coffin remains were noted. It is also similar to many reported by Hamada and Farid in that it was barely big enough to accommodate the body.

The individual was female; age is unknown due to the crushed and fragile state of the bones. She was placed in an extended position with the head to the north. The skull had rotated backwards at some point and the mandible displaced to the right. While the frontal bone had slid down the face and displaced the maxilla, the skull (and the rest of the skeleton) was largely intact and uncrushed in contrast to the individual in Room 5. This was also the only grave excavated that contained demonstrable grave goods, a copper mirror that was placed just above her right hip between the torso and the right arm, with the handle end towards the head. This positioning is comparable to many of the earlier burials which had them placed either on or near the hip or under the head. Hamada and Farid noted that mirrors were not diagnostic of females since several male burials also contained mirrors. Portions of the burial shroud were preserved on one side of the mirror.

#### Adult 3 (A-3): Room 20

This is another Type D brick tomb also fully contained within the walls of a room (see Figure 3). Both this burial and that from trench ST-1 (A-4 below) were in areas closest to the Hamada and Farid excavations (the "1946-47" season). This is also a small structure, just big enough to contain an adult body. Note in Figure 4 that a break in the structure occurs toward the northern end of the tomb. This was a channel of mostly UPL debris that cut into the tomb for reasons unknown, though the outlines of lower, still in situ bricks were faintly visible. Hence, a brick wall may have been built through this individual at some point in antiquity.

The interior structure was also similar to that of Room 15: plaster covered the walls and a layer of wall collapse was found directly overlying the body. The plaster was described as mostly white with some red coloring as well. The overlying sediment burden was much thinner than that of Room 15, perhaps due to the later (but still ancient) excavations occurring in the area but also possibly due to more extensive *sebakhin* activity as much of the overburden was UPL as well as wall collapse.

The body, or what was left of it, was that of a fairly robust male, age unknown. The post-interment disturbances had removed the entire upper portion of the body from about the 10th or 11th thoracic vertebrae. Nevertheless, the remaining skeleton was largely intact and fully articulated. It was placed on its left side, facing east, with the head to the north, a position identical to a many of those described by Hamada and Farid.

#### Adult 4 (A-4): Trench ST-1

This is the only burial excavated in 1984. As seen in Figure 4, it is close to the Room 20 tomb and very similar to it. Though not visible in the plan view, this was described as being a small (i.e., just large enough to accommodate the body) brick tomb of Type D. The interior walls were covered in plaster between 0.5 and 1.0cm thick and were originally painted red, yellow, black, and blue though no designs were discernible.

Like Room 20, it was disturbed in antiquity. The head was completely gone and a wall was found to be running through where the head would have been. Interestingly, in place of the skull was an intact ceramic vessel with a few skull fragments in it. Apart from its close proximity there is nothing directly tying these fragments to the skeleton but the obvious conclusion is that as much of the head as could be recovered was placed back with the body by those disturbing it. The individual was that of a male, age unknown, on its left side, facing east, with the head to the north. No grave goods were found with this body either, although enough of the postcranial skeleton remained that had any been present they would have been found, unlike that from Room 20.

#### **Comparison with earlier results**

Generally, the burials uncovered were similar to those found by Hamada and Farid. All of those we found could be assigned to Hamada and Farid's burial types and exhibited no significant departures from the basic descriptions. Our comparison is most useful to their season 1946-47 as they excavated in the same general area as our investigations, but with few exceptions our results are comparable to the majority of burials recovered by them over all seasons.

That we found no Type A or B adult graves seems unusual as these were the most common graves reported by Hamada and Farid. It may be these types were restricted to the areas north of the midden and into the *gezira* deposits, but since the descriptions of individual graves were rarely assigned a grid unit by Hamada and Farid and no frequencies of types were given per excavation area or grid unit, it is impossible to determine if these occurred throughout the site. All of the child burials found, however, could be described as simple pits of Type A.

We found few grave goods, which is unusual for the site as a whole, but not for this area as noted in Hamad and Farid's preliminary report for the 1946-47 season. Again, this may be a cultural or temporal factor if this area was utilized at a given time or for a given segment of the population where more care was given to the burial context (plastered/decorated tomb structures) than to objects buried with the deceased. The one mirror we found with the woman in Room 15 seemed similar to those uncovered earlier. Hamada and Farid noted that they had found nineteen of these during the 1946 season, mostly from Type B graves of which we found none. Like ours, many of these mirrors were noted as having the remains of cloth preserved on them.

The orientation of the bodies compared favorably as well. Except for the infants, our adults all had the head to the north. Hamada and Farid's dominant position seems to have been on the left side facing east; only two of ours (both adult males) were in this position. The remaining two adults were on their backs. This does not seem significant as Hamada and Farid also noted that there was a great deal of variation.



### **Chronological concerns**

Hamada and Farid initially dated the bulk of their burials to the Middle Kingdom and later. However, many have since been reinterpreted as First Intermediate based largely on Brunton's interpretation of the ceramics. Thus, apart from burials that were dated on epigraphic or other secure means to later periods, most of the Kom el-Hisn burials, and certainly those within the Old Kingdom structures, have been assigned to the First Intermediate Period.

Some question as to this assignment was first raised by Cagle (2001, 2003) based on certain stratigraphic issues. To recapitulate: the main Old Kingdom occupation levels are Levels 3-5, followed by later intrusive burials (Level 2) which were in turn overlain by Level 1 deposits consisting mostly of dumps. Since the burials are stratigraphically below the Level 1 deposits, they should precede them in date. Thus, if we can secure a date for the Level 1 deposits we have, minimally, an upper boundary for the dates of the burials.

Our main chronological controls are the ceramics. In previous research Cagle (2001,2003) defined fifteen types based on the Kom el-Hisn typology that correspond to several standard Old Kingdom pottery types (initially developed by Reisner (1931, 1932, 1942, 1955; also Mond and Meyers 1937; Brunton 1927). Three of these fifteen are diagnostic of later periods: Type J, a typical small brown bowl with a slightly beveled rim that is characteristic of the 12th Dynasty; Type M, a tall conical Middle Kingdom bread mold; and Type N, a small marl bottle typical of the First Intermediate Period (e.g. #21 on page 2 of Bourriau 1981). Of the 10 Level 1 deposits only two sherds diagnostic of later than Old Kingdom date were found, both Type J bowls. Significantly, none were found in those deposits *directly* overlying burials (those in Room 4 and Room 15). Cagle (2001, 2003) also raised some question regarding the identification of Type J bowls with another very similar Old Kingdom type: O in the Kom el-Hisn typology which seems to correspond to Reisner's type CLXI (Roundbottom bowls with plain rim) and possibly CLXII (Reisner 1955:61,65). That is, these two apparently Middle Kingdom sherds could very well be Old Kingdom types misidentified as Middle Kingdom wares.

Otherwise, the ceramics from all of the Level 1 deposits and especially those directly overlying two of our burials contain very typical Old Kingdom ceramics. To test this quantitatively, I conducted a discriminant function analysis of the ceramic frequencies from three levels, 1, 3, and 4 since these are the most numerous of the levels represented. Only dump, floor, and wall collapse deposits were used. The independent variables – ceramic type percentages of only Old Kingdom types – were entered together to generate the canonical discriminant functions. The results showed no significant differences between the three levels based on type percentages ( $p=0.722$ ); see Figure 8 for the all-groups plot. Thus, based on type frequencies alone, there does not appear to be any significant differences between Level 1 and other, demonstrably Old Kingdom levels.

More detailed analyses of individual types may offer more information. Several recent studies have used various attributes of Meidum bowls (Kom el-Hisn type H) to investigate their chronological utility and other issues. Meidum bowls are common throughout Egypt during the Old Kingdom. Their function is unclear, but they have been found in both domestic and funerary contexts, the latter including a cache of thirty eight vessels included in the 4th Dynasty tomb of Hetepheres (Reisner 1955). They are often represented as holding food or liquid and occasionally as a decorative dish holding flowers floating in water (Bourriau 1981:53). Along with

the epigraphic representations, the beveled or grooved rims further suggest their use as containers for either holding or transporting liquids. At Kom el-Hisn, preliminary analyses suggest that they tend to be associated with faunal remains and features associated with food production and consumption (Wenke et al. 1988a:27).

There is evidence, however, that the forms these bowls take may have chronological significance. Ballet (1993), for example, has shown that bowl morphology shows some temporal trends in a series from Dakhla Oasis; in this case, the height of the shoulder seems to increase over time. (Wenke and Brewer 1995) conducted a similar study on Meidum bowls from Mendes and found similar trends. Also, Sterling and Wenke (1997) conducted a study of various attributes of Meidum bowls from four sites in Lower Egypt. They found that while the diameter of the bowls showed little variation across the four sites, other attributes of rim morphology showed significant variation. Since functional attributes tend to coalesce around standard values over time (Read 1982), rim diameter may well represent a largely functional attribute, while the more variable aspects of rim construction represent more stochastic and therefore stylistic attributes.

Following on these findings (Sterling 2004) used data from Meidum bowls from Kom el-Hisn deposits to investigate temporal and spatial variation in attributes of rim morphology using the stratigraphic levels described above. She found that while Kom el-Hisn bowls showed more overall affinity with 6<sup>th</sup> Dynasty forms from Elephantine and the pyramid of Teti at Saqqara, intersite variation made more specific correlations problematic. Nevertheless, they fit comfortably within the range of Old Kingdom variation.

Similar procedures were then applied to assemblages from different levels within Kom el-Hisn. Once again, discriminant function analysis was used to differentiate levels based on the combinations of rim measurements. And once again the analysis failed to find significant differences between Levels 1 through 4. Therefore, while we cannot at this point construct a firm chronology for the Kom el-Hisn level sequences, it seems clear that *all* levels fit comfortably within a strictly Old Kingdom framework. We must therefore conclude that all of the events represented by Levels 5-1 at Kom el-Hisn – three habitation sequences (Levels 5-3), followed by abandonment and use as a cemetery (Level 2), concluded by partial reoccupation and dumping (Level 1) – date to the Old Kingdom.

## **Discussion**

Overall, the burials uncovered are very similar to those excavated by Hamada and Farid in both character and content, especially those from their 1946-47 season near where our excavations took place. The rather poor descriptions makes direct comparisons difficult, but the types of interments and the positions of the bodies are consistent with those described in their published reports. Apart from the infant/child burials we seem not have to found any of their Type A-B “sand pit” graves, but these may be restricted to certain areas of the site. Otherwise, our adult graves represent Types D and E with wooden coffins and/or painted and plastered mud brick structures. We found similarly low quantities of grave goods, as noted by Hamada and Farid in this area, but the single item we did find – the copper mirror from Room 15 – matched up well with those described by Hamada and Farid.

While Hamada and Farid initially dated most of these graves to the Middle Kingdom and later

times, they have since been pushed back to the First Intermediate Period; that has remained the favored period for these burials. Nevertheless, the ceramic analyses described here cast some doubt on this date and suggest that some of these burials may date to within Old Kingdom times.

Elsewhere, I have posited a possible scenario (Cagle 2003:163-165) whereby this portion of the site was abandoned at some point in the later Old Kingdom and remained unused for some period of time. This would explain the decomposition of building walls noted to cover many of the floors of Level 3 rooms. Since the burials either overlie or are cut into these decomposed wall deposits, they are necessarily later. The Level 1 dumps are indicative of the disposal of household debris and suggest that after use as a cemetery this area was used for habitation of some sort. No structures are present and the only "living space" found in this level indicates an insubstantial lean-to type structure.

This scenario has support from elsewhere in the Delta, specifically Tell Ibrahim Awad (see <http://cf.uba.uva.nl/apm/FrameSet2.html>). A late Old Kingdom cemetery there appears to have a quite similar structure and history to that at Kom el-Hisn. Of 17 tombs discovered during the 2001 season all but two were oriented N-S facing east. Structurally, many were constructed of brick with plaster linings and reed or wood plaster-covered coffins. Their description of the stratigraphic sequence is strikingly similar: "As for the settlement: at some point, earlier in the Old Kingdom, part of it was possibly abandoned, and turned into a cemetery, because from that moment on tombs appear beside and cutting through what looks like living quarters". Dating of the tombs themselves is more secure at Ibrahim Awad, based on a seal impression dated to the rein of Userkaf (late 5<sup>th</sup> Dynasty, ca. 2465-2458 BC).

Similar patterns are emerging at Mendes. There, storage areas east of the temple show abandonment sometime during the late 5<sup>th</sup> or early 6<sup>th</sup> Dynasties, and other areas near the temple were turned into cemeteries sometime during the 6<sup>th</sup> Dynasty (D.B. Redford, personal communication). Other burials which seem to date to the First Intermediate are also intrusive into 6<sup>th</sup> Dynasty occupations.

The parallels between Kom el-Hisn, Tell Ibrahim Awad, and Mendes are striking and suggest that something happened during the late 5<sup>th</sup> or early 6<sup>th</sup> Dynasties that caused portions of substantial Delta sites on opposite sides of the Delta to be abandoned and used as cemeteries. Could this be an early sign of the apparent breakdown in royal authority that seems to have marked the end of the Old Kingdom? Scholars have been increasingly of the opinion that dramatic climate change in the late 3<sup>rd</sup> millennium was in part a causative factor in the collapse of the Old Kingdom and other areas of the western Mediterranean basin (Weiss and Bradley 2001). Indeed, drought and famine seem to have begun occurring at least as early as the end of the 5<sup>th</sup> Dynasty as indicated by the single block in the Unas causeway showing gaunt and emaciated people. Recently, Lovell and Whyte (1999) analyzed burials from Mendes and found that, while not statistically significant, Old Kingdom individuals have a higher incidence of dental enamel hypoplasia which they attribute to prolonged drought and malnutrition. This may indicate that during much of the 6<sup>th</sup> Dynasty and in the later 5<sup>th</sup> as well Egypt was suffering the effects of climate change, decreasing the ability of the central government to adequately feed, let alone closely administer, much of the population.

Nevertheless, diminution of royal authority throughout the country was not strictly a result of environmental factors; increasingly independent provincial officials arose as early as the 5<sup>th</sup> Dynasty (Aldred 1987:118, Kuhrt 1998:161). The exact relationship between Delta sites and the central authority is unclear, but the Delta as a whole seems to have had much closer ties to Memphis than the rest of Egypt (Kemp 1983). There is some evidence that Kom el-Hisn functioned, at least in part, as a supplier of sacred cattle to the ceremonial complexes in the Memphis/Giza area (Redding 1992) but, as I have argued elsewhere, Kom el-Hisn probably also functioned somewhat semi-autonomously, producing much of its own food and other resources and carrying out extensive trading relationships with the local economy (Cagle 2003:167).

It thus seems possible that some of the breakdown in royal authority, already in place during the 5<sup>th</sup> Dynasty and exacerbated by climatic deterioration, was already having a significant impact in those areas with close ties to that central authority. The Delta's close relationship with the Memphite rulers may have made many of the Delta towns and estates that depended on the central government more susceptible to abandonment by that segment of the population most closely associated with the central authority. Additional work needs to be done on the existing Kom el-Hisn material to date more closely the various levels associated with abandonment. At this point, all we can say is that the abandonment and cemetery use occurred sometime during the later Old Kingdom. More work in the Delta, especially in settlement sites dating to the 5<sup>th</sup> and 6<sup>th</sup> Dynasties, is necessary to resolve this issue further and more closely correlate any periods of abandonment as are found.

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