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**DATING BY DESIGN:
SEAL IMPRESSIONS FROM EAST KARNAK**

by

Steven Blake Shubert

A Thesis submitted in conformity with the
requirements for the Degree of Master of Arts,
Graduate Department of Near and Middle Eastern Civilizations,
in the University of Toronto

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Master of Arts, 1998
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ABSTRACT

DATING BY DESIGN: SEAL IMPRESSIONS FROM EAST KARNAK

In 1991 a group of over fifty seal impressions with geometric, spiral and floral designs were uncovered at the Theban site of East Karnak by the Akhenaten Temple Project under the direction of Professor Donald B. Redford of the University of Toronto. This thesis is an investigation of the iconography and style of the designs preserved on these clay sealings from East Karnak. The designs are categorized into the following six classes and a miscellaneous group: 1. Human figures (3 examples); 2) Linear designs (11 examples); 3. Scroll and spiral patterns (12 examples); 4. Egyptian signs and symbols (13 examples); 5. Rosette patterns (8 examples); 6. Cord designs (3 examples); and 7. Unclassed designs (8 examples). Based on the preponderance of oval shapes and the designs, it is a logical inference that the majority of the East Karnak sealings were made by scarabs. But indications of shape and design suggest that other back types were also used in making the East Karnak sealings. In terms of seal dimensions, the East Karnak seal impressions fit better with the overall First Intermediate Period than they do with either the early or late First Intermediate Period.

A late First Intermediate Period date for the East Karnak seal impressions is established according to both the iconography and style of the designs and the dimensions and shape of the seals that made the impressions. This corresponds with the evidence from the pottery found with the seals and from the archaeological context. The East Karnak sealings are significant in providing some of the earliest evidence for the use of scarabs and design amulets as actual functioning seals rather than as decorative jewelry or amulets found in funerary contexts.

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ABBREVIATIONS

2IP	Second Intermediate Period
<i>Abu Ghâlib</i>	Larson, Hjalmar. "Vorbericht über die Schwedischen Grabungen in Abu Ghâlib 1932-1934." <i>MDAIK</i> 6 (1936) p. 41f.
ASAE	<i>Annales du Service des Antiquités de l'Égypte</i> (Cairo)
BASOR	<i>Bulletin of the American School of Oriental Research</i> (Jerusalem)
BIFAO	<i>Bulletin de l'Institut français d'archéologie orientale</i> (Cairo)
BDS	W.M. Flinders Petrie. <i>Buttons and Design Scarabs</i> , British School of Archaeology in Egypt 21 (London, 1925).
BSAE	British School of Archaeology in Egypt
Dyns.	Dynasties
EB	Early Bronze Age (Syro-Palestine)
EEF	Egypt Exploration Fund
<i>el-Amrah</i>	D. Randall-MacIver and A.C. Mace. <i>El Amrah and Abydos 1899-1901</i> , EEF Memoir 23 (London, 1902).
FIP	First Intermediate Period
Gardiner	A. Gardiner. <i>Egyptian Grammar: Being an Introduction to the Study of Hieroglyphs</i> , 3rd ed. (Oxford, 1957).
<i>Gurob</i>	G. Brunton and R. Engelbach. <i>Gurob</i> , British School of Archaeology in Egypt 47 (London, 1927).
<i>Harageh</i>	R. Engelbach. <i>Harageh</i> , British School of Archaeology in Egypt 46. (London, 1923).
IKG	W.M. Flinders Petrie. <i>Illahun, Kahun and Gurob</i> . (London, 1891).
JEA	<i>Journal of Egyptian Archaeology</i> (London)
JNES	<i>Journal of Near Eastern Studies</i> (Chicago)

<i>JSSEA</i>	<i>Journal of the Society for the Study of Egyptian Antiquities</i> (Toronto)
<i>LÄ</i>	<i>Lexikon der Ägyptologie</i> (Wiesbaden, 1975-1988)
<i>Matmar</i>	G. Brunton. <i>Matmar</i> , British Museum Expedition to Middle Egypt (London, 1948).
<i>MB</i>	Middle Bronze Age Period (in Syro-Palestine)
<i>MDAIK</i>	<i>Mitteilungen des Deutschen Archäologischen Institut, Abteilung Kairo.</i>
<i>MJ</i>	Montet Jar (Byblos)
<i>Mostagedda</i>	G. Brunton. <i>Mostagedda and the Tasian Culture</i> . British Museum Expedition to Middle Egypt, First and Second Years (London, 1937).
<i>Pyr.</i>	Pyramid Texts
<i>QB I</i>	G. Brunton. <i>Qau and Badari I</i> , British School of Archaeology in Egypt 44. (London, 1927).
<i>QB II</i>	G. Brunton. <i>Qau and Badari II</i> , British School of Archaeology in Egypt 45. (London, 1928).
<i>QB III</i>	G. Brunton. <i>Qau and Badari III</i> , British School of Archaeology in Egypt 50. (London, 1930).
<i>Riqqeh and Memphis VI</i>	R. Engelbach. <i>Riqqeh and Memphis VI</i> , British School of Archaeology in Egypt 25. (London, 1915).
<i>SA, SB & SC</i>	East Karnak field designations
<i>Sedment I</i>	W.M. Flinders Petrie and G. Brunton. <i>Sedment I</i> , British School of Archaeology in Egypt 34. (London, 1924).
<i>StSc I</i>	William A. Ward. <i>Studies on Scarab Seals I: Pre-12th Dynasty Scarab Amulets</i> (Warminster, 1978).
<i>StSc II</i>	Olga Tufnell. <i>Studies on Scarab Seals II: Scarab Seals and Their Contribution to History in the Early Second Millennium B.C.</i> (Warminster, 1984).
<i>Urk.</i>	<i>Urkunden des ägyptischen Altertums</i>
<i>ZÄS</i>	<i>Zeitschrift für Ägyptische Sprache und Altertumskunde</i> (Leipzig and Berlin)

1.0 INTRODUCTION

The discovery in 1991 of a group of seal impressions¹ from the Theban site of East Karnak provides a new body of material that sheds light on the development of seals and sealing in Egypt during the First Intermediate and Middle Kingdom Periods. The shape and the size of the seals impressed onto the pieces of clay that were recovered during the excavations provide some evidence, but it is essentially the designs left on the sealings that can be analyzed in order to place the East Karnak seal impressions in their cultural and chronological context. The East Karnak sealings lead one into the midst of an ongoing debate about the absolute dating for the relative sequence that has been established for scarab morphology. The main points of this debate and the contributions of the major scholars dealing with Egyptian scarabs are presented as background to the current study.

Dating is key to understanding the place of the East Karnak sealings in Egyptian archaeology; the date of these seal impressions ultimately depends on the designs themselves because the other criteria (shape, size, archaeological context) are not definitive. The study of the East Karnak sealings provide a test for the validation of scarab design classification systems that have been established largely on the basis of scarab back types and profiles. The chronology of scarab head and back types and

¹ D.B. Redford (1988 p. 37) describes them as "108 clay bullae, of which 57 retained seal impressions."

profiles is not covered in the present study, because there is no evidence on these topics for the seal impressions from East Karnak.

The essential facts concerning the archaeological context of the East Karnak seal impressions are briefly reviewed at the outset of the study. These facts set the basic parameters within which the interpretation of these sealings must operate and raise some of the questions that must be addressed. Following this further limits and directions of the study are provided by a consideration of the methodological problems posed in by the study of Egyptian scarabs and their designs. With the focus of the study clearly established, the further organization of the research is reviewed.

1.1 ARCHAEOLOGICAL CONTEXT²

The East Karnak sealings come from Field S (see figure 1.1), located south of the large Gem-pa-Aton temple that was the focus of the Akhenaten Temple Project's work from 1976 to 1991.³ Because the Gem-pa-Aton temple lies entirely north of the main axis of the Karnak Amun Temple, it was thought that a "balancing"

² The source for this discussion is D.B. Redford's "Interim Report on the 20th Campaign (17th Season) of the Excavations at East Karnak" *JSSEA* 18 (1988) pp. 36-39.

³ See D.B. Redford *Akhenaten: The Heretic King* (1984) and interim reports published in *JARCE* 14 (1977) p. 9f & 18 (1981) p. 11f., *Expedition* (Summer 1977) p. 33f., *Scientific American* 239/no.6 (Dec. 1978) p. 100f., *Rotunda* 17/no.3 (Fall/Winter 1984/85) p. 8f. and in *JSSEA* 11 (1981) p. 243f., 13 (1983) p. 203f. & 18 (1988) p. 24f.

structure might exist south of the Karnak axis. The chance find of a column base at the edge of the large canal encircling Karnak provided the impetus for opening a series of trenches in this area. Trenches SA and SB were located 60 m south of the Karnak axis in a North-South line, while Trench SC lay west of SB accommodating the westward turn of the canal at this point some 80-90 m east of the Karnak temenos. This area sloped towards the canal on both the east and south sides (see figure 1.2). The upper levels consist of "dump" deposited during the clearance of Karnak Temple in the 1920s.

The upper level of dump was expected, but it was a surprise to find underneath that the initial occupation strata were earlier than Akhenaten, even predating the New Kingdom! In Trench SC a major wall 3.35 m thick was uncovered and in Trench SA four phases of lower class housing were uncovered. The ceramic content of the wall points to a Second Intermediate Period construction. Two of the sealings were found in the bricks of this wall. Beneath the wall were numerous tip lines declining east in Trench SC and south in Trench SA; most of the sealings were found in these tip lines which must have resulted from a levelling operation to prepare for the wall's construction. Other sealings were found within the fill of the Trench SA houses. The pottery associated with the sealings is similar to the ceramics found at Qurna and el-Târif on the West Bank at Thebes, dating to the early Eleventh Dynasty (Shubert and Hummel 1988, p. 47).

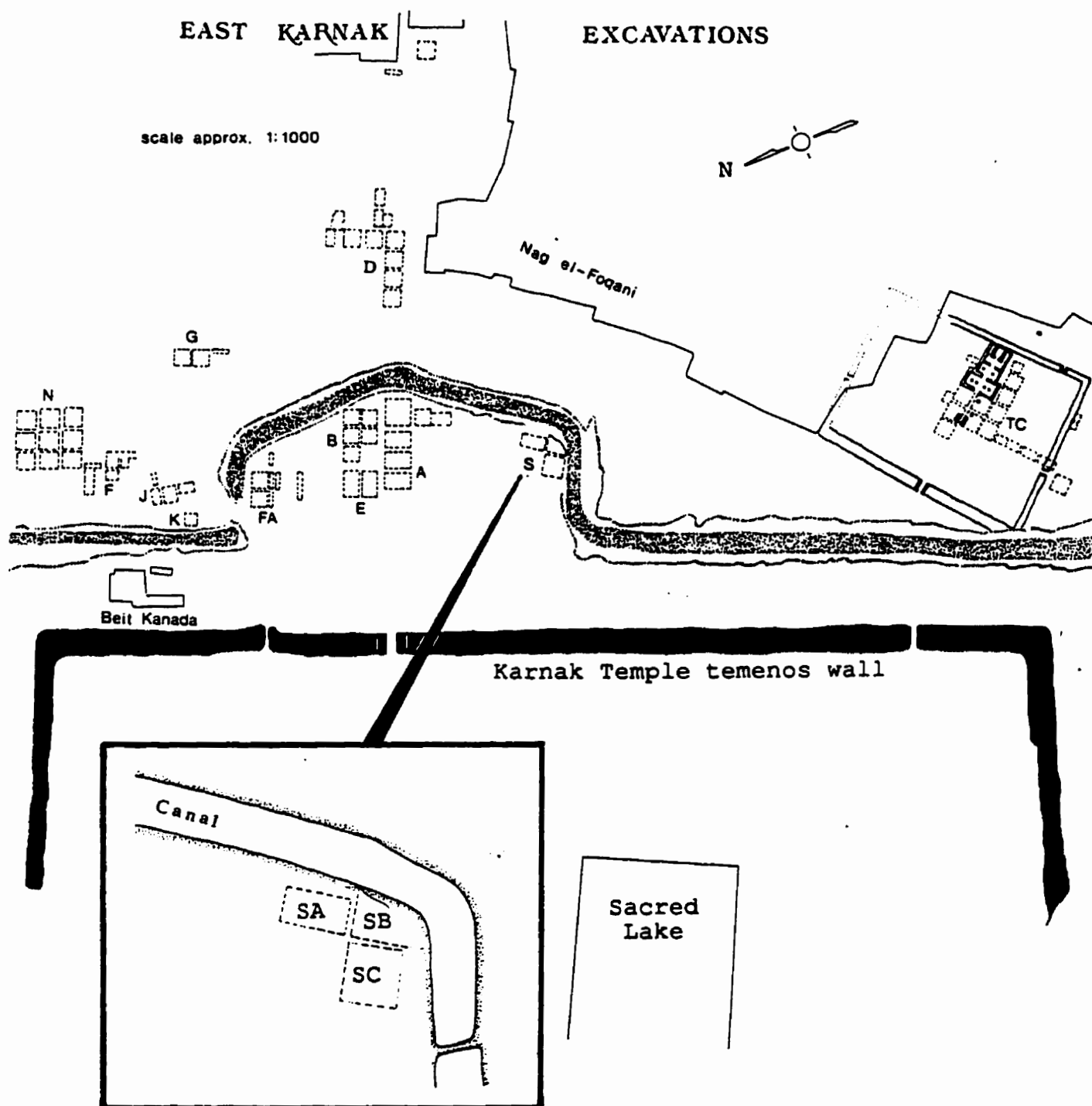


Figure 1.1: Location of Field S at East Karnak
 Adapted from D.B. Redford. "Interim Report on the 20th Campaign
 (17th Season) of the Excavations at East Karnak." *JSSEA* 18 (1988)
 figs. 1 and 3 drawn by Susan Redford.

SECTION THROUGH SB/SC FACING NORTH

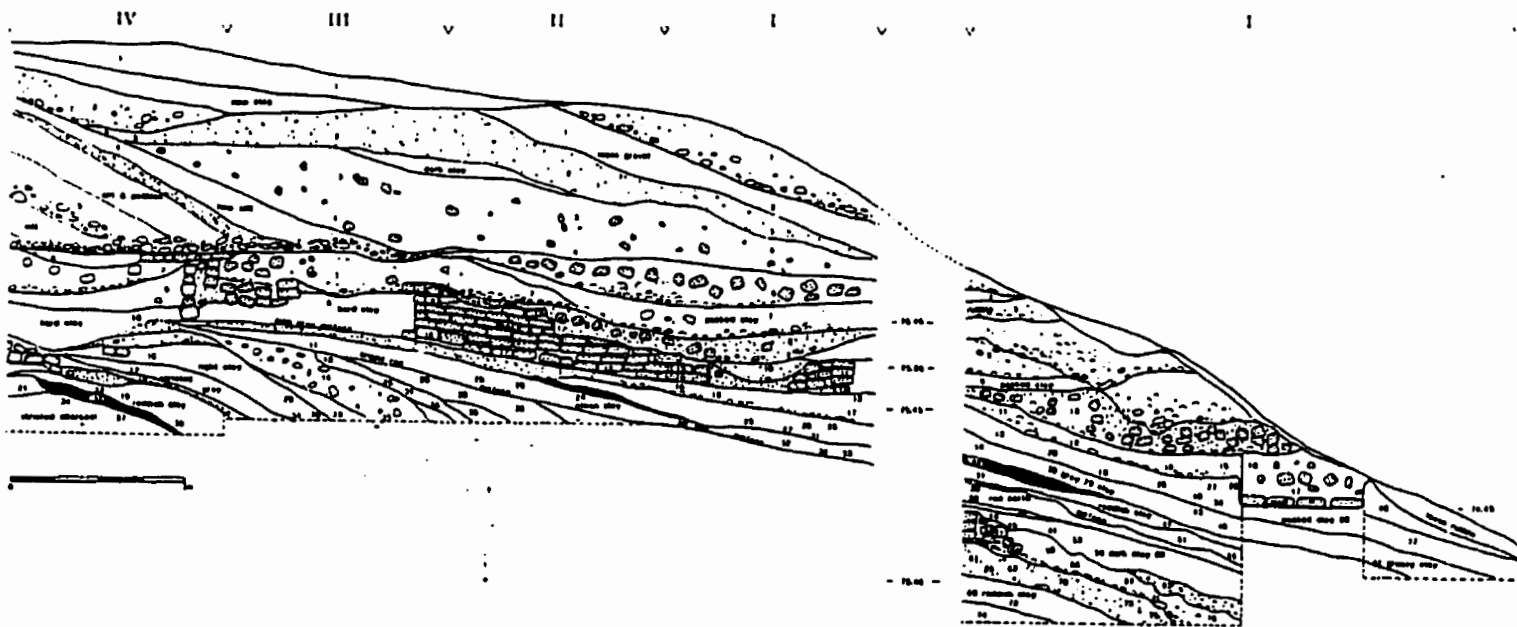


Figure 1.2: Section through squares SB/SC at East Karnak
From D.B. Redford. "Interim Report on the 20th Campaign (17th
Season) of the Excavations at East Karnak." *JSSEA* 18 (1988) p.
38, fig. 8.

When levelling the area in preparation for the construction of the Second Intermediate Period wall, the builders brought in earth from elsewhere; it cannot be imagined that the builders would have transported earth from any distance. The location they chose had been used as a "wastebasket" from some "office," presumably located west of Trench SC in the vicinity of Karnak. The papyrus documents once attached to the sealings have not been preserved and in fact may not ever have been thrown into the garbage dump with the sealings. The archaeological context gives no indication as to whether the sealings would have come from a government office, from temple administration or from private correspondence. But the sealings are definitely connected with Karnak and may be placed within the period bounded by the First and Second Intermediate Periods.

The latest date possible for the sealings is the Second Intermediate Period;⁴ there is no reason why builders should not have removed material from a contemporary dumping ground to level a new site. The ceramic evidence, however, suggests that the dumping ground contained earlier material. The ceramics may be placed in an early Middle Kingdom horizon (Shubert and Hummel 1988 p. 47); they date to the early 11th Dynasty, a time period covering the end of the First Intermediate Period and the beginning of the Middle Kingdom. All things being equal, the

⁴ Soon after their discovery Redford (1991 p. 2) noted that the "impressions were of "Hyksos" period geometric and "design" scarabs, and help to date the distinctive pottery among which they were unearthed."

seal impressions should date to the same period as the pottery with which they are associated.

The archaeological context of the East Karnak sealings provides a firm anchor in time and space for this collection. Stratigraphy and ceramics combine to place these sealings in a late First Intermediate Period/early Middle Kingdom (Dynasty 11) context. This dating needs to be checked against the evidence of the sealings themselves particularly in assessing how uniform a date can be assigned to the group. Because of the disturbance of this material in the Second Intermediate Period, it would not be unusual to find pieces from this date in the mixture of both ceramics and sealings. As a group the sealings must be dated according to the latest reliably dated object. More significant in the current investigation is the attempt to determine whether the East Karnak sealings should be treated as a relatively homogeneous unit or as a mixture of material from a range of dates.

1.2 METHODOLOGY

A number of methodological issues arise in this study that should be addressed at the outset. These include 1) the limitations imposed by the particular condition of the East Karnak sealings; 2) limitations posed by the study of seal impressions in general; 3) problems with the chronology of Egyptian scarabs between the First and Second Intermediate Periods; and 4) limitations posed by the possible regional

character of seal design in this period.

As a collection, the East Karnak sealings exhibit a wide range of preservation. Some have been preserved virtually intact, while for others only small fragments survive. This causes problems in data collection. In many cases while design elements are visible, the overall pattern cannot be discerned. This is most often because only a small portion of the sealing has survived, but sometimes occurs when breaks or worn areas obfuscate the overall pattern. Likewise, seal shape and size have not always been able to be determined. The approach taken here has been to present as much of the available evidence as possible; this has meant that some sealings where the design is not at all clear have been included. Profiles of the sealings were not drawn in the field and the clay of the sealings was not described in detail, so no information can be given on these topics.

The study of scarabs and seals has been greatly advanced through the study of number of features other than design, particularly the back type, profile and material. Ward (1978 p. 37) notes the "cardinal principle" that all features of scarabs - design, head, back, side -- must be considered in detail in developing a satisfactory chronology. Unfortunately, when dealing with seal impressions, no information is available as to the back and side type of the seal which produced them. This lack of data forces the present study to focus on design iconography and chronology. Chronological sequences for scarabs

have been developed by both Ward (*StSc I*) and O'Connor (1985), based largely on back type and side profile. Even so, there is disagreement between these and other scholars about the absolute dating of the relative scarab sequence. This controversy is further discussed in chapter three.

In terms of methodology, the dating of Egyptian scarabs and seals with similar designs is based first of all on groups from dated archaeological contexts. Ward (*StSc I* p.4) goes so far as to state that "the only meaningful framework within which the chronological development of scarabs can be studied is one built on excavated material from reasonably well-dated contexts." Unfortunately, there is a fair amount of disagreement among scholars on what is and is not "reasonably well-dated." Sometimes scarabs themselves are the best means we have for dating archaeological contexts. Furthermore, although an archaeological deposit may be dated, the material in the deposit is not necessarily all contemporary. Ward (*StSc I* pp. 18-19) places scarabs in a chronological sequence by looking at the overlap of all different criteria -- including head, back and profile types as well as designs. While the general trend of scarab development is clear, specific results vary according to the features emphasized in developing the sequence.

The type of archaeological context and its impact needs to be considered. There are many different types of archaeological contexts: temple deposits, tomb deposits, domestic deposits, administrative deposits from government offices, etc. It is not

at all certain that the designs and types of scarabs and seals found in tombs and burials coincide with the seals and sealings found in occupation debris.⁵ Sealings indicate the functional use of seals, whereas examples from tombs may have had an amuletic, decorative or even magical function. What is the effect of a hoard, such as the Montet Jar from Byblos on the type of seals included? These questions cannot all be addressed here, but they are important to keep in mind in assessing the present evidence.

Aside from archaeological context, scarabs can be dated according to a number of other form and design criteria. The presence of royal names has often been used to date scarabs. For example, scarabs with royal names are used by both Martin (1971 pp. 150-154) and O'Connor (1985 pp. 3-29) to develop detailed scarab back type chronologies. Unfortunately, it has been shown several times that scarabs may be manufactured with the names of past pharaohs to evoke their power and protection; scarabs also were sometimes kept as heirlooms or for other reasons reused generations after their manufacture.⁶ Ward (1994 pp. 194-5) suggests that while they share some features of typological development, in fact, one must trace several lines of stylistic

⁵ Petrie *BDS* p. 9 mentions that "regarding the actual finding of scarabs, though many are found in tombs, yet the bulk come from towns."

⁶ Siegfried H. Horn *JNES* 21 (1962) pp. 2 & 13 makes this point, concluding (fn. 86) that "scarabs are poor criteria for chronological purposes." Ward (1994 p. 195) notes that "it has become increasingly evident that many royal name scarabs were made long after the lifetime of the kings they commemorate."

development depending on whether scarabs bear royal or private names or simply designs.

A further methodological point is the effect of local or regional preference on the designs from seals and scarabs found in different regions. There is little regional variance within Egypt and Nubia. There is some indication, however, for differences between the scarab design repertoire in Egypt and that in Palestine. Tufnell (1975 pp. 71-72) notes some differences in design between Palestinian and Egyptian scarabs, although the question of dating may affect some of the comparisons. Designs such as the Horus hawk with the *ntr* and the "an-ra" formula, which are common at Palestinian sites such as Megiddo and Jericho, are entirely missing from the Kahun and Uronarti sealings. Spirals on the other hand abound at Kahun and Uronarti, but are proportionately rare at such Palestinian sites as Ajjul and Tell el-Fara (South).

Differences between Palestinian and Egyptian Archaeology may extenuate regional differences. Palestinian Archaeology is structured around material assemblages (e.g. MBII or EBI) that are connected to an absolute chronology largely provided through Egyptian and Mesopotamian connections. Egyptian Archaeology is structured around the dynastic groupings of individual pharaohs' reigns; material culture change does not necessarily follow political developments. The study of Egyptian and Palestinian scarabs is inextricably intertwined; it is surprising how frequently Palestinian scarabs have been used to date Egyptian

examples.⁷ In this paper, the East Karnak seal impressions are chiefly related to other Egyptian seals. In chapter six, the East Karnak examples are compared with their closest counterparts in Syro-Palestine, the Montet Jar seals from Byblos.

1.3 SCOPE OF PRESENT RESEARCH

The aim of the present research is to gain an understanding of the place of the East Karnak sealings in Egyptian archaeology. We are principally concerned with answering the questions 1) what designs are preserved on these sealings, and 2) what do these designs tell us in terms of dating and the type of seals that made them. Given their archaeological context, we are also interested in determining whether the East Karnak sealings should be considered as a homogeneous grouping or whether the seals cover a range of dates.

Chapter two provides a brief overview of the current state of our knowledge about seals and sealing in ancient Egypt and how this applies to the East Karnak sealings. Chapter three summarizes the scholarly literature on the development of design typologies for Egyptian scarabs. The problem in fitting the relative chronology of scarab designs recovered from excavated contexts with an absolute chronology is emphasized. Chapter four describes the designs found in the East Karnak sealings. These designs are investigated in terms of meaning, date and seal type

⁷ See for example the comparisons offered for the East Karnak sealings in Redford 1988 p. 43 n. 46.

in chapter five. The East Karnak seal impressions are compared with their closest counterparts in Syro-Palestine, the Montet Jar scarabs in chapter six.

The results of the research are summarized in chapter seven. It is argued that the importance of the East Karnak sealings is a combination of both form and function. The designs found on the East Karnak impressions are comparable to those from First Intermediate Period seal amulets and scarabs recovered principally from burial contexts in Middle Egypt. They represent some of the earliest evidence from Egypt that seal amulets and scarabs functioned as seals in the same way that cylinder seals had been used throughout the Archaic Period and Old Kingdom.

2. SEALS AND SEAL IMPRESSIONS IN ANCIENT EGYPT

The challenge of the present work is to fit the designs preserved on the East Karnak sealings within the broader context of scarab and seal design development in Egypt. Seals of two major types were used in ancient Egypt: 1) stamp seals, and 2) cylinder seals. Stamp seals have a flattish side on which a design is carved; stamp seals are used by impressing the flat surface on moist mud or some other malleable surface. Cylinder seals, on the other hand, are tubular in shape and were rolled over fresh mud; the design carved on the exterior of the seal would be repeated in the impression if the seal were rolled long enough. This type of sealing was most useful for large objects, since the impressed design could be extended indefinitely. The East Karnak seal impressions were made by stamp seals and provide some of the earliest evidence for the functional use of this type of seal in Egypt.

2.1 Cylinder Seals

Both stamp and cylinder seals are known from Predynastic Egypt (Podzorski 1988). The number of seals recovered from well-recorded archaeological contexts is small, but is supplemented by others acquired through purchase, sometimes with ascribed provenience.⁸ Excavated Predynastic cylinder seals have come from Abusir el-Meleq (tomb 1033), Ballas (tomb 307), Naga ed-Deir

⁸ Boehmer 1974 in a very detailed article lists 15 cylinder seals from Predynastic Egypt. Podzorski 1988 adds three further seals, including one stamp seal, for a total of 18.

(tomb 7304), Naqada (tomb 1863 and tomb 29), Matmar and from Zawiyet el-Aryan (Boehmer 1974). Predynastic cylinder seals have also been recovered from the Nubian sites of Gerf Hussein, Saras West and Kashkush (Kelley 1973). In all cases the archaeological context is of later Gerzean (Naqada II) date.

The form and decoration of these cylinder seals suggest that the idea for seals and sealing may have been transmitted to Egypt from Western Asia, possibly through trade goods on which clay sealings had been affixed (Teissier 1987 p. 49). There is some controversy over exactly how and when this might have been accomplished.⁹ The iconography of Predynastic Egyptian cylinder seals with patterns of cross hatching and fish motifs shows its closest affiliation with material from Susa, suggesting southwest Iran rather than Mesopotamia proper as the source for the seals found in Egypt.¹⁰ Cylinder seals and glyptic design are only one of the cultural influences from West Asia found in Egypt at this time (Frankfort 1956); no complementary Egyptian influence has

⁹ There has been a certain resistance among some Egyptologists to acknowledge foreign influence on the emerging Egyptian State, particularly when articulated by Mesopotamian specialists. For example, Kelley 1973 notes that possibilities for contamination in the archaeological record suggest that the import of Mesopotamian cylinder seals may not have occurred until Dynasties 1-2. It is possible that cylinder seals developed in Egypt from tubular beads, but even if manufactured in Egypt, their decoration is undeniably influenced from Mesopotamia.

¹⁰ This view now appears to have gained wide acceptance, cf. Moorey 1987, Pittman 1996, Teissier 1987. Debate continues about whether to accept a southern route through the Wadi Hammammat (Spencer 1993 p. 58) or a northern route through the Delta either overland through the Sinai or from Syria by sea (Teissier 1987, Moorey 1996, Smith 1992).

been discerned in either Sumer or Susa.

There is no evidence that the Predynastic cylinder seals were ever used for sealing. Those cylinders with secure archaeological contexts come from burials and may have been exotic pieces of jewelry or high-prestige trade goods. With the formation of the Egyptian State in Dynasties 0-1, the practices of sealing and writing are adopted to extend and ensure the control of a centralized bureaucracy over Egypt. One can neither prove nor disregard the probability that these ideas were instigated by contact with Mesopotamia.¹¹

Archaic Period seals and sealings form some of the earliest attestations of Egyptian hieroglyphic writing. Cylinder seals were carefully engraved with hieroglyphic signs that seem to have been arranged with an eye to filling the available space and providing an attractive design.¹² They were used principally to mark State property with either the name of the king, the name of a high official or the name of a State office. Our evidence comes from royal and élite class cemeteries.¹³ Grave goods were

¹¹ The presence of mosaic cones in Buto suggests the possibility that an "Uruk" colony may have existed in Egypt (Way 1992). Although accepted by many scholars (Ray 1986; Fischer 1989; Hoffman 1991; Wenke 1991), other Egyptologists continue to resist the idea of Mesopotamian influence (Baines 1988; Davis 1989; Kelley 1973a).

¹² Emery 1961, p. 198; Schmidt in Noveck 1975 p. 65 and Goedicke 1983 p. 32. Often the reading of these signs is difficult with the results debatable at best.

¹³ Sealing first appears as a widespread practice in Egypt in the royal cemeteries of Saqqara and Abydos. Archaic Period sealings have also been found at such other sites as Abu Roash and Helwan (Williams 1977 p. 135).

sealed in jars stoppered with large cone-shaped mud caps. Cylinder seals were rolled up one side of the clay jar cap and down the other; sometimes jars were marked with two cylinder seals and the impressions would cross each other at the top (Emery 1939 p. 20 & 1961 p. 209). Sealings from Early Bronze I Palestine¹⁴ and from A-Group contexts in Nubia¹⁵ indicate foreign contacts of the new Egyptian state.

In addition to the State use of cylinder seals, private cylinder seals also appear in the Archaic Period; they are usually small and most are made of black steatite, although some are of ivory and wood. They are found in lower class burials at such sites as Naga ed-Deir.¹⁶ These cylinder seals are decorated with hieroglyphic signs that seem to represent the owners' names. Frequently this decoration also includes a representation of the human figure seated in front of an offering table, such as those depicted on Old Kingdom false doors and stelae (Williams 1977 p.

¹⁴ Sealings have been found at Tel Erani (Kempinski 1991 pp. 187-188), Nahal Tillah (Levy et al. 1995 pp. 28-29) and 'En Besor. Gophna 1997 notes that the Dynasty 1 date for the 'En Besor sealings suggested by Schulman 1983 has been pushed back to late Dynasty 0/early Dynasty 1 by subsequent study.

¹⁵ See Williams 1986 pp. 167-170. Williams suggests that these sealings are Predynastic in date, but this redating has not been accepted by other scholars, cf. O'Connor 1993 pp. 20-21 and Adams 1985. If Williams dating were accepted, it would mean that Egyptian style seals were being used outside of Egypt during the Predynastic Period; this would radically alter the preceding summary of the introduction of seals and sealing to Egypt.

¹⁶ See Reisner 1908 pls. 33-34. Cylinder seals of this type have also been found from other sites, such as el-Amrah and Abydos, and appear in museum collections without secure provenience (Goedicke 1983 p. 33).

137). Thus, these cylinder seals have been interpreted as an economy version of the funerary stela, with the primary function of preserving the name of the deceased. Although they do not continue into the 3rd Dynasty, these Archaic Period private cylinder seals indicate that seals and sealing early had a variety of functions in Egypt.

Important collections of Old Kingdom (Dynasties 3-6) sealings have been recovered from Abusir, Beit Khallaf, Dahshur, Giza and Buhen in Nubia;¹⁷ an official from Meir even records in his tomb biography that his seal of office never spent the night apart from him (Urk. I 223.9). Starting in the 4th Dynasty, a new sealing method is seen in the mastaba tombs of Giza. Boxes are sealed by being tied closed with a string. The knot was covered with a lump of clay across which a cylinder seal was rolled. Single box sealings were found in the burial chambers of several Giza mastabas, suggesting that they were mainly used for sealing the canopic chest (Reisner 1955 p. 54). A Giza seal impression with the name of Neuserre (5th Dynasty) is the first example known of a sealing from a papyrus document (Junker 1944 p. 239). Essentially sealing remained a function of the government bureaucracy; sealed grave goods from royal storehouses would have been assigned as rewards or payment to the officials buried in the tombs.

As the traditional form of seal, cylinders with royal names

¹⁷ See Kaplony 1977, as well as Emery 1963; Garstang 1903; Junker 1944; Reisner 1955; and Verner 1994.

continued to made in Egypt throughout the Middle Kingdom. Their use as actual seals is rare; many of the Middle Kingdom cylinders would have been unsuitable for use as a seal, being made with multiple lobes, with the incised hieroglyphs being filled with glaze paste or being inscribed with the names of multiple pharaohs.¹⁸ By the First Intermediate Period cylinders were being treated more as a type of amulet than as a working badge of office. Cylinders continue to appear as an archaic form in the Second Intermediate Period, New Kingdom and even later.

2.2 Seal Amulets

At the end of the Old Kingdom stamp seals were reintroduced in Egypt. The change from cylinder to stamp seal may have been for practical reasons (Reisner 1923 p. 71). Egyptian practice was to tie closed documents, boxes, doors etc. with a cord that would be "secured" by a small lump of clay with a seal impression. Stamp seals were easier to use than cylinder seals in this situation and easier to engrave as well. Alternatively, the stamp seal may have developed from amulets worn as protective magic or as ornamental jewelry. The Old Kingdom stamp seals are commonly in the shape of such animals as birds, crocodiles, frogs, hares, and lizards; amulets in the shape of these same

¹⁸ Williams 1977 p. 137. Emery and Kirwan 1935 p. 55 (D.6-6) record eight cylinder seal impressions from papyrus documents with the name of Sesostriis II from Nubia.

creatures are also found in burials of the period.¹⁹ Moreover, the similarity in design of some of the Old Kingdom stamp seals²⁰ is more appropriate for use as amulets than for functional seals, whose designs should be unique enough so that owners could recognize their individual mark.

The stamp seals of the late Old Kingdom and First Intermediate Period have a flat base in a circular, oval and rectangular shape on which a design is carved. With this flat surface and a small ring-shank on the back, these seals resemble modern buttons and are often called "button seals" (*Knopfsiegel* in German).²¹ In addition to the shank backs, many of these seals have dome or pyramid-shaped backs. The back of other stamps seal are carved in the shape of such animal figures as ape, crocodile, frog, hawk, hippo, lion; sometimes the full figure is shown and others show only the head. Backs in the shape of humans and beetles also occur. During the First Intermediate Period the beetle-backed seals developed into scarabs at the same time that cowroid and hemispherical-shaped seals were introduced. By the end of the First Intermediate Period, the scarab had become the dominant Egyptian seal type

¹⁹ Andrews 1994 pp. 10-11; Ward 1970 p. 79. Many of these same animals also appear in the Egyptian hieroglyphic script.

²⁰ For some striking similarities, see the hares (wn-sign) on QB II pl. 32 nos. 7-9 and *Matmar* pl. 33 no. 6, and the geometric symbol in QB I pl.33 no.100 and *Mahasna* pl. 39 nos. 78 & 100.

²¹ Hayes 1953 pp. 141-143. His figure 84 illustrates a nice variety of back types; the designs from these seals are shown in his figure 85.

(Ward 1994 p. 187 and Ben-Tor 1989 p. 8).

The seal amulets of the late Old Kingdom and First Intermediate Period were made chiefly of glazed and unglazed steatite, but also of faience, limestone, pottery, bone, ivory and rock crystal. The early design repertoire of the seal amulets is dominated by geometric motifs, such as maze patterns, but also includes human stick figures as well as animals and insects depicted in a linear style. In later seal amulet design repertoire the geometric designs are largely replaced by floral motifs along with spiral and scroll patterns. This seal amulet decoration is in stark contrast with the traditional hieroglyphic inscriptions found on Egyptian cylinder seals. At first this radical shift in designs suggested to such scholars as Petrie (1925 pp. 2-3) and Frankfort (1926 p. 88 & 1939 p. 295) an origin outside of Egypt in such areas as Syria, Anatolia and the Aegean.²²

William A. Ward (1970) makes a strong case for the native Egyptian origin of the late Old Kingdom/First Intermediate Period seal amulets.²³ The artistic motifs in question, such as spirals

²² At this time, Dynasty 8 was considered by Petrie to consist of invaders from Syria. Garstang 1903 pp. 33-4, Newberry 1906 pp. 59-60 favour an Aegean connection. Sir Arthur Evans was very interested in Aegean-Egyptian contact, believing that Minoan glyptic was influenced from Egypt. For a summary of this question see Phillips 1991.

²³ The suggestion of a native Egyptian origin had been made earlier in the introduction to an auction catalogue (H. Herzer *Ägyptische Stempelsiegel* p. 2) on the basis that the material, manufacture design and composition of the seal amulets were all Egyptian (Ward 1970 p. 68).

and cross chevron designs are fairly basic and could have been independently arrived at in various geographical localities. Moreover, although the history of the First Intermediate Period remains somewhat obscure, the Eighth Dynasty is considered now by historians to be of Memphite origin and the idea of foreign invasions to explain the downfall of the Old Kingdom has been discredited (Redford 1986). Fundamentally, nothing found in association with the seal amulets (pottery, other objects etc.) bears any suggestion of foreign influence (Ward 1970 p. 68).

Rather than a pattern of foreign influence, there are indications that the archaeological record of the Late Old Kingdom and First Intermediate Period is changing. The archaeological record is weighted in favour of the highest classes of Egyptian society during the Old Kingdom; by the advent of the First Intermediate Period archaeological evidence from cemeteries provides us with more data on those with less status and wealth. Henry G. Fischer has described a small but significant group of Old Kingdom cylinder seals, which he argues would have been made "for persons of relatively low station" (Fischer 1972 p. 15).²⁴ These cylinder seals are decorated with motifs that resemble hieroglyphs, but which are arranged in a decorative fashion. Frequently motifs are paired with one facing in the opposite direction of the other in a *tête-bêche* (top against bottom) arrangement. This same sort of design is found

²⁴ These seals had been noted earlier by Newberry 1906 p. 49, Scharff 1931 and Junker 1934.

on the stamp seals from Dynasty 6 and the First Intermediate Period.

Good examples of animal designs in the *tête-bêche* format are found at the late Sixth Dynasty/early First Intermediate Period site of 'Ayn Asil at Balat in the Dakhla Oasis (Giddy & Grimal 1979 and 1980).²⁵ The animals are depicted in a linear style and include scorpions (no. 1375), bees (no. 1142), dogs (nos. 1426 & 1478), a hare (no. 992), a lizard (no. 997) and a lion (no. 1152). Tradition geometric designs, such as the cross and chevron pattern (nos. 1159 & 1169) also appear. The 'Ayn Asil impressions include examples made by both stamp and cylinder seals. Many of the geometric designs were impressed on bread moulds before these were baked (Giddy & Grimal 1980 p. 267), providing an easy way to distinguish who owned bread loaves baked in a communal oven. Sometimes both the receptacle and the stopper were so marked. Examples of button seals were also recovered from 'Ayn Asil, sometimes forming part of necklaces (cf. Giddy & Grimal 1979 pl. XXII). From the very beginning then, button seals were both worn as jewellery and used as seals.

2.3 Scarabs

Amulets in the shape of beetles, and real beetles preserved in jars have been recovered from predynastic tombs (Petrie 1917

²⁵ The seal impressions are connected with Phase III at 'Ayn Asil. The animal designs would fall within Ward's (StSc I) class 1D Animals and insects. The cross and chevron pattern would fall within Ward's (StSc I) class 1B Geometric patterns.

p. 2; Ward *StSc I* p. 43, fig. 8). In predynastic Egypt, the more popular beetle was the long and thin "ankh" beetle, which is shaped like a cowrie shell. Perhaps because of the name of this beetle, it was connected with long life ('*nh*) in the afterlife. Spells in the Pyramid Texts include the benediction "May you live as (long as) the ankh-beetle" (Pyr. 1301c, 1633c & 2107c). The scarab beetle is called *Kheperer* in ancient Egyptian and is also mentioned in the Pyramid Texts in connection with the transformation of the deceased in the afterlife. Pyramid Text 366 (Faulkner 1969 p. 76) reads "I fly up as a bird and alight as a beetle on the empty throne which is in your barque, O Ra!" The scarab beetle represents the sun-god at dawn²⁶ travelling in his barque across the sky; the association of the scarab beetle with the sun crossing the sky was undoubtedly suggested to the Egyptians by the practice of these beetles pushing balls of dung along the ground.²⁷

The earliest scarab amulets look slightly awkward as the beetle is set on a high base and its shape somewhat schematically represented. With experimentation, a more naturalistic scarab beetle representation was achieved: a hemispherical shape set on an oval base. Legs were rendered on the sides, sometimes as mere

²⁶ Called *Hpri* or "He who came into being (by himself)" as a personification of the rising sun.

²⁷ Greek and Roman authors (Plutarch *Isis and Osiris* 381A and Horapollo i, 10) record that the Egyptians confused the dung balls which provided sustenance for the beetles and the pear-shaped pellet in which the female laid her eggs. This led to the idea that there were no female beetles, but only males who created themselves in the manner that the sun rose every morning.

grooves, but often with details such as "feathering" or notching or even completely hollowed out. The head may be lunate, rectangular, square or trapezoidal, depending partly on whether it was merged with the clypeus or not. On the back of the beetle, the wing cases (elytra) were usually distinguished from the prothorax; sometimes other details are marked, such as the humeral callosity being indicated by V-shaped notches. The resulting design was compact, immediately recognizable and easily added to a necklace or the bezel of a ring. It became immensely popular, so that scarabs are found not only in Egypt, but in many of the regions with which Egypt was in close contact, such as Palestine, Phoenicia, Cyprus and Crete (cf. Gorton 1996).

The scarab shape was already well-developed by Dynasty 11. Two silver scarabs from the mummy of Meketre's estate manager Wah are the most impressive examples from this period; both scarabs are dented and worn from use. The head and back plate, legs and base were made separately and then soldered together. A gold tube running lengthwise through the base could be used to string the scarabs on a cord which could be placed around the neck or wrist. The faces of Wah's silver scarabs are decorated with incised scroll designs interspersed with the hieroglyphic signs for "life," "god," "soul" and uraeus cobras (Hayes 1953, pp. 230-1). The names and titles of Meketre and Wah appear only on the back of the scarab (Hayes 1953 fig. 145; Williams 1977 p. 136).

Reliably dated scarabs are rare from the early part of the

Middle Kingdom (Martin 1971 p. 3; Tufnell *StSc II* p. 194).²⁸

From the late 12th and 13th Dynasties there are large numbers of scarabs (and seal impressions) that give the name and/or titles of the seal owner (Johnson 1977 p. 141).²⁹ When old hereditary officials were replaced by bureaucrats trained by the central government, the use of seals with individual names may have been instigated to provide closer control and accountability over what official was responsible for specific goods (Johnson 1977 p. 143). A great many private name scarabs are known from the late Middle Kingdom and Second Intermediate Period; they continue in use into the 18th Dynasty, but are rare after the reign of Tuthmosis III (Phillips 1991 p. 137; Williams 1977 p. 138).

Royal name scarabs were introduced at the beginning of Dynasty 12.³⁰ Scarabs with the names of earlier pharaohs are

²⁸ Ward *StSc I* p. 41 feels that the scarabs from the tomb of Wah are "atypical" of the early Middle Kingdom. Reluctantly he admits that "there is a conspicuous lack of excavated scarabs which can be placed in this transition period. There have been numerous excavations of the late Eleventh to early Twelfth Dynasty cemeteries, but these have produced very few scarabs... the extreme rarity of scarabs still forms a considerable barrier to understanding scarab style." Ward suggests that perhaps some scarabs from museums may fill this "gap."

²⁹ This situation may be the result of administrative reforms instituted under Sesostri III (Martin 1971 p. xii; Van Seters 1966 p. 62). These involved the suppression of the provincial nobility and the rise of a "middle class" of craftsmen, merchants and farmers for whom the new name seals would have been appropriate (Hayes 1964 p. 45). It has been questioned, however, whether such a political move would cause changes in scarab typology (Quirke 1990 pp. 5-6).

³⁰ Ward *StSc II* p. 151 suggests that Ammenemes I would have been the first pharaoh to have his name on a scarab, even though the earliest examples have the name of Sesostri I.

known, but these are commemorative pieces issued in later periods. This fact has made dating scarabs according to royal names notoriously unreliable.³¹ The names of Middle Kingdom pharaohs, such as Ammenemes III, are frequently found on scarabs manufactured in the Second Intermediate Period and New Kingdoms. The name of Tuthmosis III is found on scarabs dating from the 18th to 26th Dynasties, a span of almost 1,000 years.³² However, it is unlikely that any names of pharaohs that were not widely admired would be reissued on scarabs; thus, no reissues of the Hyksos pharaohs or those tainted by the Amarna heresy are known (Haynes & Markowitz 1991 p.[8]).

The use of royal names for dating is one cause for the current controversy concerning the dating for the relative sequence that has been established for scarab typology. The dating of the earliest groups of scarabs from Syro-Palestine, including those from Ruweise tomb 66 and Jericho, has unduly influenced the chronology of scarab types in Egypt itself. The presence of the names of Sesostri I and II have been used to date scarabs from Ruweise tomb 66 near Sidon to early Dynasty 12 (Tufnell *StSc II* p.3). There is no proof that these scarabs are contemporary with the king's name inscribed on them; reissued

³¹ While acknowledging later reissues in isolated cases, Petrie (1917 pp. 14-18) argues that scarabs with royal names go back at least to the 3rd Dynasty. Hall (1918 p. 74) criticized Petrie, attributing the Old Kingdom royal name scarabs to Saite archaism.

³² These have been studied by B. Jaeger *Essai de classification et datation des scarabées Menkhéperré*. Fribourg: Orbis Biblicus et Orientalis, 1982. See review by Ward (1984).

scarabs with the name of Sesostri I are known to have been issued in Dynasties 13 & 15 (O'Connor 1985 p. 36 n. 58). The scarabs are some of the most significant dating factors for the tombs in which they were found. It is a circular argument to date tombs by the Egyptian royal names found on scarabs and then turn around and use these dates to establish the Egyptian scarab chronology.

Scarabs from the Jericho tombs are divided into 5 groups (Kirkbride 1965), the last of which includes a scarab with the name of the Hyksos king Seshi (Tufnell *StSc II* p. 5). A scarab in the Jericho III group bears the name of King Khahetepre of Dynasty 13. Based on this evidence Tufnell spreads out the five Jericho groups over some 270 years (ca. 1870-1600).³³ However, Bietak (1984 p. 483) has noticed the names of a Dynasty 17 king in the Jericho II group and the name of a Dynasty 15 king on a scarab in the Jericho III group. Thus, all the Jericho tomb groups, except for Jericho I, should be contemporary with Dynasty 15. There is no valid evidence for determining the time-span of the Jericho tomb groups. The basic differences between the two camps are summed up in the following table:³⁴

³³ See *StSc II* table XXXIV. This is based on Kirkbride in *Jericho II* p. 593.

³⁴ Based on O'Connor 1985 p. 37. O'Connor's dates are followed in general by Egyptologists such as Kemp and Martin. Tufnell's dates are explained in *StSc II*, and are accepted by Ward.

<i>Finds</i>	O'Connor Date	Tufnell Date
Ruweise Tomb 66	12th-13th Dynasty ³⁵	early 12th Dynasty (Sesostris I-II) ³⁶
Montet Jar, Byblos	late 13th Dynasty	late 11th Dynasty
Jericho I	13th Dynasty	early 12th Dynasty
Jericho II-IV	13th-15th Dynasty	12th-13th Dynasty
Jericho V	15th Dynasty	early 15th Dynasty

The scarab sequence spread out from late Dynasty 11 to early Dynasty 15 by Ward and Tufnell (*StSc I & II*) is considered to fit mostly within the 13th and 15th Dynasties by other archaeologists, such as Bietak (1984) and O'Connor (1985).

The question of when and in what context scarabs were introduced into Syro-Palestine is implicit in the above controversy. The earliest scarabs are found along the Phoenician coast (Byblos and Ruweise). Scarabs are most frequently found in southern MBII Palestine, from Tell el-Fara to Jericho. At this time (Dynasty 15), Egypt experienced an incursion of Semitic-speaking peoples called the Hyksos. Affinities in material culture suggest, but cannot prove, a political connection (Giveon 1974). This would be the logical time period to expect scarab seals to be introduced from Egypt into Palestine (Ben-Tor 1994 &

³⁵ This date is supported by Porada (1976 p. 31) who dates the single cylinder seal from this tomb "in the late 19th or earlier 18th century B.C." This would correspond with late Dynasty 12 (Ammenemes III and IV) and early Dynasty 13, if one accepts a "middle chronology" (on Egyptian chronology see Ward 1992).

³⁶ Weinstein (1992 p. 37) notes that on "stratigraphic and ceramic grounds, however, such early dates seem unlikely for the scarabs in the Ruweise tombs."

1989 pp. 29-30). An alternative possibility is that these scarabs may have been "left behind" by members of Egyptian expeditions to Syro-Palestine, especially in Dynasty 13 (Redford 1992 p. 81).

Middle Kingdom material from Egypt found in Palestine is almost always associated with either disturbed or later contexts (Weinstein 1975, updated by Weinstein 1992). An analogous situation is also found at Kerma in Nubia, where Middle Kingdom statues are found in a Second Intermediate Period necropolis.³⁷ During the Second Intermediate Period, Egypt was raided from both the north and south; tombs and temples were pillaged and Egyptian artifacts were removed to both Palestine and Nubia. Therefore, it is important to have evidence independent of the Egyptian artifacts to date the archaeological context of these finds. Middle Kingdom scarabs found in Palestine may be part of "booty" obtained in the Second Intermediate Period.

Scarab designs from the Hyksos Period (Dynasties 15-16) show a number of characteristic motifs: 1) hollowed out figures of humans or animals, sometimes filled with cross-hatching; 2) similar figures done in outlines, filled with short dashes;

³⁷ Reisner initially dated the Kerma necropolis to Dynasty 12 on the basis of the Egyptian material. O'Connor *Nubian Archaeological Material of the First to the Second Intermediate Periods: an Analytical Study* (Unpublished PhD thesis, Cambridge University, 1969) was able to demonstrate the Second Intermediate Period date of the necropolis at least partially through the scarabs found there (O'Connor 1974).

3) designs based on the hieroglyphic signs '-n-r';³⁸ and
4) tripartite designs with hatched arcs flanking a central design = "Hyksos sides" (Kemp & Merrillees 1980 p. 49). Other designs associated with the Hyksos Period are groups of concentric circles, sometimes joined by short lines and an interlacing cord pattern, broken at each end by an arc of a single line thickness.³⁹

The various design types of the Second Intermediate Period continued into the New Kingdom, but gradually diminished as scarabs with royal or divine names, commemorative and amuletic texts increased in popularity. Heart scarabs, known at least from Dynasty 13, become common in Dynasty 18. They were inscribed with chapter 30B from the Book of the Dead, "Chapter to prevent the heart of the deceased from opposing him in the realm of the dead." Heart scarabs were meant to be placed within a mummy's wrappings to prevent the deceased from incriminating himself at the judgement before Osiris (Andrews 1994 p. 56; Ben-Tor 1989 pp. 17-18). Commemorative scarabs were issued such 18th Dynasty pharaohs as Tuthmosis III, Amenophis III and Akhenaten (Ben-Tor 1989 pp. 20-25).⁴⁰ By Dynasty 18 most Egyptian scarabs

³⁸ A related design bearing the hieroglyphic group *r'* (circle, "r" "arm") is also characteristic of the Hyksos Period, but may occur a little earlier.

³⁹ See Petrie *BDS* pl. VIII.207-217 for concentric circles and pl. VIII.158 & 160 for cord pattern. The history of these types probably extends further back into the Middle Kingdom.

⁴⁰ The series by Amenophis III (B) includes scarabs commemorating his marriages to Tiye and the Mitannian Princess Gilukhepa as well as commemorations of hunting lions and wild bulls

were mould-made out of faience.

Third Intermediate Period Egyptian scarabs are characterized by large rough sunken design elements and hieroglyphs (cf. Brunton 1948 pp. 84-89, pls. LXII-LXIV), indicating a decline in the technical quality of production. The technical quality of scarabs improves in Dynasties 25 and 26, which revive earlier scarab forms (e.g. the commemorative scarab of Shabako ROM 910.28.1). The archaism of this period is evident in scarabs that display the names of older pharaohs dating back to the Old Kingdom (Hall 1913 p. xvi). There was a scarab workshop at Naukratis and in the hands of the Greeks and Phoenicians, the use of scarabs spread throughout the Mediterranean world in the first millennium B.C. (Gorton 1996; Pittmann 1994 p. 1601).

2.4 Seal Impressions

The evidence from seal impressions supplements the evidence from seals alone. Many seals are without a secure archaeological context and many others have been recovered as grave goods; we cannot be sure if such tomb finds were ever actually used as seals. Moreover, being small and easily portable, seals could be transported long distances and either passed down from generation to generation or easily lost and then recovered and pressed into

and the construction of an artificial lake in honour of Tiye, cf. C. Blankenberg-van Delden *The Large Commemorative Scarabs of Amenhotep III* (Leiden 1969). See also C.L. Ransom "A Commemorative Scarab of Thutmose III" *BMAA* 10 (1915): 46-47 and D. Ben-Tor "Commemorative Scarab of Amenhotep IV (Akhenaten)" *Israel Museum Journal* 2 (1983): 39-41.

service again years later (Noveck 1975 p. 17). The archaeological context of seal impressions is more reliable for dating since, once broken, sealings were not reused. Such impressions are proof positive of the functional role of seals. Further, in tracing the development of seal amulet and scarab design, seal impressions are valuable evidence particularly when they are found in some quantity in an independently dated archaeological context (Tufnell 1984 p. 115).

We have evidence that scarabs were used as seals primarily from the Middle Kingdom and the Second Intermediate Period (Pittman 1994 p. 1602). There are two important finds of Theban sealings from the early Middle Kingdom. The first is the Hekanakhte letters,⁴¹ which have preserved two identical seal impressions decorated with a spiral design and the Egyptian sign for seal (*h̄tm* = Gardiner S20). The second is the Tomb of Meketre from which an impression with C-scroll decoration is preserved from a box in the model of a carpentry shop (Winlock 1955 p.35 & fig. 69). Also from the late 11th or 12th dynasty are a group of seal impressions from Abu Ghâlib, about 50 km NW of Cairo at the edge of the Delta (Larsen 1936).⁴² The sealings are on fine clay and may have been used to seal letters (like those of

⁴¹ Although dated to late Dynasty 11 in the original publication (James 1962 p. 45 & pl. 9), recent discussion by Dieter Arnold and James Allen has indicated that the Hekanakhte letters may be better placed in early Dynasty 12 (Sesostris I).

⁴² Some of the seal impressions may date to Dynasty 13. A number of scarabs, scaraboids and cylinder seals were also found at Abu Ghâlib (Williams 1977 p. 136).

Hekanakhte). The Abu Ghâlib impressions contain designs with hieroglyphic symbols, cross patterns, scroll and cord motifs. One impression contained the name of Sneferu (Hermann 1936), presumably part of the name of a funerary estate of temple connected with the Dynasty 4 king.

Large groups of late Middle Kingdom seal impressions have been recovered from Kahun, near the Dynasty 12 capital, and from the fortresses guarding the Second Cataract in Nubia. The largest number and best published sealings from this period come from the fortress of Uronarti, almost 5,000 seal impressions were recovered from this site by Reisner and Wheeler. Seal impressions were also found at other Nubian fortresses such as Mirgissa and Semna South. The seal impressions show the use of both official and private seals. About half of the seal impressions from Uronarti were from large official seals with the name of the name of the storehouse or treasury of the fortress (Reisner and Wheeler 1930 p. 49). They were used to close sacks of grain or other material and to seal the door to the storehouses in the fortress. Sometimes the smaller stamp of private scarab-type seals appears alongside the large official seal impressions.⁴³ This practice is thought to indicate an official taking personal responsibility for the security of the goods involved. Often the fingerprints made while pressing down

⁴³ This same practice is also found at other sites, cf. Semna South (Zabkar 1972 p. 84 & figs. 1.1 & 2.2).

the seal are still visible.⁴⁴

Tufnell (1975) has presented a detailed comparison of the seal impressions from Kahun and Uronarti, indicating that the same types of designs appear at each site. In neither case do the maze and geometric designs associated with the First Intermediate Period occur. Floral motifs, scrolls and interlocking spirals and symmetrical compositions of Egyptian hieroglyphic signs and symbols dominate the design repertoire, as would be expected in Dynasties 12-13. Second Intermediate Period designs such as concentric circles, rope borders and cross patterns also appear in small numbers. Although Tufnell argues for a Dynasty 12 date, the bulk of the Kahun and Uronarti impressions are probably from Dynasty 13⁴⁵ and extend into Dynasty 15.⁴⁶

The practice of sealing was adopted by the indigenous Kerma culture of Nubia in the Second Intermediate Period. Over a hundred seals⁴⁷ and nearly 1,000 seal impressions were recovered

⁴⁴ Reisner and Wheeler (1930 p.49) indicate that "a collection of finger prints of the officials of Dynasty XIII could be gathered from these seals."

⁴⁵ O'Connor 1985 p. 35; Impressions with the names of Dynasty 13 kings have been found at both sites (Neferhotep at Kahun and the Horus Khabaw = Sekhemra-Khuwatauwi at Uronarti). Reisner and Wheeler (1930 p. 49) felt that the whole collection of Uronarti sealings were probably from the first half of Dynasty 13.

⁴⁶ Kemp and Merrillees 1980 pp. 48, 87-88. Tufnell 1975 p. 69 has identified the name of the Dynasty 15 king Sheshi on an Uronarti sealing (no. 446 in fig. 12).

⁴⁷ Markowitz (1997 p. 83) gives 102, but Reisner (1923 p. 70) says 104.

by Reisner (1923 p. 70) from the Kerma necropolis. Many of the impressions are from the same seal and were probably caused by the continued resealing of a door over an extended period of time (O'Connor 1985 p. 32). On the basis of imported Egyptian objects, Reisner (1923 pp. 557-8) had originally dated the Kerma cemetery to Dynasty 12. The Second Intermediate Period scarabs were instrumental in the redating and reinterpretation of the evolution of the Kerma cemetery (O'Connor 1974 p. 31; Lacovara 1997 p. 75). Markowitz (1997) has concluded that although 70% of the Kerma seals are imports, about 30% are of local manufacture. She found that the Kerma seals had profiles, back-types and designs placed by Ward (1987 p. 510) in a Dynasty 12-Second Intermediate Period range. Local designs are often geometric cross-hatching, while imported designs are most often figural designs in either an outline or open-cut style (O'Connor 1985 p.36). Locally made seals are frequently of ivory, but also of wood and such traditional scarab materials as steatite and faience.

2.5 Summary

This survey of seals and sealing in ancient Egypt provides the background to the current investigation. The archaeological context of the East Karnak seal impressions has placed these sealings within a timespan from the First Intermediate Period to the Second Intermediate Period. This is confirmed by the basic sequence of Egyptian seal development and decoration. The

concept of sealing and the seal in the shape of a cylinder are foreign ideas that were imported to Egypt at about the time of the dynastic unification of the two lands (Kemp 1989 p. 90). Up until Dynasty 6 Egyptian seals were cylinders decorated with hieroglyphic inscriptions, usually giving either royal names or the owner's name or office. Thus, it is confirmed that the East Karnak seal impressions cannot be earlier than the Dynasty 6.

In Dynasty 6 and during the First Intermediate Period, the glyptic arts in Egypt take on an entirely new aspect with the introduction of stamp seals with geometric pattern and figural decoration. The East Karnak seal impressions reflect this new milieu. Although individual hieroglyphic signs and symbols appear on these stamp seals, there are no inscriptions with names and titles. Although at first many forms of stamp seals are used, by the end of the First Intermediate Period the scarab has become the dominant seal form. In Dynasty 12 we find scarabs with royal names and by the late Middle Kingdom (second half of Dynasty 12 and Dynasty 13) there are large numbers of Egyptian scarabs and seal impressions bearing non-royal names and titles.

The willingness of the Egyptians to use personal seals without inscriptions for identification is a striking development. Could a drop in literacy levels during the First Intermediate Period explain this, or is it a mere change in fashion? It looks as if the change led to the indiscriminate use of funerary amulets as seals. Design seals could also be easily re-used. In addition to the re-use of private name seals of

earlier times, the Second Intermediate Period is also characterized by the reissuing of seals with Middle Kingdom royal names.

The lack of inscribed decoration and of any of the characteristic Dynasty 15 designs (Redford 1988 p. 43 n.46) makes it unlikely that any of the East Karnak seal impressions would date as late as the Second Intermediate Period. The chronological possibilities of the East Karnak seal designs, therefore, range from the First Intermediate Period to Dynasty 13. The dating of seal designs in this period is considered in the next section (3.0) of this paper. More details are provided concerning the causes and effects of the various datings of MB II Palestinian scarabs on Egyptian scarab chronology of the Middle Kingdom and Second Intermediate Period.

3. SCARAB AND SEAL AMULET DESIGN TYPOLOGIES

The chronology of Egyptian scarab and seal designs between the First and Second Intermediate Periods has been the subject of some controversy. Recent work, while evolving towards a consensus, still leaves a certain leeway in terms of absolute chronology. O'Connor (1985 p. 2) judges the chronology of Egyptian scarabs to be "a fluid and ambiguous subject." Kemp and Merrillees (1988 p. 44) remark that "the dating of scarabs still rests on a very imprecise basis." Hornung and Staehelin (1976 p. 26) note moreover, that precise criteria for the stylistic dating of scarabs are lacking. The following review covers the development of dating criteria for scarab and seal designs between the First and Second Intermediate Periods. It includes an examination of the major studies by Petrie, Brunton, Ward, Tufnell and O'Connor that have shaped current knowledge on scarab and seal design.

3.1 W.M. Flinders Petrie

The pioneer in studying and systematically publishing the designs on Egyptian scarabs and seals was Sir W.M. Flinders Petrie. His first attempt, *Historical Scarabs: A Series of Drawings from the Principal Collections Arranged Chronologically* (1889), covers over 2,000 scarabs and already deals with questions of forgeries and style. Many of the questions raised in this work have yet to be resolved, for example (Petrie 1889, p. 9):

The varieties that we see among the scarabs are doubtless largely due to place as well as period. Local styles of manufacture were often more different than the work of various dynasties; and it is a special subject now to trace out styles of each place. Unhappily, it is only by going to excavate in a site that any information can be obtained certainly as to the places of finding; and it is only by a mass of such information that we can be certain of the place of manufacture.

Unfortunately, regional styles in scarab design have not yet been studied and identified. From this first survey, Petrie (1889, p. 7) was able to correctly date a number of design elements; for example, he notes that the continuous scroll pattern developed in Dynasty 12 and that the cowroids with rope borders belong to the Hyksos Period.

A further advance in the study of Egyptian scarabs was made by Petrie in *Scarabs and Cylinders with Names* (1917). Petrie's collection of scarabs housed at University College, London consisted largely of purchased examples; the same is true for most of the other collections available for study. In this circumstance, the development of a scarab chronology depended basically on the evidence of inscriptions, especially royal names.⁴⁸ Petrie (1917, p.4) recognized that scarabs with royal names are often much later than the kings themselves, possibly invoking the protection of deceased king in a manner similar to medals of saints worn by devout Christians. He had not recognized that the names of Old Kingdom pharaohs were not issued

⁴⁸ Petrie (SCN p. 1) suggested that scarabs would "stand thus to Egyptian history much as coins stand in relation to Western history." This unfortunately is far from the case.

on scarabs until the New Kingdom, nor the extent to which the names of Middle Kingdom pharaohs appear on reissues of the Second Intermediate Period and New Kingdom.

To his credit, Petrie did recognize that seal impressions could play an important role in the study of seals and scarabs. In *Scarabs and Cylinders with Names*, Petrie (1917 p. 4) remarks concerning scarab sealings:

As to the actual use for sealing, we know of very few instances of such except in the xiith dynasty; hardly any scarab sealings of the xviiiith to xxvith dynasties are found, although scarabs are commonest at that age.

It remains true that the late Middle Kingdom (largely Dynasty 13) sealings at Kahun and among the Egyptian fortresses in Nubia (especially Uronarti) are among the best known sets of sealings from ancient Egypt. While numerous New Kingdom jar sealings are known, the number of published scarab seal impressions from this period is surprisingly small.⁴⁹

Petrie was also one of the first to study scarabs and seals without datable inscriptions. His *Buttons and Design Scarabs* (1925) is again based on the collection of University College, London and includes a supplement to *Scarabs and Cylinders*. Petrie assembles and classifies an impressive number of seal designs and his work remains useful for the provision of comparanda. Petrie's attempt to outline the historical development of seal design, however, is seriously flawed by a number of outmoded notions. Petrie (1925 p. 8) reflects the

⁴⁹ For some "small seal impressions" from Tell el-Amarna, see pl. C in Pendlebury 1951.

consensus of the time when he suggests that the button style seal amulets were introduced to 6th Dynasty Egypt by "intruders from Asia." Petrie's basic thinking was that different designs on the seals represented different ethnic groups, such as Libyans, Syrians, Anatolians or Central Asians who had "invaded" Egypt during the 6th and 7th Dynasties. The buttons, according to Petrie (1925 p. 8) served as badges for these various groups. Lacking names and for the most part archaeological contexts, Petrie (1925, p. 8) tried to arrange the designs according to the "well known rule of artistic degradation" assuming that the best examples of a motif would be the earliest. The resulting discussion is impressive in its complexity, but was not a firm basis on which to base further study.

3.2 Guy BRUNTON

The excavation reports of Guy Brunton on a series of cemeteries on east bank of the 10th Upper Egyptian nome, south of Asyut, form the basis of current knowledge about the sequence of scarab and seal designs from the 6th to the 12th Dynasty (cf. O'Connor 1983 p. 165). The published results of this work, *Qau and Badari I-III* (1927-1930), *Mostagedda and the Tasian Culture* (1937) and *Matmar* (1948) present 137 pre-Dynasty 12 scarabs which are placed by Brunton in a relative sequence (Ward 1978 p. 5). There was very little inscribed material and Brunton relied on the pottery found in the tombs to work out a relative dating sequence.

Brunton sticks to the archaeological evidence in presenting his discoveries and does not refer to Petrie's theories. Petrie (1927 p. 79) did, however, insert a small chapter into the *Qau and Badari I* publication, where he reiterates that the "button badges (never used for sealing)" were "certainly Mesopotamian and Cilician."

Brunton's subsequent work at Mostagedda and Matmar generally confirmed his early work at Qau/Badari. O'Connor (1974 p. 24) has reexamined Brunton's pottery sequences and confirmed Brunton's results. Brunton identified his sequence dates with Dynastic numbering from the Old Kingdom and First Intermediate Period. There is little evidence for correlating Brunton's sequence dates with actual dynasties. Brunton (1927 p. 58) himself states 'that in speaking of the periods vii-viii and ix-xth dyns., only "Early First Intermediate Period" and "Late First Intermediate Period" are implied.' Thus Brunton's relative chronology is sound, but one cannot trust his Dynastic numbering in absolute terms.

What is less easy to assess is whether the Qau and Badari region originally had a particular importance in the development of Egyptian seal and scarab designs, or whether it was just the good fortune of preservation and excavation that have arbitrarily given these cemeteries a fundamental importance in this area of study. The cemeteries involved were not particularly rich and were not associated with an important political power. O'Connor (1974 p. 24) characterizes them as "middle and lower class

communities." Junker (1944 p. 182) notes the lack of early design amulets at major Old Kingdom cemeteries at Saqqara and Giza, suggesting that their use may have been a custom originating in southern Egypt. Catharine Roehrig (1976 p. 83) states:

Considering the large number of seal-amulets which come from the Qau region and the amount of experimentation with different forms and designs which seems to have gone on in this area, it is not impossible that the Qau area was the center of seal amulet manufacture and development and that examples from this area were transported throughout the country and used by local inhabitants and/or copied by local artists.

Ward (1978 p. 6) notes the rarity of early scarabs and design amulets in the north, stating that in several hundred burials in the Fayum area dating to the Herakleopolitan Period, only 11 scarabs were recovered. Not even every contemporary cemetery in the Asyut region, however, contains scarabs and seal-amulets,⁵⁰ so the situation must be viewed as complex.

The vast majority of seal amulets recovered in Brunton's excavations were from the burials of women and children; of the 229 seal-amulets and scarabs recovered at Qau, only 3% were associated with male bodies, leading Brunton (1927 p. 58) to "wonder whether in those cases an error has not been made in the sexing." Those seals found accompanying men were most often of the scarab type. This evidence suggests that the popularity of

⁵⁰ Ward (1978 p. 6 fn. 22) notes that there are no scarabs from the pre-12th Dynasty cemetery at Rifeh, only 20 miles north of Qau, cf. Petrie *Gizeh and Rifeh* (London 1907). A cemetery of over 3,000 graves of late Old Kingdom and First Intermediate Period date was excavated at Dendera to the south of the Qau area, with less than 30 seal amulets being recovered, only 4 being *in situ*.

seal amulets and scarabs in this region was due to their use as jewelry or amulets rather than as official seals. Assuming that literacy would have largely been limited to scribal and priestly officials, it also explains the lack of legible inscriptions on this group of seals and scarabs.

3.3 William A. WARD and Olga TUFNELL

The standard source for pre-18th Dynasty scarabs is the two volume work by William A. Ward and Olga Tufnell entitled *Studies on Scarab Seals*.⁵¹ The first volume by Ward covers the pre-12th Dynasty scarab amulets. The second volume by Tufnell covers the 12th Dynasty and Second Intermediate Period scarabs based largely on the excavated material from such Syro-Palestinian sites as Jericho, Ruweise, Tell el-Fara South, and Tell el-Ajjul.⁵² The scarabs from the Montet Jar (Byblos) are included in both volumes. The distinction between pre-Dynasty 12 and Dynasty 12 scarabs is noted by Ward (*StSc I* p. 2) as "one of the crucial problems in the history of scarabs." Ward (*StSc I* p.2) and Tufnell (*StSc II* p. 194) emphasize the lack of excavated material from the Eleventh and early Twelfth Dynasties as causing difficulties in scarab chronology. They have reacted with a sort

⁵¹ A third volume of this set, *Scarab Typology and Archaeological Context: An Essay in Middle Bronze Age Chronology* (1994) by Wm A. Ward and Wm G. Dever, was not available for consultation during this research.

⁵² Tufnell (1984 p. 1) suggests that it is strange that scarab seals "can be more profitably studied in the Syro-Palestinian region than in their country of origin, at least in the first half of the second millennium B.C."

of *horror vacui* to this situation and have done their best to fill in this apparent gap.

Ward (1987 p. 508) acknowledges the discrepancy between specialists on Canaan and those on Egypt when it comes to scarab chronology in the Middle Bronze Age (Middle Kingdom/Second Intermediate Period). He believes that the scarab sequence from stratified Syro-Palestinian sites provides the key to scarab chronology, noting that the same type of archaeological context is "not available in Egypt." Moreover, Ward (1987 p. 508) is of the opinion that in Egypt "those scarab groups considered important for chronological purposes do not characterize the periods in which they were manufactured." By insisting on complete publication and the availability of side, back and head features, Ward proceeds to "disqualify" the Middle Kingdom/Second Intermediate period scarabs from Dahshur, Riqqeh, Tell el-Yahudiyeh and Meketre's Theban tomb. He is able to dismiss the sealings from Kahun, Uronarti and other Nubian forts because they can only be classified according to their designs.

The chronological framework devised by Ward (StSc I pp. 15-18) consists of four periods between the 6th and 12th Dynasties:

Period 1	2200-2125 B.C.	late Dynasty 6, Dynasties 7-8 and early Dynasties 9-11
Period 2	2150-2075 B.C.	Dynasties 9-11
Period 3	2100-2025 B.C.	mid-late Dynasties 9-11
Period 4	2050-1975 B.C.	Dynasty 11-Ammenemes I (early 12th Dynasty)

The periods overlap considerably, meaning that pieces assigned to

adjacent "periods" could actually be contemporary in absolute chronological terms. The problems of First Intermediate Period chronology, with overlapping dynasties and the lack of firm chronological pointers, such as royal names are reflected in this situation. Although Ward (*StSc I* p. 37) is generally successful in isolating distinct stages of scarab development in his first three periods, it must still be questioned whether the evidence really allows us to distinguish much beyond earlier and later First Intermediate Period groups, such as indicated by Brunton.

The first three of Ward's periods are based on the excavated and sequenced material by Brunton from the cemeteries of Qau/Badari, Matmar and Mostagedda. For the first two periods 52% of the 205 scarabs in question came from Brunton's excavations (O'Connor 1983 p. 166). Brunton dated these to Dynasty 8 (Ward's period 1) and Dynasty 9 (Ward's period 2). Ward's Period Three corresponds to Brunton's dynasties 9-11, 10-11 and 11 (Ward 1978a p. 15). For this third period 46% of Ward's material can be archaeologically dated (O'Connor 1983 p. 166). As noted above, Brunton (*QB I* pp. 7, 56) warns against taking his dynastic dates too literally. O'Connor (1983 p. 165) suggests that 20-30% of the scarabs assigned by Ward to his Period Three may date to Dynasty 12 or even later.

Ward's Period 4 is problematic as it is based upon the scarabs from the Montet jar found in Byblos.⁵³ Although Ward

⁵³ See discussion in chapter seven. Briefly, Ward (1978) originally dated the Montet jar scarabs to the late Dynasty 11. Then Tufnell (1984 p.1) says she and Ward accept a date of ca.

(*StSc I* p. 2 n. 16) acknowledges that other scholars have been reluctant to accept a pre-Dynasty 12 date for the Montet Jar, he accepts the Montet jar scarabs as part of his dated series. In a supplementary series, Ward has added scarabs without archaeological context to his four periods based on back and side types. Ward *StSc I* pp. 18-19) gives two examples of how this is done. It detracts from the usefulness of his work that Ward mixes scarabs dated by their archaeological context with scarabs that he has dated by stylistic criteria and, moreover, that he does not make explicit the reasons for each stylistic dating.

The iconographic framework established by Ward (*Ward StSc I* p. 23) is a simplification of that used by Tufnell (*StSc II* chpt. IIB) with seven main classes:

- | | |
|-------------------|---------------------------------|
| 1 Linear Patterns | 2 Scrolls and Spirals |
| 1A maze | 2A Scrolls (Z, S & C shaped) |
| 1B geometric | 2B Spirals (round interlocking) |
| 1C humans | 3 Egyptian Signs and Symbols |
| 1D animals | 4 Concentric circles |
| 1E floral | 5 Cross patterns |
| | 6 Coiled and woven patterns |
| | 7 Scroll borders |

Two thirds of the pre-12th Dynasty material in Ward's work falls into the first two classes, which have been further subdivided. Class 3 is subdivided by Tufnell (*StSc II* pp. 29 & 117-124) into over 30 types. As Ward (*StSc I* p. 55) notes, although Egyptian

2050-1975 B.C. for the Montet Jar. Finally, Ward (1987 p. 531) places the Montet Jar scarabs in the early MB IIA period, dating to ca. 1950-1900 B.C. O'Connor and others, however, have argued for a 13th Dynasty date (ca. 1800-1650 B.C.) for these scarabs. Weinstein (1992 p. 36) reviews the impact of the Montet Jar on Syro-Palestinian chronology in the early second millennium B.C.

signs and symbols appear on the pre-Dynasty 12 seal amulets, they tend to be differentiated from those used on later scarab seals. When the same motif is used, they can be distinguished stylistically. These three classes really characterize the pre-Dynasty 12 seal design repertoire.

Design classes 4-6 appear almost exclusively on scarabs from the Montet Jar, so their inclusion among pre-Dynasty 12 scarabs remains questionable. Ward (*StSc I* pl. XV) lists only two examples of class 7. Tufnell has a further five classes to cover the later design repertoire. These include 8. Rope borders, 9. Animal figures, 10. Human figures, 11. Names and titles, and 12. Unclassified. Although Tufnell's (*StSc II* pp. 29-30) design classification is quite comprehensive for Middle Kingdom and Second Intermediate Period scarabs, Ward's scarab design repertoire for the pre-Dynasty 12 period is lacking in two important regards. In the first place, no distinction is made between scarabs with a datable archaeological context and those that Ward has dated by stylistic criteria. Secondly, Ward limits himself to designs on scarabs only and does not relate these designs in a systematic way to the designs found on button seals and seal amulets with many other back types.

Although *Studies on Scarab Seals* by Ward and Tufnell is a quantum step forward in the study of scarab chronology and iconography, it cannot be accepted as the definitive study on the subject, particularly for the earlier part of the period covered. It is unquestionably the most useful and informative source for

the present study. Most of the East Karnak seal impressions fit easily within the chronological and iconographic frameworks provided by Ward for some 391 pre-12th Dynasty scarabs. Where possible, the place of each of the East Karnak impressions in Ward's system is explained in the catalogue provided in chapter four. Unfortunately Ward's development of a complete typology of head, back and side types for scarabs has led him to downplay the valuable evidence of seal impressions and other seal types. These are vital to understanding the development and scope of the Egyptian seal design repertoire from the First to the Second Intermediate Period.

3.4 David O'CONNOR

Scarab studies by archaeologists such as Martin (1971 pp. 4-5 & 150-154), Kemp (1980 p.46) and O'Connor (1985 pp. 3-20) have not avoided the questions of back and profile typology as advanced by Ward and Tufnell. They confirm that naturalistic back types are characteristic of Dynasties 12-13, while more schematic renderings dominate the Second Intermediate Period. Beyond general trends, there is still some controversy on specific points, in part because of the different typologies evolved. It is also true that older Egyptological publications frequently include scarabs that have been published without profiles and more rarely without back types. Significant collections from such sites as Abydos, Buhen and Denderah remain incompletely published and there are valid questions considering

the precise dating of a number of the archaeological contexts in which Egyptian scarabs have been found. None of this, however, means that the question of the design repertoire of Egyptians seals from the First Intermediate Period to the Second Intermediate Period cannot be profitably studied from Egyptian sources.

The most comprehensive study of scarab design from the Egyptological side is that of David O'Connor (1985) entitled "The Chronology of Scarabs of the Middle Kingdom and the Second Intermediate Period" published in the *Journal of the Society for the Study of Egyptian Antiquities*. His methodology is not all that different from that of Ward and Tufnell in that he analyzes groups of scarabs according to such criteria as length, back type and design. O'Connor analyzes a sample of royal-name scarabs from Petrie's *Scarabs and Cylinders* and Hall's *Royal Scarabs*. He also deals with excavated groups of scarabs from Buhen, Denderah, Harageh, Kerma, Qau/Badari, Sedment (Mayana) and with the dealings from Kahun and Uronarti. O'Connor's study looks at the distribution of back-types and designs at different sites and comes up with some general chronological conclusions. Although the absolute chronologies differ, the relative sequences of Ward/Tufnell and O'Connor are similar.

In his study of scarab designs, O'Connor (1985 pp. 21-22) presents the following twelve types, developed with reference to criteria previously employed by Petrie (1925) and Tufnell (1975):

- | | |
|--------------------------------------|-------------------------|
| A. C-scrolls linked (complex design) | G. Cord designs |
| B. S-scrolls (non-complex designs) | H. Linear style figures |
| C. Scroll borders | I. Open-cut figures |
| D. C-scrolls (non-complex designs) | J. Cross patterns |
| E. S-scrolls (complex designs) | K. Circle designs |
| F. Amuletic hieroglyphs | Miscellaneous |

Simple S-scrolls (B) and hieroglyphic symbols (F) go back to Dynasty 12, but otherwise O'Connor (1985 p. 34) dates these designs to Dynasties 13-15, with some extending into Dynasty 18. The East Karnak seal impressions do not fit easily within O'Connor's categories. There are some simple S-scrolls (SC47, SC49, SC140) that would fit in class B, and the rosettes (SC45, SC46, SC89 etc.) could be considered as cross patterns (J), but otherwise it would be quite misleading to assign the East Karnak sealings to any of O'Connor's design categories.

3.5 Summary

Scarab and seal designs belonging to the First Intermediate Period, including geometric, maze designs and stick figures are well established as are the designs of the Second Intermediate Period. There is some controversy over designs from the Middle Kingdom proper. In particular, designs such as concentric circles, once associated with the Hyksos, are placed no earlier than Dynasty 13 by O'Connor (1985 p. 35), but are dated as early as Dynasty 11 by Ward and Tufnell (*StSc I* pp. 56-57). The scarabs from the Montet jar sit squarely in the midst of this controversy, since they form the bulk of Ward's Dynasty 11 Period Four (*StSc I* pl. XIV).

Whereas Ward and Tufnell have focussed on the role of

Egyptian scarabs in Syro-Palestine, David O'Connor initially addressed the problem of Egyptian scarab design from the perspective of Egyptian artifacts from Nubia. His analysis of scarabs found in Upper Nubian graves at Kerma was instrumental in dating these graves to the Second Intermediate Period despite the presence of Middle Kingdom objects.⁵⁴ These Egyptian artefacts, including Middle Kingdom statuary, might be better explained as plunder or trade goods that arrived in Nubia during the Second Intermediate Period (O'Connor 1974 p. 31). An analogous situation exists in Syro-Palestine, where Egyptian Middle Kingdom material is found in Second Intermediate Period contexts.⁵⁵

Seal impressions from the Sesostri III complex at Abydos might be able to provide some assistance in sorting out design types chronologically. They are currently being studied by Josef Wegner of the University Museum in Philadelphia.⁵⁶ Published examples (Ayrton et al. 1904 pl. 39 nos. 1-15) show linked scroll borders, spirals and inscriptions with names and titles. One of the sealings contains the name of the vizier Iymeru of Dynasty 13 (Williams 1977 p. 136). Concentric circles are not found in this

⁵⁴ This formed part of O'Connor's PhD thesis, *Nubian Archaeological Material of the First to the Second Intermediate Period: An Analytical Study* (Unpublished PhD thesis, Cambridge University, 1969).

⁵⁵ See James Weinstein. 1975. "Egyptian Relations with Palestine in the Middle Kingdom" *BASOR* 217: 10-41.

⁵⁶ Wegner gave a talk entitled "The Seal Impressions from the Senwosret III complex at Abydos" on Friday April 3rd 1998 at the Yale University Symposium on the Middle Kingdom (reported on the ANE listserv on March 4th 1998). A summary of the talk was given on the EEF listserv on April 8th 1998.

Abydos group of sealings nor among the Middle Kingdom (Dynasties 12-13) scarabs from Harageh. A few impressions with concentric circles appear at both Kahun and Uronarti (Tufnell 1975 fig. 7 class 4), but the date range of both these sites extends to at least early 15th Dynasty.

4.0 CATALOGUE OF EAST KARNAK SEALINGS BY DESIGN TYPE

The seal impressions recovered from East Karnak in 1991 are described and illustrated in the following catalogue. Of particular significance are the varying states of preservation found among the seal impressions. They make it difficult to distinguish between the objective presentation of evidence and its interpretation. Even such data as the shape and length of the seal impression often have had to be reconstructed, and thus may be matters of some interpretation. This data is, however, basic to a full assessment of the East Karnak impressions. The interpretation of the design types is undertaken in chapter five.

The description of the East Karnak seal impressions is arranged here in eight categories that correspond with those of the commentary provided in chapter five. Based on the type of design represented, these categories are: 1) human figures; 2) linear designs; 3) scroll and spiral designs; 4) Egyptian signs and symbols; 5) rosette patterns; 6) cord designs; 7) unclassified designs; and finally 8) impressions of string ties. Within each category, the individual impressions are arranged according to the small find registration notation assigned during the excavations. The first part of this number designates the square (SA, SB or SC) in which they were found. The second part of the notation represents a consecutive numbering of finds from that square.

After the small find number, the catalogue lists the locus in which each seal impression was found. The condition of each

impression is described, particularly in terms of an estimate as to how much of each design is preserved. The dimensions are those recorded during the excavations and refer to the whole piece of clay on which the seal impressions are preserved. An indication of seal shape and length is followed by a verbal description of the design of each seal impression. Where possible, each design is attributed to the appropriate class in Ward's design typology (StSc I pp. 23-4 & 47-58) and citations to comparable designs from other sites are provided.

The overall results in terms of the shape of the seal bases that made the East Karnak impressions and their dimensions are presented at the end of this chapter.

4.1 HUMAN FIGURES

1. SMALL FIND NO. SA 78
 LOCUS: SA II.40
 CONDITION: About half the impression remains.
 DIMENSIONS: 24 x 18 mm
 SEAL SHAPE: Oval, 12-15 mm long
 DESIGN: The design is divided in half by a horizontal line. In the upper part of the oval two stick figures appear to be fighting. Their legs are both in the *knielauf* pose, thus one can tell that they are facing each other. Both arms of the righthand figure are visible, but the arms of the figure on the left are not. The righthand figure appears to hitting the lefthand figure in the jaw. The heads are represented by empty circles. It falls within Ward's class 1C Humans, cf. Ward StSc I, pl. V nos. 147-150.

COMPARANDA: QB I pl. XXXIII, no. 158, dated to Dynasty 9 (8).
 QB I pl. XXXIII, no. 162, dated to Dynasty 9
 Mostagedda pl. LX no. 45, dated to Dynasty 9
 Mostagedda pl. LX no. 63, dated to Dynasty 9
 BDS pl. I no. 42, composition with 4 stick figures

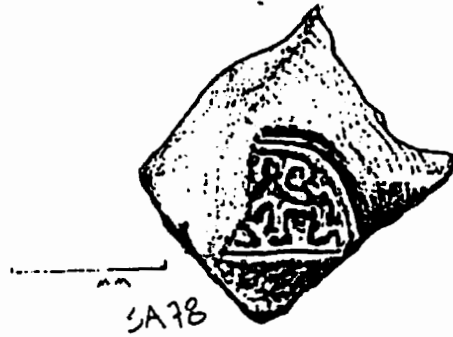


Figure 4.1: East Karnak clay seal impression SA 78



Figure 4.2: East Karnak clay seal impression SA 72



Figure 4.3: East Karnak clay seal impression SA 83

2. SMALL FIND NO. SA 72
LOCUS SA I 19
CONDITION: The outline of the seal is almost entirely preserved, but the design is so faint as to be illusionary, fingerprints are visible.
DIMENSIONS: 32 x 24 mm
SEAL SHAPE: Oval, 11 mm long
DESIGN: A spiral and a zig-zag line are certain. The zig-zag appears to represent the bent arm and the front of the torso of a stick figure. It is not clear if the figure should be viewed as kneeling or if the lower part of the figure was omitted. Very faint traces of a head and a long arm curving past the back of the torso are visible. It falls within Ward's class 1C Humans, cf. Ward StSc I, pl. V.
COMPARANDA: *Mostagedda* pl. LX no. 31, dated to Dynasty 6
BDS pl. I no. 48.
3. SMALL FIND NO. SA 83
LOCUS: SA III 191
CONDITION: Two-thirds of the impression is preserved, but it is very difficult to make out the design.
DIMENSIONS: 15 x 17 mm
SEAL SHAPE: Square, ca. 20 mm on a side
DESIGN: Faint indication of a stick figure holding a staff with a zig-zag on the left and an x-motif on the right. It falls within Ward's class 1C Humans, cf. Ward StSc I, pl. V.
COMPARANDA: Single stick figures are found on *BDS* pl. I no. 32 & *Abydos* pl. VI. Possibly a *tête bêche* arrangement cf. *BDS* pl. I no. 43.
NOTE: Excavation records indicate that "Pan Grave sherds" were found in this locus.



Figure 4.4: East Karnak clay seal impression SA 65



Figure 4.5: East Karnak clay seal impression SA 79



Figure 4.6: East Karnak clay seal impression SA 80

4.2 LINEAR DESIGNS

4. SMALL FIND NO. SA 65
LOCUS: SA II.22
CONDITION: About three-quarters of the impression remains.
DIMENSIONS: 18 x 17 mm
SEAL SHAPE: Oval, 15 mm long
DESIGN: The impression is divided into at least three zones. The top and bottom zones are decorated with zig-zag lines based on a *nb.ty* design. The middle zone is decorated with "x"s in the centre and striped lozenges at the sides. It falls within Ward's class 1B Geometric patterns.
COMPARANDA: QB pl. XXXIV no. 210, dated to Dynasty 9
BDS pl. XVI no. 1171 (from Coptos)
Harageh pl. 21 nos. 102 & 107 (FIP)
IKG pl. 10, no. 191 (Dynasty 13)
Sedment I pl. 43, no. 43 (Dynasty 16)
5. SMALL FIND NO. SA 79
LOCUS: SA II.41
CONDITION: Three complete impressions of what seems to be the same seal are preserved on this sealing.
DIMENSIONS: 30 x 28 cm
SEAL SHAPE: Oval, 10 mm long
DESIGN: Bipartite design with a striped lozenge on one side and a series of zig-zag lines on the other. A deep groove in the seal has produced a ridge through the centre of the sealing. It falls in Ward's class 1B, Geometric designs, cf. Ward StSc I pl. III no. 60.
COMPARANDA: Design is the same as on SA 80
QB I pl. 33 no. 184.
Abu Ghâlib no. 1934:125
6. SMALL FIND NO. SA 80
LOCUS: SA III.39 (exterior of wall G = III.19)
CONDITION: One fully preserved impression and a small part of a second impression of the same type.
DIMENSIONS: 21 x 14 mm
SEAL SHAPE: Oval, 10 mm long
DESIGN: Bipartite design with a striped lozenge on one side and a series of zig-zag lines on the other. A deep groove in the seal has produced a ridge through the centre of the sealing. It falls in Ward's class 1B, Geometric designs, cf. Ward StSc I pl. III no. 60.
COMPARANDA: Design is the same as on SA 79



Figure 4.7: East Karnak clay seal impression SA 81



Figure 4.8: East Karnak clay seal impression SA 82



Figure 4.9: East Karnak clay seal impression SA 86

7. SMALL FIND NO. SA 81
 LOCUS: SA II.40
 CONDITION: Most of the impression is preserved, but there is crack which runs through the centre and obscures that part of the design. Fingerprints are visible.
 DIMENSIONS: 11 x 19 mm
 SEAL SHAPE: Rectangular, 15 mm long.
 DESIGN: The design has four quadrants, each containing a spiral-like design. It probably falls within Ward's class 1A Maze patterns, cf. Ward StSc I pl. I nos. 6-8 .
 COMPARANDA: QB I, pl. XXXIV, nos. 207 and 210 are rectangular and square respectively, both with similar designs in pairs rather than four. Dated to Dynasty 9 by Brunton.
8. SMALL FIND NO. SA 82
 LOCUS SA IV.24
 CONDITION: About two-thirds preserved, but pattern is rather indistinct.
 DIMENSIONS: 21 x 14 mm
 SEAL SHAPE: Roundish, 11-12 mm long.
 DESIGN: Linear design with both straight and curved lines. It falls within Ward's class 1B Geometric designs, cf. Ward StSc I pl. IV no. 109. Some of Ward's maze designs, e.g. pl. II nos. 49-50 are also similar.
 COMPARANDA: QB I pl. XXXIII no. 180
9. SMALL FIND NO. SA 86
 LOCUS SA III.41 (room 1)
 CONDITION: 40-45% preserved
 DIMENSIONS: 13 x 17 mm
 SEAL SHAPE: Oval, ca. 8 mm long.
 DESIGN: Preserved design consists of a striped lozenge and a curved line. It could fall within Ward's class 1B Geometric designs, cf. Ward StSc I pl. III no. 58 or class 2A Spiral designs, cf. Ward StSc I pl. IX no. 235.



Figure 4.10: East Karnak clay seal impression SB 14



Figure 4.11: East Karnak clay seal impression SC 43

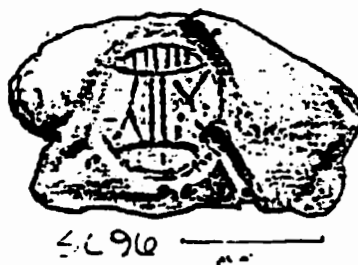


Figure 4.12: East Karnak clay seal impression SC 96

10. SMALL FIND NO. SB 14
 LOCUS: SB III.5
 CONDITION: About 35-40% preserved.
 DIMENSIONS: 19 x 15 mm
 SEAL SHAPE: Oval, 15 mm in length.
 DESIGN: Bipartite design formed by two parallel lines lengthwise down the centre of the seal. On one side parallel oblique lines look like hatchmarks. On the other side a small circle appears near the middle of the seal. It falls within Ward's class 1B Geometric designs, cf. Ward StSc I pl. III no. 79.

COMPARANDA: Matmar pl. 33 no. 74 (Dynasties 8-9).

11. SMALL FIND NO. SC 43
 LOCUS: SC III.17
 CONDITION: About one-third preserved.
 DIMENSIONS: 16 x 9 mm
 SEAL SHAPE: Indeterminate, 12 mm in length.
 DESIGN: The impression is divided into three zones by two sets of parallel double lines. The outer zones contain striped lozenge designs. The inner zone is bifurcated by another double line with an "x" on either side. It falls within Ward's class 1B Geometric designs, Ward StSc I pl. IV no. 108.

COMPARANDA: See those listed for no. 4, SA 65.

12. SMALL FIND NO: SC 96
 LOCUS: SC II.31
 CONDITION: Fully preserved. Fingerprints are visible.
 DIMENSIONS: 15 x 27 mm
 SEAL SHAPE: Circular, 10 mm diameter
 DESIGN: There are striped lozenges at the top and bottom. The field in between the lozenges is bisected by two parallel straight lines. On either side of these lines is a Y-shaped design in a tête-bêche (top to bottom) arrangement. More striping occurs along the outer edges. It falls within Ward's class 1B Geometric patterns, cf. Ward StSc I pl. III nos. 61-69. These are all dated to Ward's Period Two.

COMPARANDA: Harageh pl. 21 nos. 100-106.
 Matmar pl. 33, no. 85.
 QB I pl. 33, nos. 173-175.



Figure 4.13: East Karnak clay seal impression SC 102



Figure 4.14: East Karnak clay seal impression SC 104



Figure 4.15: East Karnak clay seal impression SC 41

13. SMALL FIND NO. SC 102
LOCUS: SC II.36
CONDITION: Less than half of the impression remains.
DIMENSIONS: 15 x 21 mm
SEAL SHAPE: Rounded square (?), 15 mm in length
DESIGN: Curving lines form a design in a concentric cross pattern. It falls within Ward's class 1B Geometric patterns, cf. Ward *StSc* I pl. IV nos. 98-103.

COMPARANDA: *el-Amrah* pl. 40, no. 1 (Dynasty 6)
QB I pl. XXXIII no. 99 (Dynasty 6)
BDS pl. V no. 338 (U.C. 7848),
dated to Dynasty 7.

14. SMALL FIND NO. SC 104
LOCUS: SC II.29
CONDITION: About one-third of the impression remains.
DIMENSIONS: 17 x 20 mm
SEAL SHAPE: Rounded square, 12 mm in length.
DESIGN: The design is linear and appears to be in the form of concentric crosses. It probably falls within Ward's class 1B Geometric patterns, cf. Ward *StSc* I pl. IV nos. 98-103.

COMPARANDA: See no. 13, SC 102.

4.3 SCROLL AND SPIRAL PATTERNS

15. SMALL FIND NO. SC 41
LOCUS: SC III.18
CONDITION: 75% preserved.
DIMENSIONS: 21 x 20 mm
SEAL SHAPE: Oval, 13 mm in length
DESIGN: Bipartite design with the base of a spiral (?) on one side and straight lines at a variety of orientations on the other side.

COMPARANDA: See no. 17, SC 49.



Figure 4.16: East Karnak clay seal impression SC 47

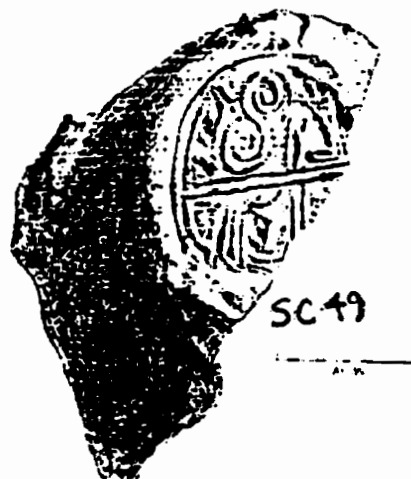


Figure 4.17: East Karnak clay seal impression SC 49

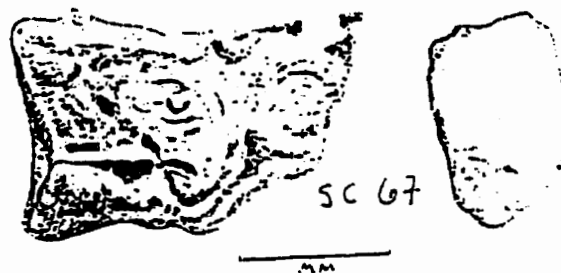


Figure 4.18: East Karnak clay seal impression SC 67



Figure 4.19: East Karnak clay seal impression SC 71

16. SMALL FIND NO. SC 47
 LOCUS: SC III.17
 CONDITION: Perhaps 25% preserved.
 DIMENSIONS: 14 x 9 mm
 SEAL SHAPE: Indeterminate, perhaps 20 mm long.
 DESIGN: Design includes a clear S-scroll and a small spiral with an indistinct *w3d* sign(?). It falls within Ward's class 2A Scrolls and Spirals. The design may have been similar to that on an impression from the tomb of Meketre (Winlock 1955 fig. 69 C; Ward *StSc* I p. 42 fig. 7 no. 3).
- COMPARANDA: *Harageh* pl. 20 no. 82
Kahun pl. 10 nos. 135 & 156.
17. SMALL FIND NO. SC 49
 LOCUS: SC II.19
 CONDITION: 80% preserved. A fingerprint pattern obscures the actual seal impression.
 DIMENSIONS: 24 x 34 mm
 SEAL SHAPE: Oval, 17 mm long
 DESIGN: Bipartite design with an S-scroll as the dominant motif on one side. The other side looks like a maze pattern. It falls within Ward's class 2A Scrolls and Spirals.
- COMPARANDA: *Matmar* pl. 33 no. 50 (domed-back seal)
BDS pl. VII no. 12 (domed-back seal)
Gurob pl. 12 no. 2 (scarab)
MJ 14 (Ward *StSc* I pl. IX no. 249)
18. SMALL FIND NO. SC 67
 LOCUS: SC I.19 (wall C)
 CONDITION: Fragmentary
 DIMENSIONS: 27 x 20 mm
 SEAL SHAPE: Indeterminate
 DESIGN: Several spirals are visible on different parts of the sealing. It falls within Ward's class 2A Scrolls and Spirals.
19. SMALL FIND NO. SC 71
 LOCUS: SC I.18
 CONDITION: Fragment
 DIMENSIONS: 16 x 12 mm
 SEAL SHAPE: Indistinct
 DESIGN: One spiral is clearly preserved, but the overall design is unclear. It falls within Ward's class 2A Scrolls and Spirals.



Figure 4.20: East Karnak clay seal impression SC 99

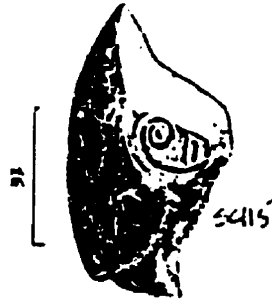


Figure 4.21: East Karnak clay seal impression SC 115



Figure 4.22: East Karnak clay seal impression SC 127



Figure 4.23: East Karnak clay seal impression SC 133

20. SMALL FIND NO. SC 99
 LOCUS: SC I.29
 CONDITION: Fragment. Fingerprints are visible.
 DIMENSIONS: 16 x 15 mm
 SEAL SHAPE: Circular(?), 10 mm in diameter.
 DESIGN: Spiral or circle with dot in centre motif.
 Overall design is not known. It falls within
 Ward's class 2A Scrolls and Spirals.
21. SMALL FIND NO. SC 115
 LOCUS: SC II.39
 CONDITION: About 50% of the impression is preserved.
 DIMENSIONS: 12 x 21 mm
 SEAL SHAPE: Roundish, 8 mm diameter
 DESIGN: A spiral with a long tail, joined at the base
 by two straight lines at 90° angles. It falls
 within Ward's class 2A Scrolls and Spirals.
22. SMALL FIND NO. SC 127
 LOCUS: SC III.28
 CONDITION: Fragment with two separate impressions.
 Fingerprints are visible.
 DIMENSIONS: 27 x 20 mm
 SEAL SHAPE: Indeterminate
 DESIGN: Each impression has a spiral preserved. The
 overall design is not known. It falls within
 Ward's class 2A Scrolls and Spirals.
23. SMALL FIND NO. SC 133
 LOCUS: SC III.36
 CONDITION: One fully preserved impression with about 20%
 of a second impression of the same design
 preserved.
 DIMENSIONS: 25 x 24 mm
 SEAL SHAPE: Circular, 8 mm in diameter
 DESIGN: A C-scroll occupies the centre of the
 impression and is flanked on either side by a
 striped lozenge. It falls in Ward's class 2A
 Scrolls and Spirals, cf. Ward StSc I pl. IX
 nos. 236-8 (same design but with an S-scroll).
- COMPARANDA: BDS pl. VII no. 125 (C-scroll in centre, but
 without lozenge designs)



Figure 4.24: East Karnak clay seal impression SC 140

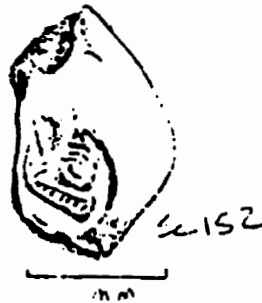


Figure 4.25: East Karnak clay seal impression SC 152



Figure 4.26: East Karnak clay seal impression SC 160

DRAWING
MISSING
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FILES



Figure 4.27: East Karnak clay seal impression SA 69

24. SMALL FIND NO. SC 140
 LOCUS: SC IV.24
 CONDITION: Fully preserved, although right edge is indistinct
 DIMENSIONS: 17 x 25 mm
 SEAL SHAPE: Circular, 8 mm in diameter
 DESIGN: Curvilinear design with side by side S-scrolls. It falls within Ward's class 2A Scrolls and Spirals, cf. Ward *StSc I* pl. IX nos. 240 & 246.
25. SMALL FIND NO. SC 152
 LOCUS: SC IV.35
 CONDITION: About 50% of the impression is preserved. Fingerprints are visible.
 DIMENSIONS: 25 x 20 mm
 SEAL SHAPE: Oval, 12 mm in length
 DESIGN: Looks like a floral motif with a straight stem in the centre that curves outward to either side in a spiral-like blossom. To the right an elongated striped shape, perhaps a lozenge, is preserved. It falls within Ward's class IE Floral Designs, cf. Ward *StSc I* pl. VII, nos. 200-205.
26. SMALL FIND NO. SC 160
 LOCUS: SC I/SB II.11
 CONDITION: Only 15-20% of impression is preserved. Fingerprints are visible.
 DIMENSIONS: 16 x 13 mm
 SEAL SHAPE: Circular(?), 12 mm in diameter.
 DESIGN: One complete spiral along edge of impression is preserved. Traces of two other spirals(?). It falls within Ward's class 2A Scrolls and Spirals.

4.4 EGYPTIAN SIGNS AND SYMBOLS

27. SMALL FIND NO. SA 69
 LOCUS: SA I.32
 CONDITION: Impression is fully preserved.
 DIMENSIONS: 18 x 15 mm
 SEAL SHAPE: Oval, 14-15 mm long
 DESIGN: Not entirely clear, appears to be two *wd3t* eyes in a *tête bêche* arrangement.
- COMPARANDA: BDS pl. V no. 342 (7th Dynasty style)
 BDS pl. XI nos. 513-515
 Harageh pl. 20 no. 87.
 QB I pl. 34, no. 203 depicts a *wd3t* shaped amulet, dated to Dynasty 9 = BDS pl. V no. 395.



Figure 4.28: East Karnak clay seal impression SA 70



Figure 4.29: East Karnak clay seal impression SA 71



Figure 4.30: East Karnak clay seal impression SC 16

28. SMALL FIND NO. SA 70
 LOCUS: SA I.35
 CONDITION: 85% preserved, only the upper righthand corner is missing. Fingerprints are visible.
 DIMENSIONS: 32 x 19 mm
 SEAL SHAPE: Oval, 17 mm long
 DESIGN: In the centre is a schematic depiction of the Bat emblem or Hathor fetish. Three loops across the top of a pole represent the head flanked by horns. The pendant ovoids on either side of the pole represent the cow ears. It falls in Ward's class 3 Egyptian Signs and Symbols, cf. Ward StSc I pl. XI, nos. 284-291
 On either side of the schematized fetish are spiral motifs (Ward class 2). There is a similarity in composition to some floral motifs (Ward class 1E), cf. Ward StSc I pl. VII nos. 199-201.
 There is a fragment of a second impression (ca. 16 mm long) with a spiral and some straight parallel lines.
- COMPARANDA: Matmar pl. XXXIII no. 86, dated to Dynasties 9-11.
29. SMALL FIND NO. SA 71
 LOCUS: SA II.33
 CONDITION: About half the impression remains.
 DIMENSIONS: 14 x 25 mm
 SEAL SHAPE: Roundish(?), 9 mm in diameter.
 DESIGN: Two side by side triangles with depressions in centre may be a form of the *nb.ty* design.
30. SMALL FIND NO. SC 16
 LOCUS: SC I.12
 CONDITION: Two impressions, one 60% and the other 40% preserved.
 DIMENSIONS: 19 x 21 mm
 SEAL SHAPE: Oval, 10-11 mm long
 DESIGN: Indistinct and fragmentary. It is not certain that the two impressions bear the same design. If they do, however, the design may be reconstructed as a *nb.ty* motif surmounted by at least one branching flower symbol. It falls within Ward's class 3 Egyptian Signs and Symbols, cf. Ward StSc I pl. XII, nos. 315-320.



Figure 4.31: East Karnak clay seal impression SC 37



Figure 4.32: East Karnak clay seal impression SC 44

31. SMALL FIND NO. SC 37
 LOCUS: SC IV.17
 CONDITION: About 90% preserved.
 DIMENSIONS: 14 x 10 mm
 SEAL SHAPE: Oval, 12 mm long.
 DESIGN: Cruciform pattern made of a central rosette with stripes along the vertical axis. Two sets of tendrils curve round, one to the top and one to the bottom of the symmetrical design. The image forms a pattern of two opposing Bat heads or Hathor fetishes. It falls in Ward's class 5 Cross Patterns
- COMPARANDA: BDS pl. XVI (Nagada) no. 1103 (Dyns. 13-14)
 Haynes & Markowitz 1991 nos. 106-107 (2IP)
 Tufnell StSc II.2 pl. 23 nos. 2041-2 & 2019.
32. SMALL FIND NO. SC 44
 LOCUS: SC III.17
 CONDITION: An oval is preserved. The full design would require a circle, two-thirds of which is preserved.
 DIMENSIONS: 22 x 14 mm
 SEAL SHAPE: Circular (?), 10-11 mm diameter
 DESIGN: Across the bottom is a variation of the *nb.ty* design with a hollow circle in the centre. Above the line connecting the two *nb* signs is a floral motif. The central stalk should be capped by a bloom (now missing). The side leaves, which originally would have been symmetrical, terminate in spirals. Only the one on the right is preserved. It falls in Ward's class 1E Floral Designs, cf. Ward StSc I pl. VI nos. 190, 202-204. The *nb.ty* design places it within Ward's class 3 Egyptian Signs and Symbols, as well.
- COMPARANDA: QB I pl. XXXIV no. 192, dated to Dynasty 9
 Matmar pl. XXXIII no. 52, Dynasties 9-11
 IKG pl. VIII no. 65 and Tufnell 1975 fig. 4 241 (Class 3A2) show the same type of design.

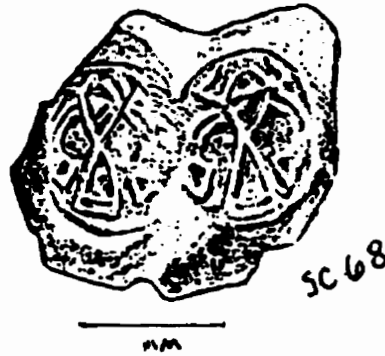


Figure 4.33: East Karnak clay seal impression SC 68



Figure 4.34: East Karnak clay seal impression SC 70



Figure 4.35: East Karnak clay seal impression SC 86

33. SMALL FIND NO. SC 68
 LOCUS: SC I.20
 CONDITION: Two almost completely preserved impressions with the same design overlap slightly.
 DIMENSIONS: 13 x 18 mm
 SHAPE: Oval, 13 mm in length
 DESIGN: Schematic depiction of the Bat emblem or Hathor fetish. It falls within Ward's class 3 Egyptian Signs and Symbols, cf. Ward StSc I pl. XI, nos. 287-288.
 COMPARANDA: Matmar pl. XXXIII no. 83, dated to Dynasty 9.
 Mostagedda pl. LXIX 7, dated to Dynasty 11
34. SMALL FIND NO. SC 70
 LOCUS: SC I.17
 CONDITION: 25-30% preserved (?).
 DIMENSIONS: 10 x 9 mm
 SEAL SHAPE: Indeterminate, about 10 mm preserved.
 DESIGN: Two parallel lines seem to mark the centre of the design. Loops on either side may represent the stabilization of a stand. Curved lines on either side indicate further motifs in a symmetrical arrangement. It falls within Ward's class 3 Egyptian Signs and Symbols, cf. Ward StSc I pl. XI, no. 289.
 COMPARANDA: QB I pl. XXXIV no. 196
35. SMALL FIND NO. SC 86
 LOCUS: SC I.26
 CONDITION: About two-thirds preserved.
 DIMENSIONS: 20 x 19 mm
 SEAL SHAPE: Circular, 11 mm in diameter
 DESIGN: A vertical rectilinear sign in the centre stands between two *nefer* signs. On the left is a *ntr* sign, the flag of which extends over the left *nefer* sign. A horizontal striped lozenge occupies the top part of the design. It falls within Ward's class 3 Egyptian Signs and Symbols, cf. Ward StSc I pl. XI, no. 281.
 COMPARANDA: Possibly the centre design contained a floral motif, cf. QB pl. 34 nos. 193-4.



Figure 4.36: East Karnak clay seal impression SC 101



Figure 4.37: East Karnak clay seal impression SC 103



Figure 4.38: East Karnak clay seal impression SC 105

36. SMALL FIND NO. SC 101
 LOCUS: SC II.34
 CONDITION: 60-70% preserved, the top of the design is missing.
 DIMENSIONS: 14 x 12 mm
 SEAL SHAPE: Oval, ca. 15-16 mm in length
 DESIGN: Along the base of the design are two well formed nb-signs connected by a line across the top with a "t" sign (Gardiner X1) between them. Above this in the centre is a pair of very debased red crowns. The damaged area seems to have contained a floral motif, judging from the traces remaining. It falls within Ward's class 3 Egyptian Signs and Symbols, cf. Ward StSc I pl. XII nos. 321-322 for the red crowns and pl. XIII nos. 332-336 for the floral motif.
- COMPARANDA: BDS pl. 7 no. 22
 BDS pl. 8 nos. 189-190
 QB II pl. 34 no. 193
37. SMALL FIND NO. SC 103
 LOCUS: SC II.31
 CONDITION: About 85% preserved
 DIMENSIONS: 20 x 19 mm
 SEAL SHAPE: Rectangular oval, 16 mm in length
 DESIGN: Chaotic design. The central motif is a wn-rosette (Gardiner sign list M42) flanked by feathers. The side motifs may be jars with dangling vegetal tendrils. It falls within Ward's class 3 Egyptian Signs and Symbols, cf. Ward StSc I pl. XI no. 294.
38. SMALL FIND No. SC 105
 LOCUS: SC II.29
 CONDITION: About 60% of the sealing is preserved
 DIMENSIONS: 20 x 19 mm
 SEAL SHAPE: Roundish, 17-18 mm in diameter
 DESIGN: Chaotic design with a clear C-scroll motif. The other motifs are not as clear, but presumably include hieroglyph signs, such as the basket (Gardiner V31) and the Bat-symbol. This would place the sealing in Ward's class 3 Egyptian Signs and Symbols, cf. Ward StSc I pl. XI, no. 284.



Figure 4.39: East Karnak clay seal impression SC 113



Figure 4.40: East Karnak clay seal impression SC 45

39. SMALL FIND NO. SC 113
LOCUS: SC II.37
CONDITION: Only 20-25% of sealing is preserved.
DIMENSIONS: 16 x 11 mm
SEAL SHAPE: Roundish, ca. 15 mm in diameter
DESIGN: Two hollow circles, one of which is connected to a straight line that runs to the edge of the impression and then makes a 90° turn. There are markings under the other circle as well. It is likely that the design involves a k3 sign with the hands represented by a circle. This would fall in Ward's class 3 Egyptian Signs and Symbols, cf. Ward *StSc* I pl. XI, nos. 277 & 282. Possibly the original had a floral motif, cf. Ward *StSc* I pl. VII, nos. 202 or 210.
- COMPARANDA: *Mostagedda* pl. LX 73, dated to Dynasty 9
Mostagedda pl. LXIX 5, dated to Dynasty 11

4.5 ROSETTE PATTERNS

40. SMALL FIND NO. SC 45
LOCUS: SC III.17
CONDITION: Two-thirds of a sealing with a rosette design and a small piece of another sealing (ca. 10%) with a spiral preserved.
DIMENSIONS: 19 x 18 mm
SHAPE: Oval, 15 mm long.
DESIGN: Centre of the design is a pair of concentric circles. Leaves reminiscent of a fleur-de-lis pattern project from opposing sides. In each case the centre leaf is short, but tendrils ending in spirals project from the side leaves.
- COMPARANDA: This is not a cross pattern, but is similar to examples nos. 202-212 from Uronarti in Reisner 1955 p. 60 and no. 145 from Petrie 1906 pl. IX.

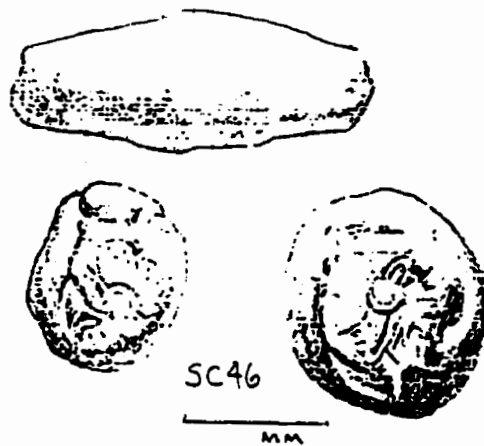


Figure 4.41: East Karnak clay seal impression SC 46

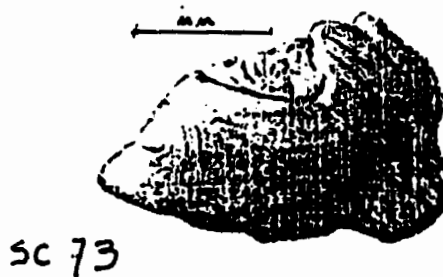


Figure 4.42: East Karnak clay seal impression SC 73



Figure 4.43: East Karnak clay seal impression SC 74

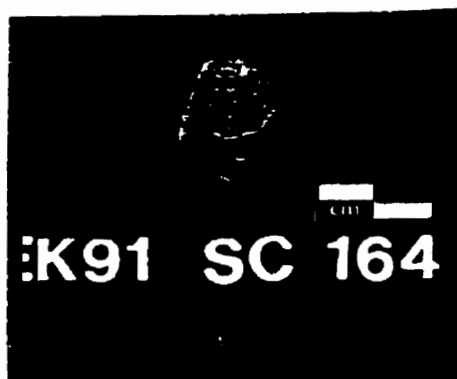


Figure 4.44: East Karnak clay seal impression SC 89

41. SMALL FIND NO. SC 46
 LOCUS: SC III.17
 CONDITION: Two sealings, one on either end of a cigar shaped clay cylinder. Neither sealing is completely preserved; the impressions are worn and indistinct around the edges.
 DIMENSIONS: 46 x 18 mm
 SEAL SHAPE: Circular, 11 mm in diameter
 DESIGN: The centre of each design is marked by a double concentric circle and from this radiate what look like leaves or foliage. On the small side two spiral tendrils are clearly visible.
42. SMALL FIND NO. SC 73
 LOCUS: SC I.22
 CONDITION: Fragment with fingerprints visible.
 DIMENSIONS: 26 x 20 mm
 SEAL SHAPE: Indeterminate
 DESIGN: Two spiral tendrils are preserved from what was probably a rosette design originally.
43. SMALL FIND NO. SC 74
 LOCUS: SC I.22
 CONDITION: Only the central portion of the seal (about 50% of the design) is preserved. Fingerprints are visible.
 DIMENSIONS: 18 x 14 mm
 SEAL SHAPE: Circular, 10 mm in diameter
 DESIGN: The centre of the design is marked by a double concentric circle from which radiate short pointed leaves. The base of spiral tendrils and part of a spiral are also preserved.
44. SMALL FIND NO. SC 89
 LOCUS: SC II.23
 CONDITION: Two sealings of the same design type are both 90+% preserved on the same pieces of mud. Traces of a third sealing and fingerprints are visible.
 DIMENSIONS: 30 x 23 mm
 SEAL SHAPE: Oval, ca. 10 mm
 DESIGN: Centre of the design is a pair of concentric circles. Leaves reminiscent of a fleur-de-lis pattern project from opposing sides. In each case the centre leaf is short, but tendrils ending in spirals project from the side leaves.



Figure 4.45: East Karnak clay seal impression SC 159



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Figure 4.46: East Karnak clay seal impression SC 164



Figure 4.47: East Karnak clay seal impression SB 21

45. SMALL FIND NO. SC 159
 LOCUS: SC I/SB II.11
 CONDITION: Fragmentary
 DIMENSIONS: 30 x 13 mm
 SEAL SHAPE: Indeterminate, 10+ mm in length
 DESIGN: A pair of concentric circles forms the nucleus of the preserved fragment, but it is not clear that this was the original centre of the design. Double lines extend from the circles a short bit to the broken edge on one side; on the opposite a series of spirals forms a border (?). The design elements are thus similar to those found in the rosette designs.
46. SMALL FIND NO. SC 164
 LOCUS: SC I/SBII.12 (East Baulk)
 CONDITION: About 90% of one impression and a small bit (2-3%) of a second impression are preserved. Fingerprints are visible.
 DIMENSIONS: 25 x 19 mm
 SEAL SHAPE: Oval, ca. 11 mm long.
 DESIGN: A pair of concentric circles marks the centre of the design. Leaves reminiscent of a fleur-de-lis project from opposing sides. The centre leaf is short, but tendrils ending in spirals project from the side leaves. On either side the spirals from the top and bottom meet at the centre.
 COMPARANDA: See no. 40, SC45 and no. 44, SC 89.
47. SMALL FIND NO. SB 21
 LOCUS: SB I.46
 CONDITION: Fragmentary, fingerprints are visible.
 DIMENSIONS: 15 x 10 mm
 SEAL SHAPE: Indeterminate, ca. 12 mm long.
 DESIGN: A dot surrounded by a spiral may mark the centre of the design. One spiral tendril with a triangle appended is preserved. It looks like this may have originally been a rosette design.



Figure 4.48: East Karnak clay seal impression SC 66



Figure 4.49: East Karnak clay seal impression SC 76



Figure 4.50: East Karnak clay seal impression SC 116

4.6. CORD DESIGNS

48. SMALL FIND NO. SC 66
LOCUS: SC I.19
CONDITION: Perhaps 65-75% of the knot is preserved.
DIMENSIONS: 18 x 14 mm
SEAL SHAPE: No discernable outline.
DESIGN: Design appears to be a reef knot with two intertwined loops facing in opposite directions. The knot is made of a two-ply cord. Much of one side (the right) is missing, which makes an accurate interpretation difficult. This design falls within Ward's class 6 Coiled and Woven Pattern, cf. Ward *StSc I* pl. XV, nos. 375-381.
- COMPARANDA: Haynes & Markowitz 1991 no. 14 (Dyn. 11/12)
IKG pl. 8 no. 64 (Late Middle Kingdom)
Reisner 1955 p. 60 nos. 182 & 185.
49. SMALL FIND NO. SC 76
LOCUS: SC I.21
CONDITION: Long, thin fragment preserved.
DIMENSIONS: 19 x 7 mm
SEAL SHAPE: Indeterminate, ca. 14 mm long
DESIGN: Looped or intertwined cord.
- COMPARANDA: Abu Ghâlib 1934:110 & 112
50. SMALL FIND NO. SC 116
LOCUS: SC III.19
CONDITION: Fragment. Fingerprints are visible.
DIMENSIONS: 12 x 19 mm
SEAL SHAPE: Indeterminate, possibly rectangular.
DESIGN: Three concentric loops (ovals?) on one side beside a rectilinear design.



Figure 4.51: East Karnak clay seal impression SB 15



Figure 4.52: East Karnak clay seal impression SC 17



Figure 4.53: East Karnak clay seal impression SC 38

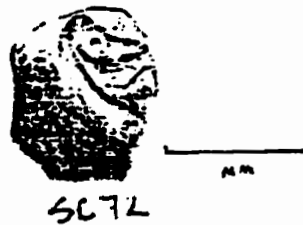


Figure 4.54: East Karnak clay seal impression SC 72

4.7 MISCELLANEOUS AND UNCLASSIFIED

51. SMALL FIND NO. SB 15
LOCUS: SB III.3
CONDITION: Complete impression
DIMENSIONS: 24 x 22 mm
SEAL SHAPE: Circular, 11-12 mm in diameter
DESIGN: Unique type of design may be the result of poor or inexperienced craftsmanship. There is an ankh sign at the bottom enclosed by an irregular line that may be a debased form of a scroll design. Above this is a zig-zag line (like a Greek sigma) and at the top a lozenge which is striped on the right half, but not on the left.
52. SMALL FIND NO. SC 17
LOCUS: SC I.12
CONDITION: Two overlapping impressions, 90% preserved.
DIMENSIONS: 19 x 25 mm
SEAL SHAPE: Oval, 10 mm in length
DESIGN: One looks like the impression of a meandering string or cord on clay. The other looks like a fingerprint but the lines are evenly spaced and all run in one direction.
- COMPARANDA: BDS pl. 3 no. 199.
53. SMALL FIND NO. SC 38
LOCUS: SC 1V.15
CONDITION: 40-50% of one impression and a smaller fragment of a second impression are preserved.
DIMENSIONS: 19 x 15 mm
SEAL SHAPE: Squarish oval, ca. 11-12 mm long
DESIGN: Not clear. The larger impression contains two straight lines are set at right angles in a "T" shape and beyond them a curved line looks like a vegetal tendril. The smaller impression contains two striped lozenges.
54. SMALL FIND NO. SC 72
LOCUS: SC I.15 (Wall A)
CONDITION: About half preserved.
DIMENSIONS: 10 x 9 mm
SHAPE: Oval(?)
DESIGN: A striped lozenge, a C-shaped scroll and a bent line are preserved.



Figure 4.55: East Karnak clay seal impression SC 75



Figure 4.56: East Karnak clay seal impression SC 132



Figure 4.57: East Karnak clay seal impression SC 153

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Figure 4.58: East Karnak clay seal impression SC 161

55. SMALL FIND NO. SC 75
LOCUS: SC I.22
CONDITION: About half preserved.
DIMENSIONS: 13 x 16 mm
SEAL SHAPE: Oval, 12 mm long.
DESIGN: Bipartite design divided by a double pair of straight lines across the centre of the sealing. Another pair of straight lines and two small circles complete the design elements.
56. SMALL FIND NO. SC 132
LOCUS: SC III.32
CONDITION: About 25% of impression is preserved. Fingerprints are visible.
DIMENSIONS: 20 x 22 mm
SEAL SHAPE: Oval, 10 mm long.
DESIGN: Indistinct design with straight lines, so probably a linear pattern.
57. SMALL FIND NO. SC 153
LOCUS: SCI/SB II.8 (bault)
CONDITION: Two complete overlapping impressions are preserved.
DIMENSIONS: 15 x 18 mm
SEAL SHAPE: Oval, 5 mm long
DESIGN: The impressions are overlapping and the design is very faint. The design pattern has two circular motifs.
58. SMALL FIND NO. SC 161
LOCUS: SC III.35
CONDITION: 80% preserved
DIMENSIONS: 16 x 15 mm
SEAL SHAPE: Oval, 14 mm in length
DESIGN: Not falling cleanly into any specific design type, this impression has two concentric circles with a spiral attached. Parallel straight lines set at a 90° angle to each other run into the concentric circles. Bent lines and circles may form a human motif.

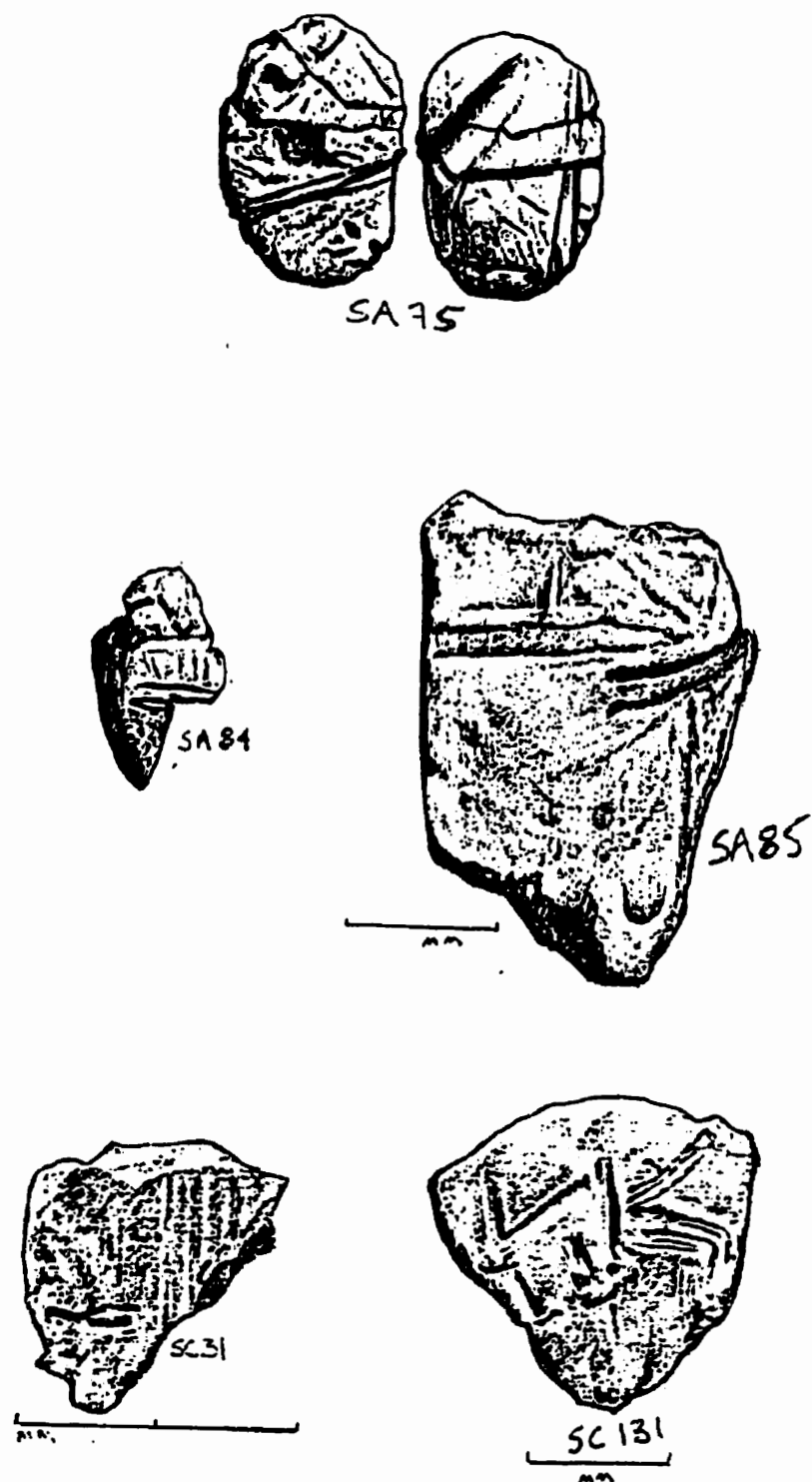


Figure 4.49: Impressions of string ties from East Karnak

4.8 IMPRESSIONS OF STRING TIES, ETC.

SMALL FIND NO. SA 75
LOCUS: SA II.29 (room 1)
CONDITION: Fragmentary
DIMENSIONS: 24 x 36 mm
DESIGN: Impression of string or cord on clay.

SMALL FIND NO. SA 84
LOCUS: SA III.19
CONDITION: Rounded piece of clay
DIMENSIONS: 29 x 16 mm
DESIGN: Impression of string or cord on clay.

SMALL FIND NO. SA 85
LOCUS: SA II.41 (room 1)
CONDITION: Fragmentary
DIMENSIONS: 21 x 30 mm
DESIGN: Impression of string or cord on clay (?).
Impression looks like a ladder with two straight
parallel lines with shorter perpendicular lines
between them.

SMALL FIND NO. SC 31
LOCUS: SC I.13
CONDITION: Fragmentary
DIMENSIONS: 19 x 21 mm
DESIGN: Impression of parallel straight lines, from the
"ribs" of a papyrus sheet.

SMALL FIND NO. SC 131
LOCUS: SC III 32
CONDITION: Fragmentary
DIMENSIONS: 23 x 22 mm
DESIGN: Zigzag pattern made by a string cord with tie (?).
The impression of the tie shows that the cord was
two-ply.

4.9 FINDINGS: SEAL SHAPE AND DIMENSIONS

The best indication we have of the type of seal used to make the East Karnak seal impressions is the shape of the impression left by the base of these seals; the length of these impressions is also a dating criterion. In no case was a cylinder seal used to make an impression among the East Karnak sealings, as one would expect for seal impressions after Dynasty 6. The seal amulets of the First Intermediate Period come in a variety of shapes and back types. Gradually during the First Intermediate Period, the oval shape of the scarab seals becomes standard. The earlier scarabs are the smallest in size; during the First Intermediate Period designs on the seals tended to become more elaborate and the size of the scarabs increased, probably to accommodate the increased detail (Ward *StSc I* p. 22). The base shape and size of the East Karnak sealings fits well with what one would expect from the late First Intermediate Period.

Of the 50 classified East Karnak seal impressions, a base shape was determined for 38. Over half (20 or 53%) of these impressions were made with oval seals; over a third (14 or 37%) of the East Karnak impressions were made with round or circular seals. Thus, 90% of the East Karnak seal impressions are oval or round. The other 10% are either square or rectangular. The one rectangular sealing (cat. no. 7) was clearly not made by a scarab seal and may be considered proof that seal types other than scarabs are represented among the East Karnak seal impressions. The square and rectangular impressions (cat. nos. 3, 7, 13 & 14) all have

linear designs, characteristic of the Early First Intermediate Period.

The base shape is not an absolute indication of seal shape or back type, although definite trends exist. The oval base shape is best suited to scarabs, but early scarabs have both round bases and square bases with rounded corners (QB I pl. 33 nos. 131-149). The circular shape is characteristic of "button seals" and those with hemispherical-shaped backs. Square bases are characteristic of pyramid shaped seals; rectangular bases often indicate a rectangular box shape (QB I pl. 34 nos. 204-210).

The indications of base shape are that a majority of the East Karnak seal impressions were made by scarab seals, but seals of other shapes and back types are also represented. For a post Dynasty 12 date, one would have expected virtually all the sealings to have been oval, as for example at Kahun and Uronarti (Tufnell 1975 figs. 2-12). Accepting that some of the circular or square impressions with rounded corners may have been made by early scarab forms, one may generously estimate that up to two-thirds of the East Karnak impressions were made by scarab seals. Realizing that even some of the oval shapes may have been made by dome-shaped seals, a lower-end estimate of scarab seals at East Karnak would be about 50%.

Given the correlation between the oval base shape and the scarab seal type, the length of the East Karnak seal impressions can be compared with the lengths of scarab seals as a further indication of date (Ward StSc I p. 22). As explained in chapter

two, the dating of many scarab groups is also a matter of some dispute; the dating of individual scarabs will obviously affect the average dimensions for different periods. Nevertheless, both O'Connor (1985 p. 28 & table 7) and Ward (*StSc I* pp. 20-22 & Table I) consider scarab length as a criterion for scarab seriation and dating. Even its strongest advocate (Ward *StSc I* p. 22) admits that "the length of scarabs cannot be considered the determining factor in dating." Due to the fragmentary nature of much of the East Karnak corpus of seal impressions, the overall length of the seal is frequently only an interpolation.

Despite these caveats, the average length of the East Karnak seal impressions fits neatly within the chronological framework of scarabs lengths as devised by Ward (*StSc I* Table I p. 21). Ward considers not only the average lengths of groups of scarabs, but also the range in lengths, and the range of the mid-50% of seals in each period.⁵⁷ The following table places the East Karnak seal impressions within the context of scarab lengths as determined by Ward (1978 p. 47):

SCARAB LENGTH IN MM	FIP	East Karnak	Montet Jar	Dyns. 12-13	Dyn. 15
average measurement	12.5	12.2	14	16.5	16.5
maximum measurement	23	17-18	23	30	30
mid-50% measurement	10-14	10-14	12-15	14-19	13-19

⁵⁷ This trimmed average figure corrects for any extremes that may influence the average and the total range. 25% of the total no. of seals are removed from both the upper and lower edges of the total range, leaving the range of the mid-50% of the group.

The table shows that the East Karnak sealing dimensions fit clearly within Ward's First Intermediate Period (FIP) tradition and not within his Dynasties 12-15 scarab tradition, covering the late Middle Kingdom and Second Intermediate Period.

Ward's (1978 p. 46) figures are given in broad chronological groupings which may mask some trends in scarab lengths; in particular, Ward treats the First Intermediate Period and Dynasties 12-13 as single units. Looking at the scarabs from Brunton's excavations, those from the early First Intermediate Period had an average length of 10.7 mm, whereas the average length of the those from the late First Intermediate Period is 13.6 mm (O'Connor 1985 p. 28). These averages suggest that the East Karnak seal impressions may cover the whole of the First Intermediate Period rather than being concentrated in either the early or later phase. O'Connor (1985 p. 10) studied the length of royal scarabs from Dynasty 12 to Dynasty 18, finding an abrupt change from the small scarabs of Dynasty 12 (13.8 mm long on average) to the large scarabs of Dynasty 13 (22.3 mm long on average); after Dynasty 13 average scarab length gradually decreases until the middle of Dynasty 18 (reign of Tuthmosis III).

As a general rule, scarab seals started out small in size at the end of the Old Kingdom/beginning of the First Intermediate Period and increased in size until Dynasty 13/Late Middle Kingdom. Thereafter the process is reversed with scarabs decreasing in size during the Second Intermediate Period and early 18th Dynasty (Tufnell 1984 p. 28). Fortunately the archaeological context of

the East Karnak seal impressions precludes them from dating after the Second Intermediate Period. In general, other factors, especially design type, must be used along with size in determining seal dates. The following study of the design types proceeds from the foundation that seal shape and size, as well as the associated ceramics, all place the East Karnak seal impressions in the First Intermediate Period.

5. COMMENTARY ON EAST KARNAK DESIGNS

The designs found on the East Karnak seal impressions are discussed here according to the same categories found in the catalogue in chapter four: 1. Human figures; 2. Linear designs; 3. Scroll and spiral designs; 4. Egyptian signs and symbols; 5. Rosette patterns; and 6. Cord designs. Each category is dealt with in detail below in order to place the East Karnak sealings in a chronological and iconographic context. The study of the East Karnak seal impressions also serves as a test case for the validation of current scarab design classifications (Ward *StSc I* & O'Connor 1985 pp. 21-27).

Although one of the principal aims of the *StSc* project was "to escape from the tendency to concentrate on scarab designs" (Ward 1987 p. 508), a valid chronological seriation of seal designs was only possible once a chronological framework of scarab typology was developed.⁵⁸ Ward (*StSc I*) worked out separate chronological series for scarab heads, backs and profiles,⁵⁹ which he uses to divide pre-Dynasty 12 scarabs into four chronological periods. Period One scarabs tend to be 8-12 mm long (mid 50% with an average length of 10 mm) and the designs are all linear patterns. Linear patterns continue throughout Ward's sample, but progressively

⁵⁸ For example, in dealing with the large collection of Qau/Badari material, Brunton (QB I p. 57) noted that "the designs are so varied that little can be said of them here."

⁵⁹ Ward (*StSc I* p. 18-19) uses a combination of these attributes as well as indications from size and design type to place unexcavated scarabs or those with a doubtful archaeological context into the seriation obtained from excavated examples.

diminish in frequency through time. For example, maze patterns form 66% of the designs in Ward's first period, but drop out by his third period (*StSc I* p. 37). Period Two scarabs tend to be 9-12 mm (mid 50%, with an average length of 10 mm) and scroll designs are introduced, although linear patterns still predominate. Period Three scarabs tend to be larger (13-17 mm with an average length of 15 mm) and Egyptian symbols and floral motifs dominate the design repertoire, which still contains both the linear designs and scroll designs. Ward's Period Four consists almost entirely of scarabs from the Montet Jar, which will be considered separately in the next chapter.

O'Connor has worked out a chronology of scarab back-types based on royal-name scarabs from Dynasty 12 to early Dynasty 18.⁶⁰ These back types are then used by O'Connor to provide a seriation of designs for Middle Kingdom and Second Intermediate Period scarabs (O'Connor 1985 p. 31 Table 31). Simple and complex S-scrolls are well-represented at Harageh, Kahun and Uronarti, placed by O'Connor (1985 pp.33-34) in the Middle Kingdom (Dynasties 12-13). Figures cut in outline style (category H) or in open-cut style (category I) and circle designs (category K) are well-represented at Jericho, Qau/Badari, Kerma and Sedment, placed by O'Connor in the Second Intermediate Period (O'Connor *Ibid.*). Hieroglyphic (category F) and cord (category G) designs are represented in all the samples.

⁶⁰ O'Connor's typology is based upon the earlier work of Martin 1971 pp. 150-154 & pls. 50-54.

When compared with Ward's and O'Connor's design sequences (see figure 5.1), in all cases the East Karnak sealing designs are closer to Ward's examples than those of O'Connor. O'Connor contains five categories (A-E) for scrolls and spirals; although these elements occur in the East Karnak seal impressions, it is often difficult to determine the total context of the design. Other differences are stylistic. O'Connor's amuletic hieroglyphs (category F) contain far more hieroglyphic signs than either Ward's class 3 or the East Karnak impressions. Unlike the East Karnak impressions and Ward's class 1C, O'Connor's linear style figures are not stick figures, but outlined representations of humans and animals. The lack of fit between O'Connor's classes and the East Karnak seal impressions can be explained by the difference in date between O'Connor's Dynasty 12-15 examples and the Dynasty 11/First Intermediate Period date of the East Karnak sealings. Therefore, only Ward's classification will be referred to in the following commentary.

5.1 HUMAN FIGURES

Three examples of stick figures are found among the East Karnak seal impressions (SA 72, SA 78 & SA 83). Only SA 78 (cat. no. 1) has a clearly preserved design which can be paralleled among the scarabs from Brunton's excavations. The stick figures appear not only singularly, but also in pairs and in a group of four (UC 1C-2), in seated, standing and running poses. Ward (*StSc I* pl. 5) gives 29 examples of this motif from the First Intermediate Period;











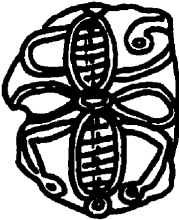

	WARD (<i>StSc I</i>) Dynasty 11	East Karnak sealings	O'CONNOR (<i>JSSEA 15</i>) Dynasty 13
Human figures			
	No. 147	SC 78	Type H
S-scrolls			
	No. 249	SC 49	Type B
Hieroglyphs			
	No. 281	SC 86	Type F
Cross-patterns			
	No. 374	SC 37	Type J

Figure 5.1: Comparison of Ward's (*StSc I*) and O'Connor's (*JSSEA 1985*) Design Typologies.

only a single example from the Montet jar⁶¹ is placed after his first and second periods. Thus, Ward (*StSc I* p. 51) considers the stick figures to be characteristic of the earlier First Intermediate Period, but not after this. Several examples of stick figures, however, appear amongst the Uronarti sealings (Reisner 1955 figs. 14-15 nos. 355-7 & 397). Tufnell (*StSc II* p. 115) considers these stick figures as hieroglyphic signs. This may be true for some⁶² but others, such as the opposing pairs on no. 397, continue the earlier stick figure tradition. The East Karnak stick figures are not on impressions made by small seals, and thus are more likely to date to the late First Intermediate Period/Dynasty 11 era rather than to the earlier First Intermediate Period.

5.2. LINEAR DESIGNS

Eleven examples of linear designs are found among the East Karnak seal impressions. These all fit within Ward's design class 1B geometric patterns, though some (e.g. SA 81 & SC 102) could be placed within Ward's design class 1A maze patterns (*StSc I* pp. 47-49). Ward (*StSc I* p. 48) indicates that both geometric and maze designs were introduced at the same time as the scarab shape and are rarely found on other seal shapes. Linear designs are characteristic of the First Intermediate Period; Ward places them

⁶¹ Ward *StSc I* no. 132 (pl. 5); Tufnell *StSc II* no. 1021 (pl. 1).

⁶² See the following examples from Tufnell 1975: a) fig. 9 no. 395 = Gardiner A7; b) fig. 11 no. 420 = Gardiner A21; & c) fig. 12 no. 463 = Gardiner A1.

in his first and second periods.⁶³ Isolated examples of simple geometric designs are found in the Montet Jar and in other later contexts, but are rare among both the Kahun and Uronarti sealings. Discussed below are the four linear design subtypes appearing among the East Karnak seal impressions: 1) the linear cross pattern; 2) the maze pattern (?); 3) the "X" metope design; and 4) the striped lozenge motif.

5.2.1 Linear Cross Patterns

The simple cross design with chevrons filling in the four quadrants is one of the earliest designs in the seal amulet tradition, generally attributed to the late Old Kingdom (Dynasties 6-7).⁶⁴ Two examples are found among the East Karnak sealings (SC 102 and SC 104). Neither East Karnak example has clear chevrons; since each is less than half preserved, the central stick cross must be largely reconstructed. Sections of cross-shaped outlines around this central stick cross remain on each of the East Karnak examples; that of SC 104 seems more rectilinear, whereas the outline of SC 102 is more curvilinear. This same feature is found on a seal from Qau/Badari (QB I pl. 33.99) and on one from Abydos (el-Amrah pl. XL.3). The el-Amrah seal is square in shape, whereas

⁶³ Ward *StSc* I p. 48 notes "the simple designs of class 1B may exist in later times, but they are a very rare minority and form no distinctive category of any importance after Period Two of the First Intermediate Period."

⁶⁴ Brunton *QB* I p. 57 notes that "simple criss-crosses, with variations, are mostly with" dynasty. Petrie *BDS* p. 6 indicates that "the cross patterns are certainly early," citing examples from Abydos, el-Amrah and Qau/Badari.

the Qau/Badari example is round. Both the Qau/Badari and el-Amrah seals have a shank back with a perforated projecting ridge.

The shape and back-type of the seals which made the East Karnak impressions are related questions. The edges of the East Karnak impressions SC 102 and 104 are rounded, but the overall shape could be either round or square; not enough is preserved to be certain. Of the 13 seals with cross patterns from Qau/Badari, 9 have the shank back type.⁶⁵ The other back types attested for this pattern are a ridge, a frog and a scarab beetle.⁶⁶ The likelihood is great, therefore, that the East Karnak cross pattern sealings were made by seals with shank backs dating back to the early part of the First Intermediate Period (or even the late Old Kingdom).

5.2.2 Maze Pattern

Impression SA 81 (cat. no. 7) may be connected with Ward's 1A maze category (cf. *StSc I* pl. II no. 39), even though the design is not really a maze. The rectangular shape of the impression indicates that it was not made by a scarab. Rectangular plaques from Qau/Badari (QB I pl. XXXIV nos. 207, 210) show a double squared spiral design. East Karnak SA 81 effectively doubles this with a design of four opposing squared spirals. The seal used to

⁶⁵ See Catharine Roehrig 1975 chart VIA.

⁶⁶ One back type is unidentified. The scarab is illustrated in Brunton QB I pl. 33 no. 131. Matmar has a seal amulet with a cross pattern design and a shank back (pl. 33 no. 12), while both scarab and shank backs occur with this pattern at Mostagedda (pl. LX nos. 11 and 53). The scarab back has a definite oval shape.

make the SA 81 impression would have been rectangular in shape. There was likely a hole through the long axis of the SA 81 seal; from comparable examples, this seal may be dated to the First Intermediate Period (Ward's Period Two, Brunton's Dynasty ix). Qau/Badari seal no. 210 is also significant in linking the squared spiral design on one side with a double "x" metope design on the other side.

5.2.3 "X" Metope Design

The double "x"s set in a box frame (metope) found on seal Qau/Badari no. 210 is closely paralleled on impression SC 43 (cat. no. 11) from East Karnak and is related to the designs depicted on impressions SA 65 (cat. no. 4) and SC 96 (cat. no. 12). Examples of this motif occur on First Intermediate Period scarabs from Harageh,⁶⁷ on a late Middle Kingdom sealing from Kahun and on a Second Intermediate Period(?) seal from Sedment.⁶⁸ These examples indicate the popularity of this design in the north (Fayum region) and its continuation into the Second Intermediate Period. Closer to Thebes, Upper Egyptian examples are also known from Nagada and

⁶⁷ As Ward *StSc* I pp. 12-13 points out, there are some mistakes in Petrie's *Harageh* publication and these scarabs are erroneously placed in the 17th Dynasty (Petrie 1923 p. 20). Kemp and Merrillees (1980 pp. 39-55) reevaluate the Harageh material and conclude (p. 52) that tombs 660 and 661 from which these scarabs come belong with Brunton's Dynasty 9 Qau/Badari material.

⁶⁸ Harageh: Engelbach 1923 pl. 21 nos. 102 & 107.
Kahun: Petrie 1890 pl. 10 no. 191.
Sedment: Petrie & Brunton 1924 pl. 43 no. 43

Coptos.⁶⁹ The design of East Karnak SC 43 can date anywhere from the First to Second Intermediate Periods and occurs on a variety of different seal types; without any clear indication of shape it is pointless to speculate whether the design was made by a scarab or some other type of seal.

5.2.4 Striped Lozenge Motif

The most characteristic of all the First Intermediate Period geometric seal designs is the striped lozenge.⁷⁰ From East Karnak, striped lozenges figure prominently in SA 65, SA 79, SA 86, SA 80, SB 14 and SC 96, while traces of this motif appear on impression SC 43. In the most common arrangement,⁷¹ the seal surface is divided in half by two parallel horizontal lines. A striped lozenge is placed on each side of seal with a small triangle pointing up on the right and down on the left projecting from the double horizontal line. East Karnak impression SC 96 (cat. no. 12) is a variant where the double lines connect the two striped lozenges rather than dividing the space between them. The triangles have been extended to "Y" shapes, but still one faces up and the other down in a *tête-bêche* arrangement.

⁶⁹ BDS pl. XVI nos. 1093 (Naqada), 1171-2 (Coptos).

⁷⁰ Ward *StSc I* pl. III nos. 57-69 are said by Ward (*StSc I* p. 48) to "represent more or less the same motif" and he places all except QB I pl. 33 no.184 in his Period Two.

⁷¹ Ward *StSc I* pl. III nos. 61-68, including examples from Qau/Badari, Matmar and Mostagedda. Similar examples from the north appear at Abu Ghâlib (no. 1934:125) and Harageh (Engelbach 1923 pl. 21 nos. 103-4).

In addition to the striped lozenge, East Karnak impressions SA 65, SA 79 and SA 80 all contain a motif with two triangles facing in one direction with another triangle facing in the opposite direction between them. Similar designs occur on a scarab from Qau/Badari and one from Matmar.⁷² This triangle motif may be connected with the *nb.ty* motif discussed below (section 5.4.2), but instead of triangles the elements are hemispherical. Given the small size and difficulty of seal engraving, it cannot be certain that there is any significant distinction between the two. Most of these seal impressions are oval and would have been formed from scarabs, but SA 82 and SC 96 are round and may have been made by circular plaques or hemispherical seals.⁷³

5.3 SCROLL AND SPIRAL PATTERNS

Scroll and spiral patterns are especially characteristic of Middle Kingdom seals, in Egypt even more so than in Palestine.⁷⁴ This type of design appears on some 41% of the sealings from Kahun and 32% of the Uronarti sealings (Tufnell *StSc II* p. 86, table 26).

⁷² Qau/Badari: QB I pl. 33 no. 184 and without the striped lozenge no. 176. Matmar: Brunton 1948 pl. no. 76. The triangle motif also appears in connection with a human stick figure (*StSc I* pl. V no. 143). Striped lozenges frequently appear in connection with human stick figures (*StSc I* pl. V nos. 131-139).

⁷³ This is what one would expect. Catharine Roehrig (1975 chart XB) shows that in the Qau/Badari district (including Matmar and Mostagedda), of the 14 examples of "hatched ovals" 12 were from scarabs, one from a round plaque and one from a cowroid seal.

⁷⁴ Tufnell (1975 p. 71) notes that scroll designs are rare at Fara, Ajjul and Jericho, although they do exist. They are more common among the scarabs of the Montet Jar.

Spiral designs are rare among the seal amulets other than scarabs, but do occur, often in connection with floral designs.⁷⁵ Simple scroll designs occur on scarabs throughout the First Intermediate Period (Ward *StSc I* pp. 54-55), starting in Ward's Period Two. Divided by Ward and Tufnell into different categories (2A for simple S and C scrolls; 2B for interlocking spirals and 7 for scroll borders), the scroll and spiral patterns are considered here as a single class. The diversity of types emphasizes Ward's (*StSc I* p. 55) point that all the basic patterns seen in the later spiral and scroll designs already existed in the First Intermediate Period.

Twelve examples of scroll and spiral designs are found among the East Karnak seal impressions; all are simple scroll or spiral designs. Several of these are so damaged or so poorly preserved that little can be said about the overall design, other than that a spiral was included.⁷⁶ East Karnak sealing SC 133 (cat. no. 23) is well preserved and shows a C-scroll centred between two striped lozenges. More common among the East Karnak seal impressions is the S-scroll. In two examples (SC 41 = cat. no. 15 and SC 49 = cat. no. 17), the S-scroll is a major element on one half of a bipartite design divided horizontally at the centre by straight parallel lines. Other design elements are difficult to distinguish

⁷⁵ See BDS pl. III no. 202 and Brunton *Matmar* pl. 33. No. 23 is a button seal with a simple spiral on the base (Dynasty 8). Nos. 51-53 show spirals in connection with floral designs on simple hemispherical seals (Dynasties 9-11).

⁷⁶ These include SC 67, SC 71, SC 99, SC 115 and SC 160.

amongst a seemingly arbitrary mass of lines. Clearer, but not dissimilar examples of this type of design are found on both dome-backed seals⁷⁷ and scarabs.⁷⁸

The relative popularity of the scroll and spiral as decorative elements and the lack of any of the more complicated interlocking spiral designs suggest a late First Intermediate Period date for the East Karnak seal impressions. Dated sealings and scarabs from Thebes prove that by the end of the Eleventh Dynasty well-designed and executed spiralfarm designs were being used on seals. The East Karnak impressions stylistically antedate the seal from the Hekanakhte papyri and the Wah mummy scarab. These designs provide a clear *terminus ante quem* for the East Karnak sealings. On the other hand, the relative popularity or frequency of scrolls and spirals among the impressions would preclude an early First Intermediate Period date.⁷⁹ The connection of these design elements with the scarab form suggests that even those impressions with indistinct or round seal shapes were likely made by scarabs.

5.4 EGYPTIAN SIGNS AND SYMBOLS

Designs evolved from or containing Egyptian hieroglyphic signs and other common Egyptian symbols are frequent among the scarabs

⁷⁷ Brunton *Matmar* pl. 33 no. 50 and Petrie *BDS* pl. VII no. 12.

⁷⁸ MJ 14 (Ward *StSc I* pl. 9 no. 249), *Gurob* pl. 12 no. 2 and *BDS* pl. VI no. 205A.

⁷⁹ Tufnell (*StSc II* p. 116) notes that Ward believed that the simple S-scroll began at the end of his Period Two or in his Period Three.

illustrated by both Ward (*StSc* I pls. 11-13) and Tufnell (*StSc* II pls. 7-20). While similar motifs appear in each series, there is little confusion or overlap between the two periods (*StSc* I p. 23). Tufnell (*StSc* II p. 29) divides this class (no. 3) into some thirty subclasses and further has separate classes for animals and heraldic beasts (class 9) as well as human and mythical figures (class 10). Relatively few of these motifs occur before Dynasty 12, but the examples from East Karnak all fall within the early group of designs. The most frequent motifs from East Karnak, i.e. the Bat fetish and the *nb.ty* design, have been extensively documented by Ward (*StSc* I pp. 56, 68-72). The *k3*, *nṯr* and *nfr* signs are other common hieroglyphic symbols on Egyptian scarabs (*StSc* II p. 117). The East Karnak seal impressions with Egyptian sign or symbol decoration are discussed below in three subtypes: 1) the bat fetish; 2) the *nb.ty* motif: and 3) other Egyptian symbols.

5.4.1 Bat Fetish Motif

Ward (*StSc* I p.55-56) identifies images of Hathor as one of the earliest Egyptian symbols appearing on scarabs, design amulets and cylinder seals. In fact, the full face images of a bovine head with horns curving upward and ears dangling down represent the goddess Bat, who was not assimilated into Hathor iconography until the Middle Kingdom.⁸⁰ The Bat fetish or Hathor emblem appears on

⁸⁰ On the Bat fetish see H.G. Fischer JARCE 1 (1962) p. 11f. and LÄ I cols. 630f. Bat was the goddess of the Seventh nome of Upper Egypt represented on the top of the Narmer palette. Fischer

excavated scarabs from Matmar, Mostagedda, Harageh, Qau and Badari placed in Ward's Periods Two and Three (*StSc I* pl. XI nos. 284-291). The Bat fetish or Hathor emblem would be an appropriate symbol for Egyptian women. While Ward places this motif in class 3, Tufnell (*StSc II* p. 138) assigns it to class 10D2. Tufnell illustrates 22 examples from Tell el-Ajjul, five from Jericho and one from Tell el-Fara South, but none of these are stylistically similar to the East Karnak examples.

Three examples of the Bat fetish appear on the East Karnak seal impressions (SA 70, SC 68 & SC 37). SA 70 (cat. no. 28) depicts an abstract Bat-fetish reminiscent of a floral motif surrounded by spirals. The drooping tendril ears are clear, but the head and two horns have been schematically represented by three loops. This is quite similar to many of the early examples of the Bat motif, which Ward and Tufnell indicate are often very stylized (*StSc I* pl. XI nos. 284-287; *StSc II* p. 116). SC 68 (cat. no. 33) is a straightforward schematized rendering of the motif with clear renderings of horns and ears.

The design on SC 37 (cat. no. 31) is a combination between the Bat fetish and the cross pattern. The design is reminiscent of two opposing Bat heads (with horizontal stripes) with one set of ears and two sets of curving horns. The pre-Dynasty 12 examples of cross patterns given by Ward (*StSc I* p. 57) are all from the Montet Jar or from collections; hence there are no firmly dated pre-

concludes that the *b3t*-emblem did not become firmly identified with Hathor until the Middle Kingdom.

Dynasty 12 examples of the cross motif. SC 37 could be interpreted as a cross pattern with a plant blossom in each quadrant, a design which is characteristic of the Second Intermediate Period (Haynes and Markowitz 1991 nos. 106-107; Tufnell *StSc* II p. 125). Against such an interpretation, it must be stated that the East Karnak example looks much more experimental and less polished than any of the cross designs from Kahun, Uronarti or Palestine (Tufnell 1975 p. 73 & fig. 7 nos. 323-337). Thus, we interpret the design of East Karnak seal impression SC 37 as paired opposing Bat fetish emblems of First Intermediate Period date.

5.4.2 *Nb.ty* Motif

Ward (*StSc* I pp. 68-71) has investigated this motif in detail, concluding that the "true *nb.ty* motif" is characteristic of the First Intermediate Period. This design element consists of two *nb* signs (Gardiner V30 = a basket) joined by a horizontal line with a semicircle "t" (Gardiner X1 = a bread loaf) between them. Motifs found above the *nb* signs are most often branching flowers or papyrus plants and red crowns. Tufnell (*StSc* II pp. 117-8) includes the *nb.ty* motif in her catalogue of designs as class 3A2, but recognizes that the design proper "hardly survives into the Twelfth Dynasty." Variants and derivative forms of the motif, however, do appear in Tufnell's corpus. Such variants include those where the "t" between the *nb* signs is replaced by three vertical strokes and where the base line between the *nb* signs disappears. The red crowns are no longer found in the Middle

Kingdom examples, where the central motif is likely to be a *shen* sign or an S-spiral.

Four examples of the *nb.ty* motif are found on the East Karnak seal impressions (SA 71, SC 16, SC 44 & SC 101). The clearest example is SC 101 (cat. no. 36). While the upper part of the design is not all preserved, the *nb.ty* motif on the bottom is clear. The design above the *nb* signs includes two geometric shapes which correspond to red crowns in other *nb.ty* designs, and which are probably debased examples of this motif, in addition to at least one branching flower. SC 16 (cat. no. 30) is less clear, but has the same sort of design with a *nb.ty* motif at bottom and branching flower above. SA 71 (cat. no. 29) is quite fragmentary with only the bottom part preserved with one *nb*-sign (?) and a trace of the second (?). SC 44 (cat. no. 32) has a variant of the *nb.ty* design with the "t" replaced by a circle. The upper part of the design on SC 44 is a spiral plant motif, examples of which range from the First Intermediate Period to early Dynasty 18 (Ward *StSc I* pp. 70-71, fig. 15). The East Karnak *nb.ty* designs are characteristic of the late First Intermediate Period, but with several variants of the basic pattern the East Karnak examples could date as late as Dynasty 12.

5.4.3 Other hieroglyphic symbols

None of the East Karnak seal impressions exhibit a connected hieroglyphic text containing either a wish, name or title. Individual hieroglyphic symbols do appear, however. SA 69 (cat.

no. 27) appears to have a design with a *wḏ3t* eye (Gardiner D10) with the distinctive cheek marking and tear duct of the falcon. The design is not as clear and well formed as in later examples, but this seems to be a characteristic of the earliest appearances of this sacred symbol at the end of the Old Kingdom and First Intermediate Period (Andrews 1994 p. 43).⁸¹ The *wḏ3t* eye was a protective device that refers to the restored Eye of Horus that had been plucked out by his rival Seth. Although frequently connected with the dead, it was also appropriate to express health and "wholeness" to the living, and is found in paired designs on the seal impressions from Kahun and Uronarti (Tufnell 1975 fig. 6 class 3B4).

The signs for life (*'nh* = Gardiner S34) and goodness (*nfr* = Gardiner F35) frequently appear among the First Intermediate Period scarabs (Ward *StSc I* pls. 11-13). The *ankh*-sign has an oval element at the top and the *nefer*-sign has an oval element at the bottom. There are differences in the placement of the cross-bar as well, but on the small seals and seal impressions of the First Intermediate Period it is often difficult to know which way is up and hence which sign is represented (Ward *StSc I* p. 56). SC 86 (cat. no. 35) is an excellent example of this confusion. What are described in the catalogue here as *nefer*-signs could, in fact, be

⁸¹ For examples see *QB I* pl. XXXII no. 84 and Andrews 1994 p. 10, fig 4i. Ward (*StSc I* p. 55) does not include any examples of the *wḏ3t* eye motif among First Intermediate Period scarabs, but notes that it appears on design amulets. Tufnell (1984 p. 120) notes that "Horus eyes" appear in Palestine on scarabs from Megiddo, Jericho and Tell el-Ajjul.

ankh-signs. In addition to the placement of the crossbar, the presence of the hieroglyphic sign of god (*nṯr* = Gardiner R8) argues for *nefer*. However, the central rectilinear design could be reconstructed as a floral motif, with the *netjer*-sign actually being a drooping blossom enclosing an *ankh*-sign. With even less of the design preserved, SC 70 (cat. no. 34) is even more problematic; the central motif could be interpreted as back to back *netjer*-signs. The *netjer*-sign (Gardiner R8) is emblematic of divinity and is composed of a pole with a cloth standard flying at the top.

The hieroglyphic sign for soul or vital life force (*k3* = Gardiner D28) is formed by a pair of forearms set vertically on horizontally laid upper arms. It frequently appears on First Intermediate Period scarabs in association with both *nefer* and *ankh* (*k3-ṯnh* & *k3-nfr*).⁸² SC 113 (cat. no. 39) preserves a fragment of a similar design; this would suggest a reconstruction of a more oval shape with a scarab back type. Not enough of the design is preserved, however, to be certain of any reconstruction.

As a group, the East Karnak seal impressions with hieroglyphic signs and symbols fall squarely within the First Intermediate Period tradition, even if they cannot be paralleled design by design. By Dynasty 12 one would expect to find private and royal names, titles and inscriptional formulae of various types on contemporary seal impressions.

⁸² Ward *StSc* I p. 56 and nos. 277 & 282 from Mostagedda on pl. XI. These motifs also appear on the Montet Jar scarabs MJ 20, 24 & 25.

5.5 ROSETTE PATTERNS

Although rosettes appear in the Ward-Tufnell compilation of scarab designs (*StSc I-II*), they are not accorded a separate class. Ward (*StSc I* pl. IV no. 118) places a rosette from Gurna (Period Two) in his class 1B Geometric Design. Otherwise rosettes are discussed by Ward (*StSc I* p. 57) and Tufnell (*StSc II* p. 125) in connection with class 5 "Cross Patterns."⁵³ These class 5 "Cross Patterns" must be distinguished from the linear cross patterns discussed in section 5.2.1. The class 5 designs are spiral cross patterns,⁵⁴ connected by their spiral volutes to many of the floral patterns of class 1E.⁵⁵ Ward's class 5 examples (*StSc I* p. 57, pl. 15, nos. 368-374) are all from the Montet jar or from the Matouk collection. Since these designs are very similar to those found on impressions from Kahun and Uronarti and Palestinian seals from Jericho and Tell el-Ajjul, there is no evidence for the spiral cross design in pre-12th Dynasty Egypt.⁵⁶

⁵³ O'Connor (1985 pp. 22-24) also deals with "Cross patterns" in his class J.

⁵⁴ *BDS* pl. 8 nos. 265-277 are labelled by Petrie as "cross spirals." On *BDS* p. 15, Petrie states "this group 262-267 is placed with button seals as showing the late change of their style, though not actually buttons."

⁵⁵ Ward *StSc I* p. 57 notes that the "design in its simplest form consists of plants and volutes arranged in a cross (368-370) which then takes on many variations such as replacing the volutes with concentric circles (371) or spirals (372-373). Tufnell (*StSc II* p. 125 fn. 38) notes that three of the Montet Jar scarabs were transferred from class 5 to class 1 E floral motifs.

⁵⁶ Ward and Tufnell admit that the cross pattern is "sparsely represented before the Twelfth Dynasty" (*StSc I* p. 57) and "rare before the period of the Montet Jar" (Tufnell 1975 p. 72).

The spiral cross design was early recognized as belonging to the late Middle Kingdom/Second Intermediate Period. In 1925 Petrie (*BDS* p. 16) wrote:

The cross with curled diagonals 261-268 is a distinct type, well dated by the ladder legs, which are the degradation of the featherings on the legs to a row of parallel strokes. This is a fashion which arose under Sebekhotep II... as the work of these is fairly good they must be assigned to the middle of the XIIIth and 265 coming from Kahun agrees with such a period.

Rosettes and spiral crosses do occur on Egyptian seals from the Middle Kingdom and later;⁸⁷ they are frequent among the Late Middle Kingdom sealings of Kahun and Uronarti (Tufnell 1975 class 5). Tufnell (1975 p. 73) notes that "versions of the cross pattern becoming almost a rosette at Kahun and Uronarti are clearly distinguishable from all those to be seen in the excavated series." By "excavated series" Tufnell means a number of sites in Syro-Palestine, principally Jericho, Megiddo, Ruweise, Tell el-Fara (South) and Tell el-Ajjul, where stratigraphy and ceramics can aid in establishing a scarab sequence. The implication is that the rosette version of the cross spiral design is more characteristic of Egypt than of Syro-Palestine.

The seven East Karnak sealings with rosettes⁸⁸ considerably strengthen the connection of this motif with Egypt. They are not particularly close to the cross spiral designs of Kahun and

⁸⁷ See for example *Abydos II* pl. 37 from "T top"; *Riqqeh and Memphis VI* pl. 17 no. 60 and no. 26; and *Harageh* pl. 21 nos. 145-6.

⁸⁸ Several are so fragmentary that the rosette design is more a suggestion than a fact. They form nos. 40-47 in the catalogue: SC 45, SC 46, SC 73, SC 74, SC 89, SC 159, SC 164 and SB 21.

Uronarti or even to the simple rosette designs from these sites."⁸⁹ The East Karnak rosette designs have a centre formed by two small concentric circles.⁹⁰ From this centre along the long axis of the oval extend opposing pairs of spiral tendrils. Small leaves project from the centre along the short axis of the oval. The closest published example to the East Karnak rosette design comes from Tell el-Yahudiyeh (Petrie 1906 pl. 9 no. 145). Unlike the East Karnak examples, the Tell el-Yahudiyeh scarab has plants on stems along the long axis. Whereas the East Karnak example has spiral volutes, the Tell el-Yahudiyeh scarab has a concentric circle set in each quadrant formed by the plant design. It would be dubious, therefore, to date the East Karnak sealings on the basis of the Tell el-Yahudiyeh scarab.

The rosette designs are a unique feature of the East Karnak sealings, dated by their context to the First Intermediate Period. They were not all made with the same seal since there are differences in size and in subsidiary design elements. Because of the fragmentary nature of the East Karnak sealings, it is not even certain that all these sealings originally had rosette designs, but stylistically they are similar. It is possible that they should be connected with a special place or office at Thebes. Perhaps the

⁸⁹ See *Kahun* pl. 10 no. 167. For Uronarti see Reisner (1955 p. 61) nos. 209-210 (nos. 202-208 are more elaborate rosettes) or Reisner (1930 p. 53) nos. 28-29 (nos. 21-27 are more elaborate rosettes). Tufnell 1975 does not include the simple rosettes in her comparison of the sealings from Kahun and Uronarti.

⁹⁰ This concentric circle centre is also found on the scarab illustrated in *Qurneh* pl. 12 from grave A15 (= *StSc* I no. 118).

seals they were made with were of some perishable or precious material and hence have not survived. One item in our catalogue (no. 41 = SC 46) may be a stamp rather than a sealing. It is a cigar-shaped clay cylinder with a rosette design on each end. The designs are worn. Conceivably the designs could have been made by impressing the clay cylinder while still moist against an object in wood or metal with the rosette design. Once dried and hardened, the SC 46 clay cylinder could have been used to impress the rosette design on wet mud.

5.6 CORD PATTERNS

Cord patterns are included in Ward and Tufnell's design class 6 'Coiled and "Woven" Patterns' (StSc II pp. 125-127). These are characteristic of the Late Middle Kingdom and Second Intermediate Periods. Ward (StSc I p. 58 and pl. 15 nos. 375-381) includes seven examples in his Periods Three and Four, but their pre-Dynasty 12 date is doubtful.⁹¹ However, a hemispherical plaque from Gurob⁹² suggests that the cord patterns may begin before Dynasty 12. This is the opinion of Haynes and Markowitz (1991 no. 14), who state that "the coiled, interwoven pattern with a central reef knot" is a popular motif during the late Dynasty 11-early Dynasty 12 period, as well as in the subsequent Second Intermediate Period. The identification of the reef knot on East Karnak sealing SC 66

⁹¹ Four are from the Montet Jar and the others are from museum collections.

⁹² Gurob pl. 12 no. 1 (195b), also illustrated in BDS pl. VI no. 126A.

(cat. no. 48) is based on this example."⁹³ The lack of any clearly defined border on the East Karnak sealing makes interpretation problematic, with the possibility remaining that this impression may not have been made by a seal, but by an actual string cord knot.

Cord patterns are common among the Uronarti sealings, and occur in many Late Middle Kingdom and Second Intermediate Period contexts."⁹⁴ The reef knot motif is less common, but does occur."⁹⁵ None of the comparable examples are as naturalistic as East Karnak seal impression SC 66. The trend is for cord designs to become more formulaic, symmetrical and controlled. East Karnak SC 66 may be a very early example of the motif or it may really be an impression of a knot. The other East Karnak examples are equally inconclusive. Sealing SC 76 (cat. no. 49) depicts a casually looped cord that also looks natural. Sealing SC 116 (cat. no. 50) depicts a rigidly controlled loop, looking much more like an artificial pattern. None of the three East Karnak cord designs are stylistically similar to the Second Intermediate Period cord

⁹³ Note that the Haynes and Markowitz (1991 no. 14) reference to pl. XV for Jericho scarabs in *StSc I* is wrong. These scarabs are illustrated in *StSc II* pls. XXIV-XXV.

⁹⁴ Abu Ghâlib 1933:4016; 1934:110; 1934:112; *Harageh* pl. 20 no. 92; *Riqqeh and Memphis VI* pl. 17 no. 30; *Sedment I* pl. 43 no. 3; *Matmar* pl. 43 no. 30; Tufnell (1975 figs. 8-9 = class 6).

⁹⁵ *Kahun* pl. 8 no. 64; Dunham 1967 fig. 12 nos. 60 & 79 (from Mirgissa); Reisner 1930 p. 53, fig. 7 nos. 8-9 (from Uronarti, also illustrated on pp. 60-61 in Reisner 1955 nos. 182 & 186).

designs;⁹⁶ context places the East Karnak examples in the First Intermediate Period.

5.7 FINDINGS

The East Karnak seal impressions with their floral rosette designs and numerous scroll and spiral motifs fall within the later First Intermediate Period. The Egyptian seal design repertoire of the early First Intermediate Period was dominated by linear designs, but in the late First Intermediate Period/Dynasty 11 era floral motifs, Egyptian symbols and scrolls along with spirals gain ascendancy.⁹⁷ Overall, the East Karnak impressions form a coherent group of designs. As would be expected, some designs are a bit earlier than others, some designs are more long-lived than others and stylistically the East Karnak impressions have their own unique character.

Given the changing nature of the Egyptian seal designs in the First Intermediate Period, the proportion of different design types represented by the East Karnak seal impressions provides an indication as to how homogeneous a group is represented. The following table has been adapted from Table IV in Ward 1978 p. 52. It compares the percentages of the different design classes used by Ward (*StSc I*) and Tufnell (*StSc II*) for the East Karnak seal

⁹⁶ The typical Second Intermediate Period cord design has either a small circle or crossing of strands at the centre.

⁹⁷ Ward (*StSc I* p. 37) notes that "designs 1A-1D are more often found in the earlier periods on smaller-sized scarabs, designs 1E-7 in the later periods on larger-sized scarabs."

impressions with those from First Intermediate Period (FIP) scarabs, the Montet Jar scarabs and scarabs from Dynasties 12-13 and Dynasty 15.

DESIGN CLASS PERCENTAGES	FIP	East Karnak	Montet Jar	Dyns. 12-13	Dyn. 15
1. Linear Patterns	71.5	29.6	17.0	4.5	4.0
2. Scrolls & Spirals	7.5	18.5	25.5	5.5	5.5
3a. Egyptian Symbols (earlier)	19.5	18.5	13.5	--	--
3b. Egyptian Symbols (later)	--	--	--	43.0	42.5
4. Concentric Circles	--	--	32	4.5	7.5
5a. Cross Patterns	0.5	1.9	6.5	3.0	1.5
5b. Rosettes	--	14.8	--	--	--
6. Coiled Patterns	0.5	1.9	--	--	--
7. Scroll Borders	0.5	--	--	12.5	6.0
8. Rope Borders	--	--	--	7.0	2.0
9. Animal figures ⁹⁸	--	--	--	4.0	7.0
10. Human figures	--	--	--	4.5	9.5
11. Names & Titles	--	--	--	2.0	3.0
12. Unclassed	--	14.8	--	4.5	5.0
Total nos. (percentage)	359 (100)	54 (100)	75 (100)	499 (100)	634 (100)

The chronological groupings follow Ward's dating and are questionable. Still the pattern differentiating the design repertoire of the First Intermediate Period from that of the late

⁹⁸ Although Ward (StSc I pl. VI) includes scarab MJ 5 with a double antelope design in class 1D, Tufnell (StSc II pl. XXXVI) includes the same scarab in her class 9 (Animals and heraldic beasts).

Middle Kingdom and Second Intermediate Period is clear. Egyptian symbols (class 3), names, titles, animal and human figures, as well as scroll and rope borders predominate in the Late Middle Kingdom and Second Intermediate Period, but are conspicuously absent from the East Karnak seal impressions.

According to the percentages of design types, the East Karnak seal impressions are placed between the overall First Intermediate Period average and the figures for the Montet Jar scarabs. This is what might be expected for a group dated to Ward's Period Three in the late First Intermediate Period (2100-2025 B.C.). Although linear designs dominate the First Intermediate Period as a whole (71.5%), Ward (*StSc I* p. 37) indicates that by Period Three classes 1A-1D form only 17% of all designs. Floral motifs (class IE) should be popular in Ward's Period Three; only if one counts the East Karnak rosettes as floral motifs would this be so, and even then they would not exceed 19% of the total. The 17% given by Ward (*StSc I* p. 37) for scroll and spiral designs (classes 2A, 2B & 7), however, accords well with the 18.5% found among the East Karnak seal impressions. Likewise, the 18.5% for Egyptian symbol designs (class 3) at East Karnak corresponds closely with Ward's 19.5% figure for the whole First Intermediate Period, as do small numbers of cross and coiled pattern designs. The presence of a substantial portion of unclassified designs at East Karnak complicates this comparison, since Ward does not include a miscellaneous or unclassified category.

The validity of the comparison is also determined by the

design categories chosen. The success of our categorization of the designs from the East Karnak seal impressions according to Ward's iconographical system is, on the one hand, a verification of the system's usefulness. On the other hand, a number of serious weaknesses in the system have been revealed by the process. The most significant problem is that class 1E, comprising floral motifs characteristic of the late First Intermediate Period is subsumed under class 1 (linear patterns); classes 1A-1D are characteristic of the early First Intermediate Period. Subtypes are either lacking in several places where they would be useful or not provided with separate notations. For example, no subtypes for class 1B (geometric patterns) are provided, yet the above discussion of linear designs (section 5.2) shows that these would be useful. Likewise, Ward (*StSc* I p. 68) lists various subtypes of the *nb.ty* motif, but these are not given individual notation. The confusion between early and late examples of class 3 is clearly understood in Ward and Tufnell's text, but would have been clarified if the distinction had been expressed through the class notation as well.

The major problem with the design classification system used in *Studies on Scarab Seals* is that Ward simply adopted the system developed in great detail by Tufnell for Middle Bronze Age scarabs (chiefly from Palestine). Although sound in basic structure, the system needs some minor modifications to adequately deal with the First Intermediate Period Egyptian seal design repertoire. Ward (1994 p. 196) notes that the typological system he and Tufnell

devised is not simple, but blames this on the nature of the material.” In fact, when presented with illustrations to scale and the basic data in chart form, as with the scarab designs illustrated by Ward *StSc I* on pls. 1-XVI, the system is easy to follow. But to understand the development of design motifs and the designs on the East Karnak sealings, the designs on non-scarab amulets need to be considered as well. Ward mentions seal amulets with other back types and even illustrates some in his fig. 10 (*StSc I* p. 50), but does not incorporate them into his typology. Again, this can be explained by his conforming to standards set by Tufnell (*StSc II*), whose study was limited to scarabs.

” Ward (1994 p. 196) says that "it is impossible to produce an easy-to read-dating chart which has all the facts illustrated on one quick-reference diagram."

6. THE MONTET JAR AND THE EAST KARNAK SEALINGS

Although previous discussion has focussed on the Egyptian context of the East Karnak seal impressions, the impact of Middle Bronze Age scarabs from Syro-Palestine cannot be ignored. Much of the typological and chronological understanding of scarab evolution developed by Ward (*StSc I*) and Tufnell (*StSc II*) depends on archaeological evidence from the Levant, where stratified sites provide a relative sequence for scarab development (Ward 1987 p. 508). Comparisons of design motifs and seal length have indicated that the earliest scarab group from Syro-Palestine, the Montet Jar seals from Byblos, shows distinct affinities with the seal impressions from East Karnak. Unfortunately, the Montet Jar is not securely dated by its archaeological context and interpretations of its date and context have varied. Despite similarities in the types of designs represented, as a group the Montet Jar scarabs represent a different situation from that exhibited by the East Karnak seal impressions and cannot be used to help refine the latter's date.

6.1 Archaeological Context and Date of the Montet Jar

The Montet Jar was found in an unclear stratigraphic context, standing upright against a foundation wall in the sand above an ash layer in the Baalet Gebel complex at Byblos (Tufnell and Ward 1966 pp. 165-166); it is named after its discoverer, Pierre Montet, who excavated at Byblos during 1921-1924 (Montet 1928-29). The excavators of Byblos carefully recorded the

absolute level asl (above sea level) for their finds (Schaeffer 1948 pl. XVIII), but are weak as to the actual stratigraphy; they dated the temple structure above the Montet Jar to the Middle Kingdom, but other scholars have suggested a much later (Persian Period) date for this structure (Tufnell and Ward 1966 p. 166). In a reexamination of the stratigraphy at Byblos, Saghie (1983 pp. 50-52) placed the Montet Jar in her Phase 8 (Stratum H) belonging to the second millennium, above the ash layer (Stratum J) of the late third millennium. Due to disturbances from erosion and deep foundations dug for Roman and Crusader structures, the archaeological context of the Montet Jar cannot provide clear dating evidence.

The date of the Montet Jar depends chiefly on the stylistic dating of the jar's contents from parallels. The contents of the jar show affinities with both Early and Middle Bronze Age material culture in Syro-Palestine, as well as First Intermediate Period/Middle Kingdom Egypt and the Ur III Period in Mesopotamia. This range of dates is in itself an unusual characteristic of the Montet Jar. In their initial study of the jar's contents Ward and Tufnell (1966 p. 227) tended to take a middle road and dated the jar to the Herakleopolitan Period in the late First Intermediate Period (ca. 2130-2040 B.C.). Ward (StSc I p. 2) later (1978) admitted that the "scarabs would never have been placed before the Twelfth Dynasty had they been discovered alone." Viewed from the context of scarab development, Ward (1978 pp. 37-53 and 1987 p. 509) placed the Montet Jar scarabs

after the Herakleopolitan age and before Dynasty 12. Thus, Ward (StSc I p. 9) dated the Montet Jar scarabs to Dynasty 11 in the second half of the 21st century (2050-2000 B.C.).

As research has continued, the date of the Montet Jar slowly has been pushed forward in time. Methodologically, the jar's date must be determined by the latest material found inside it. Scholars¹⁰⁰ generally feel that latest objects in the Montet Jar would be the three Mesopotamian cylinder seals connected by Porada (1966 p. 256) to second millennium B.C. parallels (late 20th to mid-19th century B.C., cf. Gerstenblith 1983 p. 40). Saghieh (1983 p. 50 n.65) in her reevaluation of the Byblos stratigraphy indicates that the Montet Jar can be dated no earlier than the 20th century B.C. Subsequently Tufnell (1984 p. 194) and Ward (1987 p. 512 and 1994 p. 198) have accepted an early Dynasty 12 date (1991-1950 B.C.) for the Montet Jar scarabs.

6.2 Montet Jar and East Karnak Seal Designs

The Montet Jar seals are similar in many ways to the East Karnak seal impressions. Both groups include designs that are typical for the First Intermediate Period (see figure 6.1 as well as table on p. 124). The linear patterns associated with the First Intermediate Period form ca. 30% of the East Karnak sample and 17% of the Montet Jar sample. Each group contains one clear

¹⁰⁰ Ward (1987 p. 512) notes that "all scholars are agreed that the latest non-Egyptian objects are the three cylinder seals to which Porada devoted a special study."

EAST KARNAK

A. STICK FIGURE

cat. no.1 (SA 78)
12-15 mm diameter



B. STRIPED LOZENGE WITH ZIG-ZAG LINES

cat. no. 6 (SA 80)
10 mm in length



C. FLORAL DESIGN

cat. no. 32 (SC 44)
10-11 mm in length



D. SCROLL/SPIRAL DESIGN

cat. no. 17 (SC 49)
17 mm in length



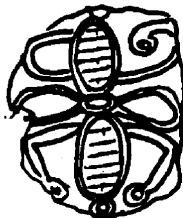
E. NB.TY DESIGN

cat. no. 36 (SC 101)
15-16 mm in length



F. CROSS PATTERN

cat. no. 31 (SC 37)
12 mm in length



G. COILED PATTERN

cat. no. 48 (SC 66)
no outline of seal



MONTET JAR

A. STICK FIGURE

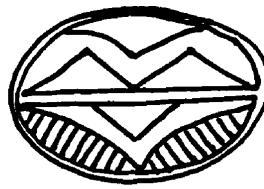
MJ 25 (StSc I no. 334)
14 mm in length



B. STRIPED LOZENGE WITH ZIG-ZAG LINES

MJ 6 (frog-backed seal)
Syria 43 (1966) fig.2

12 mm in length



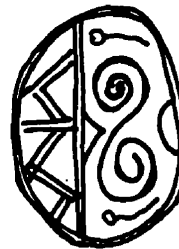
C. FLORAL DESIGN

MJ 3 (StSc I no. 190)
10 mm in length



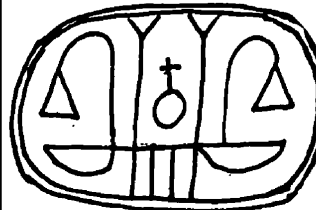
D. SCROLL/SPIRAL DESIGN

MJ 14 (StSc I no. 249)
12 mm in length



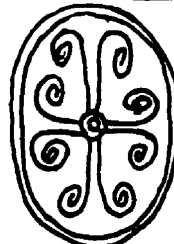
E. NB.TY DESIGN

MJ 25 (StSc I no. 334)
14 mm in length



F. CROSS PATTERN

MJ 62 (StSc I no. 373)
15 mm in length



G. COILED PATTERN

MJ 69 (StSc I no. 376)
19 mm in length



Figure 6.1: Comparison of Designs from East Karnak with Designs from the Montet Jar Seals.

example of a human stick figure.¹⁰¹ Scrolls and spirals form 19% of the East Karnak example and 26% of the Montet Jar sample. Looked at more closely, the Montet Jar designs from classes 1B-1D form only a small percentage (7% by my calculations). Floral and scroll designs together (classes 2A, 2B and 1E) form about a third (34%) of the Montet Jar designs. Scarabs comprise the majority of seals in the Montet Jar group, but other seal types such as two frog-shaped seals and a number of round hemispherical seals are included as well (Tufnell and Ward 1966 fig. 2); this situation is similar to that reconstructed in section 4.9 for the East Karnak seal impressions.

Both the East Karnak seal impressions and the Montet Jar seals contain design types not found in the other group. The East Karnak sample contains about 15% rosette designs; we have suggested in section 5.5 that the rosette designs may be a local Theban design transitional between the floral motifs characteristic of the First Intermediate Period and the cross patterns characteristic of the Second Intermediate Period. The Montet Jar sample contains about 32% concentric circle designs.¹⁰² The concentric circle designs are stylistically distinct from anything in the East Karnak design corpus.

O'Connor (1985 p. 40) considers the presence of concentric circle

¹⁰¹ From East Karnak, SA 78 (cat. no. 1) and from the Montet Jar, MJ 2 (Ward *StSc I* pl. V no. 132). MJ 2 is closely paralleled by another scarab from Byblos (Ward *StSc I* no. 131).

¹⁰² Ward 1978 p. 44 confirmed by my own calculations. A 26% figure is given by Ward (*StSc I* p. 40) and Tufnell (*StSc II* p. 124).

decoration on the Montet Jar scarabs as "a good indication of a later Dynasty XIII, and certainly not of a Dynasty XI or Dynasty XII date."¹⁰³

The interpretation of the Montet Jar scarabs raises the same types of questions as our study of the East Karnak seal impressions. Does one accept all the Montet Jar seals as being contemporary with each other, forming a consistent group or is there a mix of seals from a range (EB and MB) of dates? Despite acknowledged affinities with First Intermediate Period material, O'Connor (1985 pp. 38-40) dates the Montet Jar group as a whole to Dynasty 13. His argument is complicated by the fact that typological attributes assigned to Dynasty 12 by Ward are placed in Dynasty 15 by O'Connor; the relative sequence is not as much at question here as the absolute date. In acknowledging First Intermediate Period seals among the Montet Jar group, albeit in diminishing proportions, while at the same time arguing for a Dynasty 13 overall date, O'Connor implicitly supports an interpretation of a long range of dates for the Montet Jar seals.

Ward (1978 p.48) argues that the Montet Jar scarabs form a coherent group, not only because they were found together in a single deposit, "but because they were manufactured in the same general time period." In treating the Montet Jar seals as a consistent group, Ward perforce argues for early date for the

¹⁰³ The dating of concentric circle decoration to the Hyksos Period goes back to the work of Petrie (*BDS* p. 15). Brunton *QB III* p. 12 states that "scarabs with concentric circles (73-76) are a well known type in use just before, and perhaps after, the beginning of the xviiith dyn."

concentric circle decoration. Ward (1978 p. 44) admits that the concentric circle designs more than any other feature have led to the belief that the Montet Jar scarabs date to the late Middle Kingdom. Furthermore, by his own admission (Ward 1987 p. 509), Egyptologists have remained largely unconvinced by Ward's argument.

Ward's basic argument for an early date for concentric circle decoration is weak, consisting of just a few Middle Kingdom examples from Qau and Matmar.¹⁰⁴ Ward (*StSc* I pl. XIX. 343-367) lists and illustrates concentric circle decoration only from Montet Jar scarabs and one unexcavated example from the British Museum. Ward (1978 pp. 46-47) suggests possible Cycladic influence because the Montet Jar concentric circles are frequently joined by connecting lines in a way reminiscent of pottery designs of the EB II period in the Aegean. Although simple concentric circles appear occasionally on Middle Kingdom scarabs, it is not until the Second Intermediate Period that we see the characteristic concentric circle designs (Tufnell *StSc* II pls. XXI-XXII). The Montet Jar concentric circle designs are undoubtedly early examples of this pattern.

If there were a distinctive difference in size between the scarabs with concentric circle decoration and those with the linear designs characteristic of the First Intermediate, it would support the interpretation of the Montet Jar seals as covering a range of dates. The lengths of the concentric circle decorated

¹⁰⁴ *QB III* pl. IV nos. 15-17 and *Matmar* pl. XLIII.14.

scarabs, however, fall well within the range and averages of the other design types in the Montet Jar. The largest design class are the coiled and cross pattern scarabs (StSc classes 5 and 6), which other than the concentric circles would be expected to have the latest dates.¹⁰⁵ The lengths of the Montet Jar seals not only support their interpretation as an internally consistent group, but also place this group before Dynasty 13 when there was a significant increase in scarab length (O'Connor 1985 p. 10).

The range and average lengths of scarabs from the Montet Jar and from the East Karnak seal impressions are given in the following table:

SEAL DIMENSIONS BY DESIGN CLASS				
DESIGN CLASSES	East Karnak		Montet Jar	
	range	average	range	average
1. Linear Patterns	8-15 mm	11.5 mm	9-19 mm	13.8 mm
2. Scrolls & Spirals	8-12 mm	11 mm	8-21 mm	13 mm
3a. Egyptian Symbols (earlier)	9-18 mm	13.3 mm	9-23 mm	13.8 mm
4. Concentric Circles	--		12-14 mm	13.2 mm
5-6. Cross and coiled Patterns	14-16 mm	15 mm	12-19 mm	17 mm
5b. Rosettes	10-15 mm	11.6 mm	--	
Unclassed	10-12 mm	11.3 mm	--	
Total nos.	54 seal designs		75 scarab designs	

For every design type, the Montet Jar scarabs have a higher range and higher average length than the seals that made the East

¹⁰⁵ The coiled and cross design seal impressions from East Karnak are also the largest of all the design classes.

Karnak impressions. In each case the East Karnak dimensions fall within the norms seen in the First Intermediate Period, whereas the Montet Jar scarab dimensions are just over what one would expect for the First Intermediate Period. Ward (1978 p. 47) uses these average dimensions to argue that the Montet Jar scarabs should date just after the First Intermediate Period. The alternative explanation that the Montet Jar scarabs contain a mixture of earlier and later material is not supported by the internal consistency they show as a group.

6.3 Interpretation of Montet Jar Deposit

The Montet Jar scarabs do not form a group in the same way that seals and impressions from other excavations do, whether they be from funerary, administrative or domestic contexts. The 66 scarabs from the Montet Jar are only a few of the nearly thousand objects, including a bronze mirror, beads, pendants, figurines and metal (bronze and silver) jewelry found stored in a single jar (Tufnell *StSc* II p.3). This collection was not made randomly by many individuals representing the trends of their era, but must have been selected for some purpose by a single individual or a small group. We do not know the purpose for which these objects were collected; they may have been a dedication within the temple precinct or a treasure hoard buried under the floor of the temple. Ward and Tufnell (1966 p. 217) suggest that the objects in the Montet Jar may have been collected on account of their material; the preponderance of

metal objects, often broken or unfinished, leads them to suggest that the Montet Jar may have formed a "jeweller's private stock."¹⁰⁶

There is no adequate explanation for the sudden unexpected preponderance of concentric circle designs among the Montet Jar scarabs. Even Ward (*StSc* I p. 40) invokes personal preference, saying that "there was some factor of which we are unaware which dictated the composition of this group; this may be no more mystifying than that whoever put the collection together happened to like this particular type of scarab." It is not surprising that Byblos should have some of the earliest scarabs in Syro-Palestine; Byblos is well known as a centre of Egyptian influence in the region. Other scarabs with First Intermediate Period designs have been uncovered at Byblos.¹⁰⁷

There were strong connections between Byblos and Egypt in both the Old and Middle Kingdoms; the trade in luxury goods and raw materials (cedar from Lebanon, gold from Egypt) depended largely on royal exchanges. These trading connections seem to have been interrupted during the First Intermediate Period.¹⁰⁸

¹⁰⁶ Quoted by both Ward (*StSc* I p. 36 n. 118) and O'Connor (1985 p. 32).

¹⁰⁷ See *StSc* I nos. 131, 186, 195, 321, 326, 337, noted in Ward 1987 p. 509, fn. 10. They are from Dunand's excavations (*Fouilles de Byblos I-III*, Paris 1939-1958).

¹⁰⁸ The Admonitions of Ipuwer record a time when "None indeed sail northward to Byblos" (Lichtheim 1973 p. 152; Faulkner 1973 p. 214). Redford (1992 p. 66 fn. 47) notes that "Van Seter's date in the Second Intermediate Period (*JEA* 50 [1964], 13-23) has long since been rejected." Thus, the historical milieu of this text reflects the situation in the First Intermediate Period (between

There is a lack of source material on both Byblos and scarabs for early Dynasty 12, but by the reign of Ammenemes III Byblos was "back in the Egyptian fold" (Redford 1992 pp. 96-97) and Phoenician craftsmen in Byblos were working in the Egyptian style (Smith 1981 p. 207). The possibility should be considered that some or all of the Montet Jar scarabs may have been made in Byblos.¹⁰⁹ It is even possible that the concentric circle decoration was an innovation of the Byblos seal-cutters that only later became popular in Egypt. Certainly most of the MBIIB-C/Dynasty 15 period scarabs found in Palestine would have been manufactured there (Kemp 1983 p. 157).

In the absence of any firm evidence, the interpretation and date of the Montet Jar scarabs remain somewhat subjective. We cannot accurately gauge the impact of the selection on the seals found in the jar, nor can we control for regional differences in either style preference or manufacture. Both the seals from the Montet Jar and the East Karnak seal impressions give every indication of forming coherent groups. The Montet Jar scarabs are later as group than the seal impressions from East Karnak; a late Dynasty 12/Dynasty 13 date is reasonable for the Montet Jar scarabs. At this period some of the Montet Jar seals would be long out-of-date in Egypt proper, while others would be harbingers of new design styles; some may be Egyptianizing

Pepi II and Dynasty 11).

¹⁰⁹ This possibility was discussed by Kemp and O'Connor, cf. O'Connor 1985 p. 32, fn. 51.

rather than true Egyptian artifacts. This sort of situation is not unexpected when comparing material from Egypt with that found in neighbouring lands.

Without a securely dated context and with the questions of the date and means of transmission of scarabs from Egypt to Syro-Palestine unresolved, the Montet Jar seals cannot be used to establish a date for the East Karnak seal impressions. The similarities in types and proportions of designs, however, support the interpretation that both the East Karnak seal impressions and Montet Jar seals are internally coherent groups and not mixes with examples of widely varying dates.

7. CONCLUSION

The key to understanding the significance of the East Karnak seal impressions is their date. This has been reliably established as the late First Intermediate Period according to both the iconography and style of the designs and the dimensions and shape of the seals that made the impressions. This late First Intermediate Period date corresponds with the evidence we have from the pottery associated with the seal impressions and their archaeological context. Broadly speaking, this places the East Karnak seal impressions between the cylinder seal impressions characteristic of the Archaic and Old Kingdom periods and the Middle Kingdom seal impressions with names and titles known from such sites as Kahun and Uronarti. More specifically, the East Karnak seal impressions provide some of the best evidence we have for the use of design amulets and early scarabs with design decoration as actual seals. Hitherto Egyptian seals were thought to have been characterized by hieroglyphic inscriptions. The East Karnak seal impressions change this picture; they show that the geometric, floral and spiral designs characteristic of the First Intermediate period were not only used on jewelry or amulets, but were also used on functioning seals.

7.1 East Karnak Seal Impression Designs

The designs on the East Karnak seal impressions fall into six classes and a miscellaneous group: 1. Human figures (3

examples); 2) Linear designs (11 examples); 3. Scroll and spiral patterns (12 examples); 4. Egyptian signs and symbols (13 examples); 5. Rosette patterns (8 examples); 6. Cord designs (3 examples); and 7. Unclassed designs (8 examples). Based on the preponderance of oval shapes and the designs, it is a logical inference that the majority of the East Karnak sealings were made by scarabs. But indications of shape and design suggest that other back types were also used in making the East Karnak sealings. In terms of seal dimensions, the East Karnak seal impressions fit better with the overall First Intermediate Period than they do with either the early or late First Intermediate Period.

The East Karnak seal impressions give every indication of forming a coherent group rather than a mix. It is difficult to set reliable criteria for this judgement, which thus remains fairly subjective. One can pick out some pieces that may be a bit earlier or later than the majority, but the attempt remains unconvincing. For example, the earliest design types among the East Karnak seal impressions may be the cross and chevron designs of SC 102 (cat. no. 12) and SC 104 (cat. no. 14) and the maze-like pattern of SA 81 (cat. no. 7). These were all made by squarish or rectangular shaped seals, which is another indication of an early date. They are not among the smallest seals used for the East Karnak impressions, which is an indication that they may not be among the earliest examples of their design types.

A number of design types continue from the First

Intermediate Period through to the Second Intermediate Period, making dating by design alone difficult. A good example of this is SA 65 (cat. no 4) with an "x" metope design including zig-zag lines and striped lozenges; similar designs appear on scarabs dated from Dynasty 9 to Dynasty 16. Style and size both support a First Intermediate Period interpretation of the designs with longer life spans. The average dimensions for all the East Karnak design types fit within the norms of the First Intermediate Period seals.

According to their iconography, the latest designs to appear among the East Karnak seal impressions are versions of cross patterns and coiled or woven designs. These are also among the largest designs in size. All of the cross or coiled designs from East Karnak are problematic; there is no clear example of a Second Intermediate Period design among the East Karnak seal impressions. For example, SC 37 (cat. no. 31) has a cruciform pattern, but is related to the Bat or Hathor fetish designs. The rosette designs (sections 4.5 and 5.5) are likewise variants of a cruciform design, but are related to the floral motifs of the late First Intermediate Period. If made by seals, the cord patterns (sections 4.6 and 5.6) would likely be Middle Kingdom in date; it is more probable that the East Karnak examples were actually made by real string cords.

Although impressions from the same seal sometimes seem to be repeated on individual pieces of clay, only rarely is the same design repeated on different clay sealings. In fact, the only

examples of repeated use of a seal on different East Karnak impressions are SA 79 (cat. no. 5) and SA 80 (cat. no. 6). SA 79 is also a good example of multiple impressions by the same seal on the same piece of clay. To be useful for sealing, designs would have to be characteristic enough so that individuals could recognize their own or other authorized impressions. Thus, the East Karnak seal impressions appear to represent seals from a wide range of individuals. Yet given the situation of almost no duplication of designs, the similarity among designs and small number of categories into which designs can be organized is noteworthy. The East Karnak seal impressions are probably local in origin, but cannot be connected with a single office or governmental function.

7.2 Dating of Seals and Scarabs

The dating of groups of seals, scarabs or seal impressions is very much like dating by ceramic phase (Ward 1994, p. 196). Each phase is characterized by a group of typological features, but any given feature is introduced slowly and may continue in small quantities long after its period of characteristic use. All data need to be taken into account before a judgement as to date is made. This judgement includes a subjective element, which means that varying interpretations of the data are possible. For the First Intermediate Period, scarab and seal dates depend chiefly on a sequence from burials in Middle Egypt excavated by Guy Brunton in the 1920s and 1930s. For later

periods scarab dating is complicated by the fact that Middle Kingdom material is frequently found in Second Intermediate Period contexts in both Nubia and Syro-Palestine.

A fundamental difference in chronological conclusions is found between those who accept Middle Kingdom material outside of Egypt as being basically contemporary with material from Egypt itself and those who note that large amount of material from Middle Kingdom Egypt was looted or plundered from Egypt in the Second Intermediate Period. Ward (*StSc I*) and Tufnell (*StSc II*) have compiled the major reference source on scarab chronology and iconography; they provide an invaluable compilation of data, including lists of design types, profiles, back types, scarab dimensions and materials. Although the evidence is well marshalled, their chronological conclusions may be questioned. Ward and Tufnell have tended to split the difference when earlier and later features are found in a particular archaeological context, such as the Montet Jar. This and a tendency to see a strong continuity between the Egyptian and Syro-Palestinian evidence has led them to push for earlier dates in many cases than those usually accepted by Egyptian experts, such as Bietak, Kemp and O'Connor.

A particular problem with Ward's work (*StSc I*) is that he has attempted to extend the framework Tufnell had developed for the early second millennium Palestine back into late third millennium Egypt. That he is able to do this attests to the basic soundness of the scheme. However, the design typology

would be more useful if floral motifs (class 1E) were not made subordinate to class 1 Linear patterns; this would help distinguish earlier from later First Intermediate Period material. As well, the design types from seal impressions and seals other than those with scarab backs should not be excluded from the pre-Dynasty 12 design repertoire. Only by looking at all the contemporary seal types together can a true picture of seal iconography of the First Intermediate Period emerge.

7.3 Source of East Karnak Seal Impressions

Where the East Karnak seal impressions came from is essentially a matter of speculation, but their association with First Intermediate Period Thebes is suggestive. Large collections of seal impressions, such as those from Kahun and Uronarti, are almost always indicative of activity undertaken on behalf of the centralized bureaucracy or royal government. Kahun is a royal mortuary centre and Uronarti was a frontier military outpost. Although we know from the tomb of Meketere and the Hekanakhte letters, that private individuals used seals, the number of seal impressions from East Karnak would be unprecedented for a private archive of this period. The findspot of the seal impressions suggests that they could have come from the Karnak Amun temple; however, this temple may not have been

established until Dynasty 12.¹¹⁰ The chances are, therefore, that the East Karnak seal impressions are the result of some sort of record keeping by the Theban government of Dynasty 11.

The Middle Kingdom city of Thebes was centred around the temple of Amun at Karnak¹¹¹ and one can assume that the First Intermediate Period centre was in this district as well.

Redford (1984 p. 97) notes that "the inconsequential hamlets on the Theban plain found themselves suddenly transformed into a royal residence and erstwhile capital" in Dynasty 11. Starting with very little infrastructure, the First Intermediate Period Thebans would have quickly built up a governmental bureaucracy. By the reign of Nebhepetre Monthuhotep, evidence that the Dynasty 11 monarchs had an archives is provided by the Shatt er-Rigal inscriptions; Shatt er-Rigal inscription H names the "Treasurer of the King of Lower Egypt, the Sole Companion, the Scribe of the King's Archives, Yay."¹¹² This 11th Dynasty royal archive is the most likely source for the East Karnak seal impressions.

The finding of so many seal impressions from a single

¹¹⁰ Daumas 1967 and Bothmer 1974 argue for the existence of an Old Kingdom temple on the basis of sculpture, but the existence of Old Kingdom sculpture in the Karnak cachette does not mean that they were necessarily situated at Karnak in the Old Kingdom. Wildung 1969 argues that the Karnak Amun temple was not founded until Dynasty 12 under Sesostri I. I suspect that earlier remains will eventually be found; a temple of Amun is mentioned on a stela illustrated in Petrie *Qurneh* pl. 10.

¹¹¹ Kemp 1989 p. 203, fig. 71 and pp. 160-161. Redford 1984 p. 96 characterizes Middle Kingdom Thebes as "yet a glorified provincial town."

¹¹² Winlock 1947 p. 69. The relevant title is *ss' n nsw*, cf. Ward 1982 p. 158 (scribe of the royal tablet).

context suggests that they were all scrapped or dumped out together. This likelihood provides a final bit of supporting evidence for the suggestion that the East Karnak seal impressions originally came from the Dynasty 11 Theban archives. When the royal court was transferred to Itjtawy in the Fayum region under Ammenemes I (1991-1962), the royal archive at Thebes would have been weeded before being transferred to the new capital. The papyrus from documents no longer needed could have been wiped down and reused.¹¹³ The clay seal impressions would not have been reused and would have been unceremoniously dumped. The advent of Dynasty 12 and the transfer of the capital to Itjtawy may well have been the reason why so many seal impressions were discarded together at East Karnak.

We cannot be certain that the East Karnak field S (trenches SA, SB and SC) was the original location of the material discarded from the Dynasty 11 archive, but the original dump site was probably not far off. The Dynasty 11 archive may have been located in the vicinity as well. The lack of identifiable material from late Dynasty 11 among the East Karnak seal impressions is not really a problem for this hypothesis. The more recent material in the royal archive would most likely still be useful and would be transferred to Itjtawy. Material from the earlier days of Dynasty 11 would likely be outdated and

¹¹³ See Parkinson and Quirke 1995 pp. 47-48. The papyrus could have been reused in other ways, such as for the making of cartonnage for mummy masks. Cartonnage mummy masks begin in the First Intermediate Period, but are made of linen -- papyrus frequently was used to make cartonnage in the Graeco-Roman Period.

superseded by newer material. Thus, the East Karnak seal impressions, forming a coherent group dating to late First Intermediate Period, may well be all that remains from the royal archive of the Theban kings of Dynasty 11.

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