

Abstract

The aim of this paper is to decipher the means of transmission of the cylinder-seal from Greater Mesopotamia to Egypt which occurs during the Naqada IIc-d1 period. An autonomous Egyptian glyptic tradition seems to begin early in Late Naqada IIc, around 3300 BC. This school overlay specifically Egyptian motifs upon the bases of the Middle Uruk Mesopotamian heritage, something which is especially evident in the seals' composition. Beginning with that date, seals in Egypt no longer appear as mere ornamental objects in tombs and actually take on their role as a functional tool.*

Keywords

Archaeology, predynastic, naqada, mesopotamia, glyptic, cylinder-seal.

Earliest Cylinder-Seal Glyptic in Egypt: From Greater Mesopotamia to Naqada

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Adopted Chronological Systems

The adopted chronology for Greater Mesopotamia [1] is the latest, as defined during the Santa Fe symposium (Rothman 2001). As for Egypt, the selected chronology is that of Werner Kaiser (1957) with the adjustments described by Luc Watrin who suggested slight chrono-terminology modifications, mainly concerning the Naqada II-III transition, and added a precise correspondence table for the stratigraphies of major Egyptian and Near-Eastern sites of the IVth millennium BC (Watrin 2004/table 1-2).

The Cylinder-Seal in Egypt: Everything starts in Naqada

Only a few archaeological remnants testify as to when glyptics first appeared in Egypt (Figure 1) [2]. The earliest stamp-seals were found in Harageh, at the edge of the Fayum, and in Upper-Egypt at Naqa ed-Dêr. They appear to date from Naqada IIb-c. The earliest cylinder-seals were found by Flinders Petrie in Naqada during the 1894-1895 excavations. The first one of the two seals discovered by Petrie is a limestone cylinder left in tomb N 1863 and now preserved at the University College in London.

It displays a series of slightly concave lines from each side of the middle of the barrel (two or three on each side), marked by short straight lines. All these lines are deeply incised and freely, indeed even irregularly executed, which led some authors to speak of a “disintegrated pattern” (Kantor 1952/247). The second cylinder-seal is from grave 29 of T cemetery at Naqada.

*See the Arabic version of this paper in Volume II.

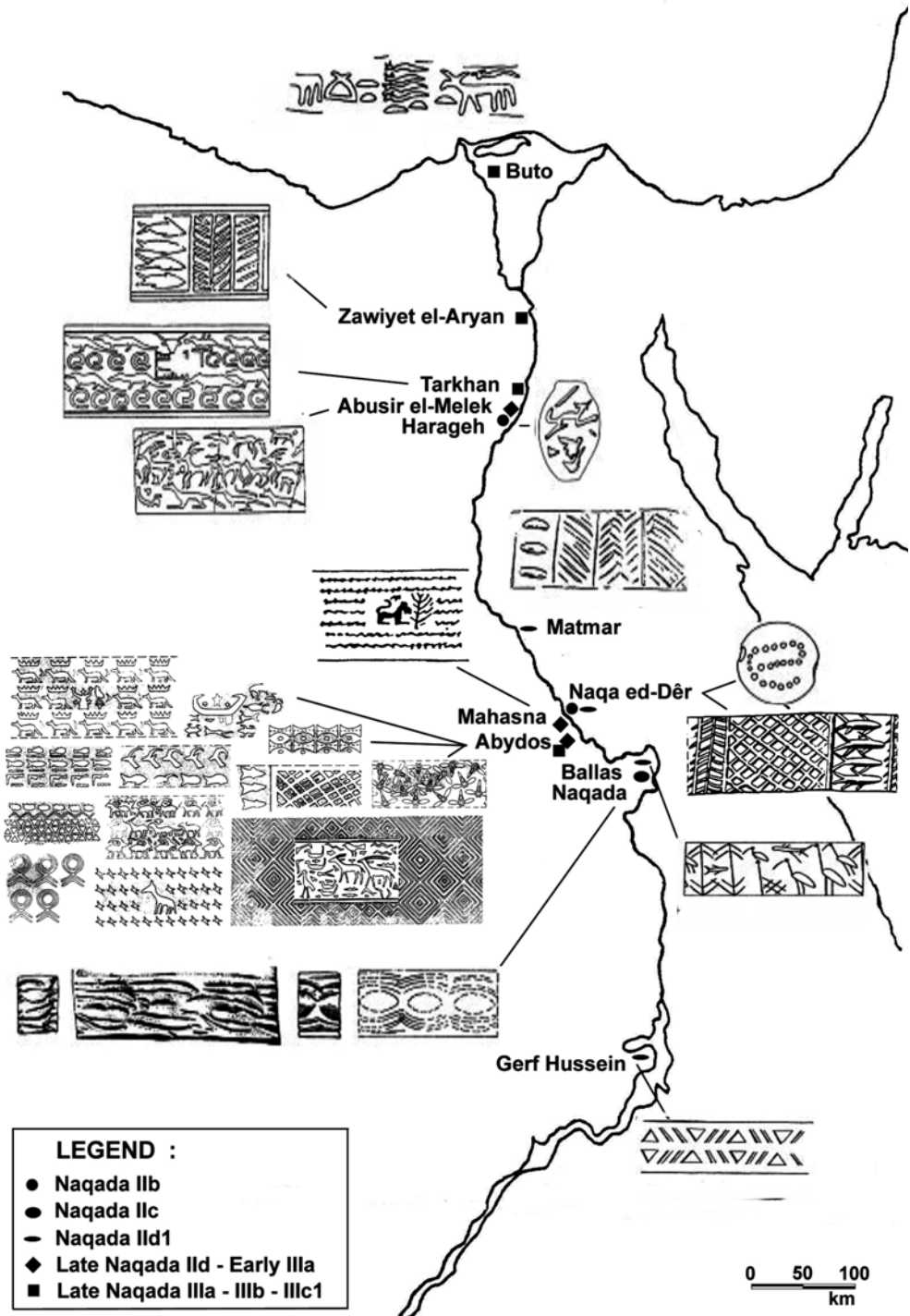


Figure 1. Geographical distribution of earliest glyptics in Egypt.

It is made of limestone too. Its pattern is composed of a row of almond or “eye” shapes running along the middle of the barrel, each surrounded by two concave lines.

These two seals can be dated to Naqada IIC-d1, *i.e.* 3500-3300 BC, if we accept the latest series of radiocarbon dates in Egypt, which bring back absolute chronology by around 100 years (Cialowicz 2001/14). Alongside them, there are several seals purchased on the antiquities’ market shortly after the Naqada excavations [3], but which are by this very fact out-of-context, and the seals and sealings discovered by the Italian team from 1982 to 1986 during the Naqada South Town Settlement excavations (Chlodnicki et al. 1991/28 and Di Maria 2007), which are unfortunately without any stratigraphical context (surface finds). To date, there remains no evidence that cylinder-seals were used in Egypt prior to the impressions of cemetery U at Abydos, meaning in Late Naqada IId.

Researchers agree that the first glyptics in Egypt were imported from Greater Mesopotamia, however the debate gets more polyphonic when it comes to defining criteria for determining when local manufacturing appeared and for perceiving its emergence stages: from local fabrication by foreign craftsmen to an independent local tradition, *via* Egyptian manufacture under eastern influence.

In Mesopotamia, the use of cylinder-seal glyptics in the middle of the IVth millennium BC is proven by hundreds of impressions with different motifs in settlement contexts (*e. g.* Susa) or in prestigious and/or storage buildings (*e. g.* Uruk-Warka). Almost no seals of the Uruk period have been found and it is sometimes supposed that these objects were either fabricated from perishable materials, or put in the tombs, structures which are quasi-unknown in Mesopotamia for the Uruk period. The context of the first cylinder-seals in Naqada is hence totally different, since seals are found in graves, but the two situations may cast light on one another.

The invention of the cylinder-seal

From stamp-seal to cylinder-seal in Mesopotamia

Mesopotamian glyptics have a certain precedence over Egyptian glyptics. Sealings are known in the North of Mesopotamia as of the end of the VIIth millennium BC, in the form of stamp-seal impressions on plaster or gypsum, at Tell Buqras and Tell el-Kowm for instance. The earliest clay sealings are from Tell Sabi Abyad: hundreds of impressions dating back to the end of the VIth millennium have been found there. The stamp-seal is massively used in the North of Mesopotamia as of this date. The practice is perpetuated in the Halafian and Obodian cultures and then diffused southward and into Iran at the Obeid period. To date, no seal of Obeidian type nor Obeidian ceramic has been found in Egypt.

The invention of the cylinder-seal takes place during the first half of the IVth millennium BC, during the Uruk period. It is concomitant with the sudden increase in population densities in the South of Mesopotamia at the expense of the North (McC. Adams 1981/69), which causes the appearance of large urban centres and significant changes in production and trade systems, of which the most telling evidence is ceramics. The context of the beginning of the Middle Uruk period explains why it became necessary to adapt management processes at different scales, and hence to invent new more efficient sealing techniques.

Who was first?

Uruk-Warka is thought to have been at the heart of the innovations of the IVth millennium in Mesopotamia. However, the cylinder-seal apparently appears very late there compared to other sites. It is present as of layer 21 of Susa [4], which was a very dynamic centre of the Uruk culture in Iranian Khuzistan, *i e* at the beginning of Middle Uruk (Early Middle Uruk), a period which can approximately be placed around 3750-3550 BC. On other Susiana sites, in Deh Luran, in Northern and Southern Mesopotamia, as well as in Naqada, the earliest evidence comes from layers equivalent to the Middle Uruk period. In Uruk-Warka, the first impressions have been found in layer V of Eanna, the prestigious buildings area, thus dating to the beginning of Late Uruk (Early Late Uruk).

This situation seems surprising, indeed even paradoxical, since Uruk-Warka is considered to be the “genuine site” of the Uruk culture and is the type-site for all Mesopotamia. A conclusion hence asserts itself: either the Uruk-Warka chronology is too late and should be reconsidered [5], or else the eponymous site was not the sole and uncontested driving force for innovation during the IVth millennium BC. This second hypothesis would mean that Susa played a dynamic role in glyptics, which would explain the predominance of Susian transmissions in Egyptian iconography.

Why couldn't Egyptians invent the cylinder-seal?

The invention of the cylinder-seal ensued from the evolution of accounting methods and from various intellectual processes which occurred over several millennia in Mesopotamia. Glyptics then came into the Nile Valley as a complete system, shortly after the invention of the cylinder-seal. There is no evidence of the use of its direct predecessor: the stamp-seal. Two stamp-seals have been found in Egypt: a “lentoid” seal at Harageh and a stamp-seal with circular perforations at Naqa ed-Dêr. They date from Naqada IIb-c.

The Harageh seal has no parallel in Egypt. P.R.S. Moorey (1990/63) identified it as a Syrian seal. It could be closely compared to a stamp-seal unearthed from Telloh (Figure 2). The Telloh stamp-seal is classified among the Dynastic Archaic material by H. de Genouillac (1934/pl. 70 bis, figure 1). It is actually undateable in terms of stratigraphy; however the drill perforations are reminiscent of round stamp-seals or of “baggy style” cylinders from Middle Uruk. Some ten other similar stamp-seals have been found *in situ* in the Susa B layers (Amiet 1972/52), which correspond to the first phase of Suse II, *i e* the Middle Uruk period. Most of them represent one or two animals (quadrupeds or serpents), just as does the Harageh seal. The Naqa ed-Dêr stamp-seal comes from grave 7501 in the southeast of the necropolis, a sector dominated by Naqada IIb tombs. Renée Friedman dates this tomb to Naqada IIb (Podzorski 1990/5). The cylinder was placed under the left wrist of the deceased, probably attached with perforated shells to a bracelet. This is probably the most ancient glyptic known in Egypt, since the Harageh stamp-seal, according to Luc Watrin (2007), could just as well date from Naqada IIb as Naqada IIc, and since the earliest known cylinder-seals date from Naqada IIc. This stamp-seal undoubtedly comes from Mesopotamia since several similarly drill-perforated specimens have been unearthed from Yorgana Tepe/Nuzi (Starr 1937/pl. 40A).

Knowledge of the process of rotary impression, which was certainly the decisive element

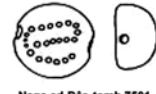
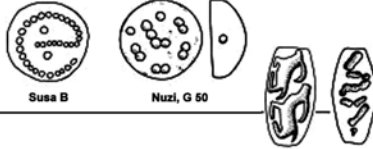

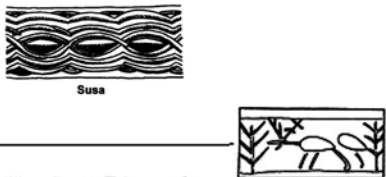
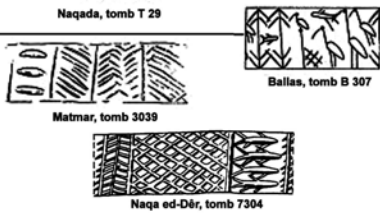

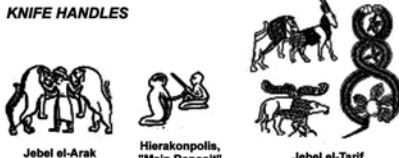
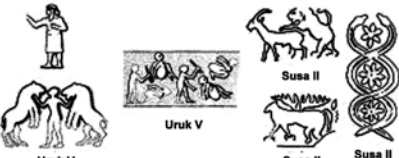


CHRONOLOGY		EGYPT	GREATER MESOPOTAMIA
c. 3600 BC	LATE MIDDLE URUK	 Naqa ed-Dér, tomb 7501	 Susa B Nuzi, G 50 Susa B Telloh
c. 3500 BC		 Naqada, tomb N 1863 Harageh, tomb 470	 Susa Tepe Sialk IV
c. 3400 BC		 Naqada, tomb T 29 Baillas, tomb B 307 Matmar, tomb 3039 Naqa ed-Dér, tomb 7304	 Susa Tepe Sialk IV Susa
c. 3300 BC	EARLY LATE URUK	KNIFE HANDLES  Jebel el-Arak Hierakonpolis, "Main Deposit" Jebel el-Tarif	 Uruk V Uruk V Susa II Susa II Susa II
c. 3200 BC	LATE LATE URUK	SLATE PALETTES  Hunter's Palette Narmer Palette	 Susa II Uruk IVa

Figure 2. Influence of Eastern glyptic imagery on Egyptian iconography, from Naqada IIb to Naqada IIIc1. Not to scale.

in the invention of the cylinder-seal, is apparent in the Nile Delta as of Naqada IIb-c. On ceramics decorated with a rocker stamp, known as "roulette ware", which appear in the Eastern Delta (Van den Brink 1989/70) during Naqada IIb-c, the use of a rotating process in impressing small dots can be confirmed because the support (the belly of the jar) is curved, and not because the object being impressed is cylindrical. Impressions made by a comb or a shell on ceramics in Lower-Egypt thus cannot be considered as the direct predecessor of cylinder impressions.

The manufacture and use of earliest Egyptian cylinder-seals

Cylinder-seals and cylindrical beads

According to A. Scharff and P. Kaplony (Boehmer 1974a/496), the earliest Egyptian

cylinder-seals derive from beads made of perishable materials. The same hypothesis has been suggested for the cylinder-seal in Mesopotamia: it would be born from the merging of the cylindrical bead and the stamp-seal; this object would have inherited the ostentatious interest of the former and the utilitarian functions of the latter (Gorelick and Gwinnett 1990/45).

However, based on the way they were attached, Urukian cylinder-seals were worn more often as pendants rather than as longitudinal beads, and they were of big size (Collon 1987/14), making them impractical to wear. Wearing seals as an adorning element in Mesopotamia is rather characteristic of the following period: Jemdet Nasr [6]. In Egypt, on the other hand, they are integrated in necklaces and bracelets from their very first appearance (Naqada IIc). In the Naqada region, at Ballas, the rough proportions of a cylindrical bead in lapis lazuli [7] recall the morphology of a cylinder-seal.

Workshops

We do not know of any cylinder-seal manufacturing workshop in the whole Near- and Middle-East that date to the IVth millennium BC. However, recent discoveries at Tepe Konar Sandal (Jiroft) may show that beads and cylinder-seals were carved in the same workshops at the beginning of the IIIrd millennium BC in Iran. At the end of the Uruk period, engravers of Mesopotamian seals may have also been the same artisans who carved stone vases, since very similar patterns and compositions figure on these two supports (Brandes 1986/55).

For the Abydos case, Ulrich Hartung compares the fineness and the size of the representations on knife handles to those on cylinder-seals (Hartung 1998/206). Knife handles of the “Jebel el-Arak” type would date to Late Naqada IID, according to specimens discovered in Abydos, and it can be considered that the first locally manufactured cylinder-seals also date from that period. Two additional arguments could demonstrate that cylinder-seals were manufactured in the same workshops as Egyptian knife handles. Firstly, the iconography of decorated knife handles is largely inspired from Mesopotamian glyptics (Boehmer 1974b, Watrin 2004/pl. 2-3).

Secondly, like the decorated knife handles, contemporary seals such as the cylinder-seal of tomb 1035 at Abusir el-Melek are made out of ivory, and date, a little bit earlier than U-j tomb of Abydos, to Late Naqada IID (Kaiser’s *Stufe* IIIa1)

Accounting or adorning objects?

The earliest archaeological evidence of glyptics in Egypt show that wearing exotic – hence valuable – objects was the privilege of an elite using exotic materials and objects to socially distinguish itself. Grave 7304 of Naqa ed-Dêr, which dates to Naqada IID1, is the only one in that cemetery which had a cylinder-seal (an earlier one, grave 7501, contained a stamp-seal) and it was certainly the richest tomb of the cemetery as well [8]. Despite plundering, it still contained 42 objects, including different types of pottery (from Rough to Blacktopped), a small faience pot, six stone vases including one frog-shaped vase, small pieces of copper, a fragment of a scraper, an ivory pin bearing the effigy of a bird, beads (lapis lazuli, carnelian, turquoise), malachite fragments and other small objects (Lythgoe 1965/179-183). The eastern connection is not only attested to by the cylinder-seal but also by the lapis lazuli, present in the form of beads, small discs and inlays on the theriomorphic vase. Helen

Kantor notes that inlays on the vase were fixed in a “black material” (Kantor 1952/242) which is certainly bitumen, whose possible origin could be Mesopotamia. This elite and that of Naqada did not yet know the use of the cylinder-seal in Naqada IIB-c-d1, and we can suppose that local management processes were still too rudimentary to require the use of such a control tool.

In Mesopotamia, the cylinder-seal was invented to respond to concrete management problems. The cylinder-seal is inseparable from accounting or administrative systems in the IVth millennium up to the end of the Uruk period. In the middle of the IVth millennium, the largest Mesopotamian urban centres could cover an area up to 100 hectares, and some authors think that they concentrated several tens of thousands of inhabitants [9]. Each urban centre centralized the productions of its region and managed numerous inter-site exchanges, sometimes extending over more than a thousand kilometers. In Egypt, the size of necropolises suggests the existence of middle-size settlements. The largest necropolis – for the period considered here – is that of Naqada. It groups approximately 2000 tombs [10], extending from Naqada I till the Ist dynasty. In the absence of any extensive excavation on settlements contemporary with Naqada II, current funerary data suggest the existence of large villages at best during this period.

The Egyptian context is hence very different from that of Mesopotamia in Middle Uruk and this may explain why Egyptians did not initially use the cylinder-seal for management processes and why the seals were adopted as “exotic” and decorative objects, which were recognized as social markers. At first, the importation of the “seal” objects had nothing to do with any accounting system (no calculi bullae or clay tablets has been discovered in Egypt to date). The first independent accounting elements in Egypt are jar labels and those only appear as of the beginning of Naqada IIIa in the U-j tomb and are dissociated from glyptics. They indicate quantities and possibly origins of the products. Although glyptics start to be used to seal ceramic containers, bags or basketworks as early as Late Naqada IID, they are never used on independent administrative documents. Contrary to Mesopotamia, neither the accounting support nor the notation systems had undergone the various evolutionary stages which led to the tablet and to the first Mesopotamian pictograms [11]. The adoption of the first accounting systems in Egypt thus appear to be borrowed from eastern neighbours’ systems, which explains why they arrive, just as do glyptics, as a ready-to-use system. Besides, the ivory labels as shown in U-j tomb (Abydos) are connected with Egyptian W-class pottery and the seal impressions with jars imported from the Near-East.

Cylinder-Seals of Naqada

Glyptics are one of the indicators of the existence of elites in contact with the Urukian sphere during the periods of Naqada IIB-c-d1 in Upper-Egypt. Cylinder-seals are relatively rare objects in the tombs and always associated with abundant and opulent funerary deposits. Sometimes lapis-lazuli, which must have been brought to Egypt by Urukian emissaries as well, is found in the same graves as the cylinder-seals (*e. g.* tomb 7304 of Naqada ed-Dêr, tomb T 29 of Naqada).

It is not coincidental that the Naqada site shelters the earliest cylinder-seals known in Egypt. With 2000 tombs, the Naqada necropolis is the largest of predynastic Egypt. However, it remains difficult to date the graves accurately. We can only go by the old

periodization system in SD by Petrie (1901). A chronology of the tombs was attempted by John Crowfoot-Payne (1992) but it is very incomplete in its results since it only defines pottery groups over the large necropolis according to W. Kaiser's *Stufen*, without reaching a detailed chronology of the tombs themselves. The chronology of some Naqada tombs is scattered among the works of W. Kaiser, L. Watrin, U. Hartung, T. Wilkinson, S. Hendrickx or E. van den Brink, but no general study is yet available.

Context of the cylinder-seal in tomb N 1863 of Naqada

Tomb N 1863 is located in the south-eastern part of the Great Cemetery of Naqada. Aside from the Mesopotamian cylinder-seal, the funerary material is composed of Polished-red vases, a Nubian-ware vase, a stone vase, two zoomorphic palettes, beads, a decorated ivory comb and ivory bracelets (Baumgartel 1970/60). The offering list alone allows one to estimate the social position of the deceased. Concerning the chronology of this tomb, Ulrich Hartung (2001/268) positioned it in the Naqada IIB-c, based on its equivalence with the SD of Petrie (SD 46).

In the same way, Toby Wilkinson (2002/241) estimated its chronology to be in Naqada IIB-c "on the basis of its pottery". Luc Watrin (personal communication 2006) deems that pottery contained in this grave (a group of P-class vases and a fragment of N-class pottery) is not distinctive enough to date grave 1863 precisely, and suggests a slightly larger chronological range between Naqada IIB and Naqada IIC-d1. On the basis of the proximity of a Naqada IIC tomb in the environment of N 1863, he suggests placing tomb 1863 "tentatively" in this same period (Watrin 2004/68).

In 1955, Elise Baumgartel already stressed that the cylinder had been imported from outside the Nile Valley (1955/47). She suggested connections with Jemdet Nasr glyptics, an hypothesis which seemed well-founded on iconographic grounds, but which was generally supported until very recently (Wilkinson 2002/241) despite improvements in the respective and comparative chronologies of both Mesopotamia and Egypt (*infra*). Only the impressions dating from Middle Uruk can be connected to the seal of tomb 1863 at Naqada, this means mainly some impressions from Susa and perhaps others from Telloh whose context is less clear.

Context of the cylinder-seal in tomb T 29 in Naqada

Naqada has another distinctive feature: the site comprises several necropolises, organized by the status of the individuals buried, the majority of the ruling classes being inhumed in cemeteries T and B (Davis 1983). Tomb T 29 is located in the south of Cemetery T. According to E. Baumgartel, it would be slightly later than grave 1863 (1955/47). U. Hartung (2001/269) gives for equivalence to Petrie's SD 48-66 the Naqada IIC period, as does T. Wilkinson. This grave contained a Mesopotamian cylinder-seal, stone vases, a palette, gold and lapis lazuli beads.

The same kind of deposits was found in the nearby grave T 5, dated to Naqada IIC which is one of the richest graves in the necropolis. The material of grave T 29 suggests that the occupant was of a higher social standing than the deceased of grave 1863. This maybe explains why the pattern of the seal of tomb T 29 is much better technically crafted than the cylinder of tomb 1863. This seal has the same parallels in Mesopotamia as that of tomb 1863 because the motif is markedly the same, with a difference just in the execution. All researchers agree that it is an import.

Evolution stages of earliest glyptics in Egypt from Naqada IIb to Naqada III

General sketch

All Mesopotamian or Mesopotamian-style seals found in Egypt have to be compared to Middle Uruk impressions (Figure 2). During the Middle Uruk period, a large number of Mesopotamian seals is composed of repetitions of simple motifs or of combinations of several figurative and/or geometrical motifs. Among these motifs, fish rows are common. Following Pierre Amiet, Holly Pittman distinguished the “baggy style” in the Middle Uruk series (Pittman 2001/241). This style’s motifs are often achieved by an accumulation of circular drill perforations. But this baggy style has always been found in unclear contexts. One such out-of-context specimen in glazed ceramic was acquired in 1911 in Cairo by Ludwig Borchardt and is preserved at the Berlin museum.

Chronology of transmissions and emergence of an Egyptian glyptic tradition during the Late Naqada II period

The style, iconography and composition of seals in Mesopotamia changes at the end of the Middle Uruk period, towards a more narrative and realistic handiwork, and a new type of glyptic is clearly established by the beginning of Late Uruk. A quite remarkable change occurs at the same time in Egypt. For the first time, as of Late Naqada II, seals are no longer found isolated and simply worn as ornamental objects, but rather are known to have been present because of impressions on cord sealings, bearing figurative and/or geometrical motifs, as exemplified in tomb U-170 of Abydos (Hartung 1998). The seals become much smaller: from an approximate height of 2 cm, they brutally shrink to about 7 mm, before being upsized in Early Naqada IIIa (Abydos U-j) [12]. As of Late Naqada II, the separation of Mesopotamian glyptics and Egyptian glyptics is very clear (Table 1).

Table 1. Earliest development stages of cylinder-seal glyptic in Egypt.

Stages	Date	Production place	Origin of the craftsmen	Iconographical inspiration	Function	Archaeological evidence
1	Naqada IIc - IIId1	Greater Mesopotamia or Egypt	Greater Mesopotamia	Urukian	Adorning, prestige and status highlighter	Limestone cylinder-seals
2	Late Naqada II and later	Egypt	Egypt	Hybrid or Egyptian	Used for utilitarian functions: property marks	Clay sealings and seals carved in different materials

Autonomy and Mesopotamian heritages of the Egyptian glyptics as of the end of Naqada II

The oriental hold on Egyptian glyptics does not suddenly stop at the end of Naqada II. While Egyptian glyptics undergo independent evolution starting in the Late Naqada II, their developments are based on the acquisitions and the legacy from the previous periods. Egyptian seals of Late Naqada II period and subsequent ones always

feature the typical composition inherited from Mesopotamian Middle Uruk, that is the accumulation of motifs in columns or in rows on the barrel of the seal (*e. g.* tomb U-170 of Abydos). This type of composition is abandoned in Mesopotamia in Late Uruk for totally different compositions.

Scenographies used in Late Uruk glyptics in Greater Mesopotamia are not adopted in Egyptian glyptics, which proves that the Egyptian school has already achieved a certain autonomy. A typically Egyptian innovation is sometimes added to the repeated composition: the insertion of a central motif in the middle of the repeated motifs (*e. g.* grave U-153 of Abydos). In grave U-j, the repeated motifs even form a frame around the central design.

The Mesopotamian heritage of Egyptian glyptics are notably perceptible in the composition, though some of the Middle Uruk Mesopotamian motifs seem to have also been integrated in local repertoires and reinterpreted later on. Such is the case of fish rows and of “trees” (*e. g.* tomb U-133 of Abydos or the impression of Zawiyet el-Aryan published by R.M. Boehmer [1974a/figure 5]), and possibly caprids (*e. g.* Abu-Sir el-Melek, grave 1035, Late Naqada IId).

Transmission of the motifs of Mesopotamian glyptics as of the end of Naqada IId

Donald Matthews regroups all the oriental seals of Middle Uruk under the “massive style” denomination, as opposed to the “fine style” characterizing Late Uruk. Neither example of “fine style” seal or impression, nor any copy has been found in Egypt. The exportation of Mesopotamian seals towards Egypt hence ends at the latest at the end of Middle Uruk, meaning upon the transition between Naqada IId1 and Late Naqada IId (for chronological equivalences, see Watrin 2004). This does not mean that the transmission of Mesopotamian glyptic motifs ceased. Motifs we know from Late Uruk glyptics in Greater Mesopotamia are found on other supports in Egypt. Parades of prisoners on Late Uruk glyptics are copied on the decorated knife handles of tomb U-127 of Abydos, dating from Late Naqada IId (Watrin 2004/74).

The master of the beasts, already included on paintings of Hierakonpolis, grave 100 (Naqada IId or maybe IId1, depending on authors), is found on the Jebel el-Arak knife handle (dated to Late Naqada IId or Early IIIa) [13]. And, a little later, beasts with intertwining long necks of the very end of Susa II (Uruk IV, end of Late Uruk) are depicted in the forms of serpopards on decorated palettes from Naqada IIIb-c1 periods (Figure 2).

Comparisons of earliest cylinder-seals in Egypt with Mesopotamian models

Good bye Jemdet Nasr...

Comparisons were previously established, and still are sometimes, between the earliest seals of Naqada and later Eastern seals of the Jemdet Nasr period (Boehmer 1974a/figure 19). This confusion is due to the fact that the glyptic series of Middle Uruk and Jemdet Nasr sometimes have very similar compositions, and, moreover, use the same motifs of fish and “eyes”. Based on purely formal aspects, the first seals in Egypt can hence be associated with Jemdet Nasr glyptics, but as soon as the

chronological frame is applied, parallels between Naqada IIC-d glyptics and Jemdet Nasr glyptics cannot be maintained anymore.

The Susa archaeological site supplied the biggest corpus of impressions and seals for the IVth millennium BC. The chronological classification done by Pierre Amiet is the key-work (Amiet 1972). But Pierre Amiet had to categorize most of the impressions only on stylistic and iconographic grounds. The comparison which can be established with Egyptian motifs indicates that some of the Susa cylinder-seal impressions have to be reassessed and pushed backward to the Middle Uruk, instead of the proto-Elamite period [14]. Thus, the Mesopotamian chronological fog is also the reason why some wrong correspondences were established with Egypt.

Transmission of the cylinder-seal from Mesopotamia to Egypt: from Naqada IIb to Naqada IIId1: importations or imitations?

Till the end of Naqada IIId1, seals found in Egypt are very similar to Middle Uruk seals from Greater Mesopotamia, to such an extent that it is hard to establish criteria to distinguish Mesopotamian importations from eventual local copies. The distinction is made intuitively depending on researchers. According to Ulrich Hartung, only the first two seals of Naqada come from Mesopotamia, but the seals with fishes and nets are manufactured in Egypt (Hartung 1998/216-217). According to Toby Wilkinson, “only four are certain imports: the rest are probably locally-made Egyptian imitations” (Wilkinson 2002/241).

For Luc Watrin, all the seals until Naqada IIId1 are imports (Watrin 2004/70). The materials of the cylinder-seals found in context once again underline the rupture between seals before the end of Naqada IIId1 and later seals (Table 2): seals dated to Naqada IIC-d1 are all in limestone while later seals are made out of diverse materials (ivory, steatite, glazed ceramic). This distinction might indicate that all the seals until Naqada IIId1 are Mesopotamian imports.

Table 2. Materials of the cylinder-seals during Naqada IIC-d and Naqada IIIa-b periods.

Cylinder-Seal	Material	Date	Workmanship
Naqada, tomb N 1863	Limestone	Naqada IIC	Mesopotamian
Naqada, tomb T 29	Limestone	Naqada IIC	
Matmar, tomb 3039	Limestone	Naqada IIC-d	
Ballas, tomb B 307	Limestone	Naqada IIC-d1	
Naqa ed-Dêr, tomb 7304	Limestone	Naqada IIId1	
Abusir el-Meleq, tomb 1035	Ivory	Late Naqada IId	Egyptian
Zawiyet el-Aryan	Glazed ceramic	Naqada IIIb?	
Abadiyeh, tomb U 364	Ivory	Naqada IIIb	
El-Amrah, tomb b 91	Steatite	Naqada IIIb	

Where do the influences come from?

Concerning glyptics, it has often been stressed that “the influence of Elam on Predynastic Egypt was, in an uneven way, stronger than that of Sumer” (Boehmer 1974a/495). Several typically Susian iconographic motifs were effectively transmitted to Egypt, but these transfers took place in the 4th millennium BC, before the proto-

Elamite period. Susa was fully integrated in the Urukian culture, and was even one of its most dynamic elements.

The mountain component (pre-proto-Elamite, or Iranian) which could have existed in the Susian population was hence invisible, or else mute. Although influences probably came more from Susa than from Uruk-Warka, they were nonetheless culturally Mesopotamian elements. Furthermore, an article by François Vallat demonstrates that Susa is not geographically located in Elam and that in historic periods, inhabitants of Susa themselves considered that they did not belong to Elam (Vallat 1985/49). Finally, it seems logical that the Susian cylinder-seal glyptics had a stronger influence on Egypt than those of Uruk-Warka during Middle Uruk, since no cylinder-seals existed in Uruk-Warka at that epoch, according to current research.

Contacts by the North or by the South?

Transfers from Uruk towards Egypt consisted of a series of artefacts and influences (essentially in ceramics, glyptics, iconography and architecture), however no Urukian settlement exists in the Nile Valley [15]. The presence of Urukian merchants in Egypt is hence possible; but the installation of Mesopotamian populations is highly unlikely. How contacts among cultures of Upper-Egypt and Greater Mesopotamia took place is a delicate point. In the current state of research, there is indeed no geographic “relay” which would allow validating any of the numerous possible routes.

The Northern route consists of going up the Tigris and Euphrates towards Syria, then Lebanon, to reach the Nile Delta either by land via Palestine and Sinai, or by sea along the Levantine coasts. This seems the most plausible for a down-the-line trade (Renfrew 1975/figure 10), since exchanges are acknowledged among all these neighbouring regions: between the South and the North of Mesopotamia, between the North of Mesopotamia and the Levantine coast, between Palestine and the Nile Delta, and finally between Lower- and Upper-Egypt. Despite that, some elements transmitted from Greater Mesopotamia to the South of Egypt are not found in the regions which are supposed to be the intermediaries. During the period contemporary to Middle Uruk, Palestine does not yet know the cylinder-seal. In addition, evidence of glyptics in the North of Egypt till the end of Naqada II is limited for the time being to the Harageh stamp-seal, at the edge of the Fayum. Probably imported by the same roads, lapis lazuli is found tardy in the Nile Delta, at first in a few graves dated to Naqada IIc (Minshat Abu Omar), and also in the Fayum region where lapis lazuli appeared during Naqada IIc (Gerzeh). In Upper-Egypt, it is found as of Naqada Ic-IIa in the Naqada region, and then in great quantities on several sites dated to Naqada IIc-d1 (peak period for lapis lazuli). During Late Naqada IIc – Early Naqada IIIa, the presence of lapis lazuli in Upper-Egyptian tombs decreased by 50 % (Watrin 2004/65).

It could maybe involve the existence of another route for the earliest periods. The other route would consist of passing by the South by sea from Iran or from the Gulf, going around Arabia to reach the shores of Egypt and the Wadi Hammamât. The agents of these trading expeditions may have used the region’s gold as an exchange good (Moorey 1990/68). This Southern route remains entirely hypothetical as long as no proof (a shipwreck or Iranian/Mesopotamian artefacts on the Egyptian coasts of the Red Sea) is found to support it.

Conclusion

Glyptics undergo slow evolution and elaboration in Mesopotamia. The change in the scale of goods management during the Uruk period led to the invention of the cylinder-seal. This object is imported into Egypt shortly after its invention where, at first, the scale of goods management does not imply to use such a control tool. An important break is detectable in the motifs, material and size of cylinder-seals found in Egypt in Late Naqada II. This break certainly corresponds to the emergence of an autonomous local school, which coincides with the desire to use the cylinder-seal as a management tool on a large scale, and not merely as an exotic adorning object.

Based on materials, iconography and style, the seals preceding Late Naqada II seem fully Mesopotamian. As of Late Naqada II, the Egyptian school develops its own local motifs on the Mesopotamian Middle Uruk substratum, notably in terms of composition, which consists of aligned motifs, sometimes with a central motif, but a total absence of the narrative scenographies which are found on Late Uruk seals. The transfer of the motifs known from glyptics in Mesopotamia does not cease in Late Uruk but these motifs migrate towards other supports, such as decorated knife handles and then palettes, which are the new prestige objects of the local elites.

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Notes

- 1 This term includes the margins of Mesopotamia (notably South-Western Iran and Anatolia) culturally integrated in the Urukian sphere during the IVth millennium BC.
- 2 We are fully aware that archaeological evidence is scanty in Egypt and that new discoveries could invalidate the evolutionary sketch suggested in this paper.
- 3 One of these seals, representing an eye-shaped pattern with fishes, was bought in Luxor in 1901. At the same time Petrie published the excavation report of two large cemeteries of the great loop of the Nile. According to T. Wilkinson (2002/242), it “probably came from Naqada”.
- 4 Based on very slender arguments, some have pretended that this seal would be out-of-context. Anyway, as of the subsequent layer, Susa 20, there are numerous sealings.
- 5 Reinhardt Dittman and Hans Nissen have already emphasized it based on contradictions in ceramics (Dittman 1986/106) and in the objects’ datings (Nissen 2002/7).
- 6 Hundreds of cylinder-seals in sometimes semi-precious stones have almost no functional value (Honoré 2006/73-76).
- 7 Out-of-context. UC 5433-5.
- 8 The Naqa ed-Dêr cemetery is remarkable since it is one of the rare necropolises of Upper Egypt (with Armant) for which a tomb chart and relative dating of the graves are both available. Renée Friedman dates it essentially between Naqada I and Naqada II with a few later tombs (Podzorski 1990/5). The eastern area of the necropolis hosts in its median part tomb 7304, which is part of a group of ten medium-size rectangular tombs dating to Naqada II, with some smaller graves of the Naqada IIc period.
- 9 This figure varies from 10’000 to 50’000 depending on authors.
- 10 Only approximately 600 tombs can be precisely dated (L. Watrin, personal communication/2006).

- 11 The evolution in Mesopotamia is approximately the following: hollow clay bullae filled with tokens, then hollow clay bullae filled with tokens' impressions on the outer surface of the bullae, then full clay bullae with tokens' impressions on the outer surface, then convex tablets with tokens' impressions and the first pictograms, then flat tablets with pictograms, then flat tablets with cuneiform signs. All of these supports often bear one or more cylinder-seal impressions.
- 12 These comments are made based on known archaeological findings.
- 13 According to Luc Watrin (personal communication 2006), the Jebel el-Arak knife, found out-of-context, would date to Late Naqada III if it comes from Abydos, and hence would be linked to the series of type U-503 knives from this period found in U necropolis, or to early Naqada IIIa, if it truly comes from Jebel el-Arak.
- 14 E. Honoré, in preparation.
- 15 It is now demonstrated that no Mesopotamian temple existed in Buto (Wilde and Behnert 2002 and Watrin 2004/52-55).

References

- Amiet, P, 1972, *Glyptique susienne, des origines à l'époque des Perses Achéménides*, Geuthner, Paris.
- Baumgartel, E, 1955, *The Cultures of Prehistoric Egypt*, Oxford University Press, London.
- ... 1970, *Petrie's Naqada Excavation: A Supplement*, Quaritch, London.
- Boehmer, R M, 1974a, 'Das Rollsiegel in prädynastische Ägypten', *Archäologischer Anzeiger* 4, 495-514.
- 1974b, 'Orientalische Einflüsse auf verzierten Messergriffen aus dem prädynastischen Ägypten', *Archaeologische Mitteilungen aus Iran* 7, 15-40.
- Brandes, M A, 1986, 'Commemorative seals?', in Kelly-Buccellati, M (ed.), *Insight through images*, Udena Publications, Malibu, 51-55.
- Chlodnicki, M, Fattovich, R, Salvatori, S, 1991, 'Italian excavations in the Nile Delta: Fresh data and new hypotheses on the 4th millennium cultural development of Egyptian prehistory', *Rivista di Archeologia* XV, 6-33.
- Cialowicz, K, 2001, *La naissance d'un royaume: L'Égypte dès la période prédynastique à la fin de la 1^{ère} dynastie*, Instytut Archeologii Uniwersytet Jagielloński, Krakow.
- Crowfoot-Payne, J, 1992, 'Predynastic Chronology at Naqada', in Friedman, R and Adams, B (eds.), *The Followers of Horus: Studies dedicated to Michael Allen Hoffman*, Oxbow books: Oxford, 185-192.
- Davis, W, 1983, Cemetery T at Nagada, *Mitteilungen des deutschen archäologischen Institut (MDAIK)* 39, 17-28.
- Di Maria, R, 2007, 'Naqada (Petrie's South Town): The Sealing Evidence', in Hanna, H (ed.) *The International Conference on heritage of Naqada and Qus region*, January 22-28, 2007, Naqada, Egypt, Volume I, 65-78.
- Dittmann, R, *Betrachtung zur Frühzeit des Südwest-Iran Teil I, Regionale Entwicklungen vom 6. bis zum frühen 3. vorchristlichen Jahrtausend*, Dietrich Reimer Verlag, Berlin.
- Genouillac, H de, 1934, *Fouilles de Telloh*, Geuthner, Paris.
- Gorelick, L and Gwinnett, A J, 1990, 'The Ancient Near Eastern Cylinder Seal as Social Emblem and Status Symbol', *Journal of Near Eastern Studies* 49, 45-56.
- Hartung, U, 1998, 'Prädynastische Siegelabrollungen aus dem Friedhof U in Abydos (Umm el-Qaab)', *MDAIK* 54, 187-217.
- ... 2001. *Umm el-Qaab II: Importkeramik aus dem Friedhof U in Abydos (Umm el-Qaab) und die Beziehungen Ägyptens zu Vorderasien im 4. Jahrtausend v. Chr.* Verlag Philipp von Zabern, Mainz.
- Hill, J A, 2004, 'Cylinder Seal Glyptic in Predynastic Egypt and Neighboring Regions', BAR International Series 1223, Archaeopress, Oxford.

- Honoré, E, 2006. *La glyptique sur sceau-cylindre aux époques d'Uruk et de Jemdet Nasr à Uruk-Warka et à Suse*. M-Phil dissertation. University of Paris I – Panthéon Sorbonne, Paris.
- Kaiser, W, 1957, 'Zur inneren Chronologie der Naqadakultur', *Archaeologia Geographica* 6, 69-77.
- Kaiser, W, 1990, 'Zur Entstehung des gesamtägyptischen Staates', *MDAIK* 46, 287-299.
- Kantor, H J, 1952, 'Further Evidence for Early Mesopotamian Relations with Egypt', *Journal of Near Eastern Studies* 11 (4), 239-250.
- Lythgoe, A M, 1965, *The Predynastic Cemetery N 7000, Naga-ed-Dêr, part IV*, University of California Press, Berkeley.
- McC. Adams, R, 1981, *Heartland of Cities: Surveys of Ancient Settlement and Land Use on the Central Floodplain of the Euphrates*, The University of Chicago Press, Chicago.
- Moorey, P R S, 1990, 'From Gulf to Delta in the fourth millennium BCE: the Syrian connection', *Eretz Israel* 21, 62-69.
- Nissen, H, 2002, 'Uruk: key site of the period and key site of the problem', in Postgate, J N (ed.), *Artefacts of Complexity*, British School of Archaeology in Iraq, London, 1-16.
- Petrie, F, 1896, *Naqada and Ballas*, Quaritch, London.
- ... 1901, *Diospolis Parva: The cemeteries of Abadiyeh and Hu, 1898-9*, Quaritch, London.
- ... 1920, *Prehistoric Egypt*, British School of Archaeology in Egypt, London.
- ... 1921, *Corpus of Prehistoric Pottery and Palettes*, British School of Archaeology in Egypt, London.
- Pittman, H, 2001, 'Mesopotamian intraregional relations reflected through glyptic evidence in the Late Chalcolithic 1-5 periods', in Rothman, M S, *Uruk Mesopotamia and Its Neighbors: Cross-Cultural Interactions in the Era of State Formation*, School of American Research Press, Santa Fe, 403-444.
- Podzorski, P, 1988, 'Predynastic Egyptian Seals of known provenience in the R. H. Lowie Museum of Anthropology', *Journal of Near Eastern Studies* 47, 259-268.
- ... 1990, *Their Bones Shall Not Perish: An Examination of Predynastic Human Skeleton Remains from Naga-ed-Dêr in Egypt*. SIA Publishing: Whitstable.
- Renfrew, C, 1975, 'Trade as Action at a Distance: Questions of Integration and Communication', in Sabloff, J and Lamberg-Karlovsky, K (eds.), *Ancient Civilization and Trade*, University of Mexico Press, Albuquerque, 3-59.
- Rothman, M S, 2001, *Uruk Mesopotamia and Its Neighbors: Cross-Cultural Interactions in the Era of State Formation*, School of American Research Press, Santa Fe.
- Starr, R, 1937, *Nuzi: Report on the Excavation at Yorgan Tepa near Kirkuk, Iraq, 1927-1931*, Harvard University Press, Cambridge.
- Vallat, F, 1985, 'Éléments de géographie élamite (Résumé)', *Paléorient* 11 (2), 49-54.
- Van den Brink, E C M, 1989, 'A transitional Late Predynastic Settlement Site in the Northeastern Nile Delta, Egypt', *MDAIK* 45, 55-108.
- Watrin, L, 2004, 'From Intellectual Acquisitions to Political Change: Egypt-Mesopotamia Interaction in the Fourth Millennium BC', *De Kémi à Birût Narî*, 2, 48-95.
- ... 2007 'The Relative Chronology of the Naqada Culture: a view from Buto, Ma'adi, Harageh and Gerzeh', in Hanna, H (ed.) *The International Conference on heritage of Naqada and Qus region*, January 22-28, 2007, Naqada, Egypt, Volume I, 1-30.
- Wilde, H and Behnert, K, 2002, 'Salzherstellung im vor- und fröhndynastischen Ägypten? Überlegungen zur Fonction der sogenannten Grubenkopfnägel in Buto', *MDAIK* 58, 447-460.
- Wilkinson, T, 2000, 'Political Unification: towards a reconstruction', *MDAIK* 56, 377-395.
- ... 2002, 'Uruk into Egypt: imports and imitations', in Postgate, J N (ed.), *Artefacts of complexity*, British School of Archaeology in Iraq, London, 237-248.