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La chronologie relative de la Basse Vallée du Nil jusqu'au 3<sup>e</sup> millénaire BC  
(coord. E.C. Köhler)

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# Some remarks on the chronology of the early Naqada Culture (Naqada I / Early Naqada II) in Upper Egypt

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Since the discovery and first excavations of the graves of the Naqada culture, the attempt was made to place them within a relative-chronological framework according to their funerary offerings. After dividing the pottery into material classes and series of shapes, W.M.F. Petrie devised a system of 'sequence dates', which was first revised in the 1950s by W. Kaiser's Stufen-chronology. Although the cultural phases that were established by these older chronology systems are still fundamentally valid, many questions were left unanswered, e.g., about the earliest phase of the Naqada culture and the cultural break between Naqada I and Naqada II. New discoveries pertaining to the chronology of the older Naqada culture have so far yielded insufficient results, since the early inventories, which frequently included just few offerings, are only mentioned sparingly in the largely 100-year-old publications of the grave sites. Thanks to the abundant pottery finds from Cemetery U in Umm el-Qaab/Abydos, which

predominantly come from Naqada I and early Naqada II graves, it was possible to reorganize the relative chronology of the older Naqada culture by devising a new seriation and to correlate it with the older chronology systems. Material from the older excavations was also included in the examination to confirm if the chronological framework developed for Cemetery U can also be applied to other cemeteries and to clarify questions pertaining to the regional development of individual cemeteries.

Depuis leur découverte, les tombes de la culture de Nagada ont fait l'objet d'une tentative de datation relative, utilisant pour cela les offrandes funéraires. Après avoir réparti les céramiques en différentes classes selon leurs pâtes et leurs formes, W.M.F. Petrie a inventé le système des « sequence dates », revisité dans les années 1950 par la chronologie des « Stufen » de W. Kaiser. Même si les grandes phases culturelles définies par ces premiers systèmes chronologiques sont

1. I would like to thank Justine Gesell for the English translation.

*toujours utilisées, de nombreux problèmes sont apparus depuis, concernant notamment le début de la culture nagadienne et la transition Nagada I/Nagada II. Les découvertes plus récentes se rapportant à la chronologie de la phase Nagada ancienne n'ont pas apporté de résultats vraiment pertinents tant les inventaires, qui n'incluent généralement que très peu d'offrandes, ne sont que très modérément détaillés, dans des publications maintenant centenaires. Le matériel abondant provenant du Cimetière U d'Umm el-Qaab/Abydos, qui se rapporte principalement à Nagada I et au début de Nagada II, a toutefois permis de reconsiderer la chronologie relative de la culture de Nagada grâce à une nouvelle sériation, confrontée aux systèmes chronologiques plus anciens. Le matériel des fouilles anciennes a été lui aussi inclus dans l'étude afin de vérifier si le cadre chronologique défini pour le Cimetière U peut être également appliqué à d'autres cimetières et pour clarifier les questions se rapportant au développement régional de cimetières spécifiques.*

## Introduction

By the early 4<sup>th</sup> millennium B.C. the Chalcolithic Naqada Culture had already made an appearance near the great bend of the Nile between Naqada and Mahasna; subsequently this culture spread out towards the south and north and can be attested in the middle of the millennium at the first Nile cataract and at the entrance to the Fayum. The origin of the Naqada Culture, however, is still largely unknown.

Based on similarities in burial rites and material culture, there could be a certain relationship between the older Badarian Culture, mainly known from Middle Egypt (Brunton & Caton-Thompson 1928; Brunton 1937; 1948), and the early Naqada Culture. Despite this, a continuous transition within cemeteries has not been ascertained yet (Hendrickx 2006: 71). Information pertaining to the cultural-historical development of the Naqada Culture has primarily originated from cemeteries and been recently supplemented by some settlement finds (e.g., Friedman 1994; Midant-Reynes & Buchez 2002; Veermeersch, Van Neer & Hendrickx 2004: 213-276; Anderson 2006).

## Research History

The Naqada Culture became known at the end of the 19<sup>th</sup> century through the excavations of the large cemeteries at Naqada, Ballas, Abadiyah and Hu by W.M.F. Petrie (Petrie 1896; 1901). By comparing the similarities of the grave inventories and their arrangement, Petrie was able to devise a relative-chronological sequence for the graves he had discovered. This system of sequence dates ("SD") from 1899 is known today as seriation (Petrie 1899: 295-301; Petrie 1901: 4-12). Pottery vessels were the most abundant funerary objects; the changes in their shapes and wares proved to be most adequate for a statistical analysis. Petrie divided them into nine different pottery classes and arranged them according to series of shapes (Petrie & Quibell 1896: pl. 18-41; Petrie 1921). After two pronounced breaks in the typological development of the pottery, Petrie (1939: 8-10) defined three stages of the Naqada Culture: Amratian (SD 31-37), Gerzean (SD 38-60) and Semainean (SD 61-80). Because Petrie only used inventories with at least five different types of vessels, the graves of the older Naqada Culture (Amratian), which seldom fulfilled this requirement, are greatly underrepresented. Petrie expanded the sequence subsequently by adding SD 30 to include graves with few vessels, almost exclusively Black-topped ware (Petrie 1901: 8, 28).

However, typological development of the Black-topped ware (B), especially beakers characteristic for the Amratian, of the Polished-red ware (P) and White Cross-lined ware (C), were brought to light by the studies of W. Kaiser (Kaiser 1956: 87-109; 1957: 69-77). According to the distribution of the main pottery classes B, R (Rough ware) and L (Late ware) at site 14/1500 at Armant, Kaiser differentiated between three main chronological phases (*Stufen*). These *stufen* were further broken down into 11 sub-phases and compiled into their so-called *Leittypen* illustrated in plate form accompanying the study, predominantly comprising of pottery, but also stone vessels and palettes (Kaiser 1957: pl. 21-24). The sub-

phases were only partially apparent in the graves at Armant and were supplemented by inventories from other sites. Since the cemetery at Armant was only occupied from the late *Stufe I* on, the vessel types of Naqada *Stufen* Ia and Ib—the two oldest phases defined by Kaiser—came exclusively from inventories from the cemeteries at Abydos (U, E and Φ), Amrah (a & b) and Mahasna. Until now it has not been possible to affirm a chronological difference between the *Stufen* Ia and Ib by their characteristic pottery types alone (Friedman 1981: 70; Hendrickx 1996: 41). Another shortcoming of Kaiser's *Stufen*-chronology is the transition from *Hauptstufe I* to *II* (see Hendrickx 1996: 39; 2006: 75-76), which was explained by the replacement of Black-topped ware, initially dominating the grave inventories, with Rough ware from *Stufe IIa* on (Kaiser 1957: 69-70, pl. 15, 25). However, it has become apparent that this development varied at different cemeteries, i.e., the separation of the *Hauptstufen* also depended on local factors, and that the division devised for Armant was not necessarily transferable to other sites offhand (Kaiser 1957: 73; Hendrickx 1996: 39).

Since the 1970s archaeologists have tried to review the chronological division of the Naqada Culture with the help of a computer-aided seriation, free from intuitive arranging. A first seriation of the sites at Amrah and Mahasna, which were occupied from the earliest Naqada Period, confirmed Petrie's system of sequence dates, but did not produce new results regarding the typological development of the pottery (Kemp 1982: 5-15). However, it became clear that an abrupt break between the developmental stages is hardly possible since they often overlap in transitional phases; during which older and younger material appear in the graves at the same time. T.A.H. Wilkinson's seriation (1996) was based among other things on a revision of Kaiser's *Hauptstufen*, but his compilation of Petrie's 1420 pottery types that occur in eight seriated cemetery sites into 141 groups is in many aspects incoherent, especially with regard to the Black-topped beakers (Wilkinson 1996: P03-P09),

which are important for the chronology of the early Naqada Culture. The result of his work with the separation of *Hauptstufen I* and *II* after *Stufe IIa* is thus debatable. More recently, S. Hendrickx devised a chronological system where he adopts Kaiser's *Stufen* for the early Naqada Culture until Naqada IIB, but modifies some *Leittypen* within the sub-phases (Hendrickx 1996; Hendrickx 2006). He refers, however, to the regional differences, especially during Naqada IIB, which does not allow us to ascertain the transition between the *Hauptstufen* Naqada I and II, either between *Stufen IIa* and *IIb* or *IIb* and *IIc* (Hendrickx 2006: 77-78).

Absolute dates have not been able to contribute so far to the division of individual phases of the older Naqada Culture (see Hendrickx 2006: 90-92; contra Savage 1998: 235-249). The few known <sup>14</sup>C dates from cemeteries (e.g., Görnsdorf, Dreyer & Hartung 1994: 169-175; Hendrickx 1999: 64-77) have a wide range because of the fluctuation of the calibration curve in the 4<sup>th</sup> millennium B.C. (see Midant-Reynes & Sabatier 1999: 83-107) and provide no more than a rough date for the time between Naqada IA and Naqada IIB, into the first half of the 4<sup>th</sup> millennium B.C.

With that, the chronology of the Naqada I Period remains largely unresolved.

## Problem with the Analysis

To date it has proven difficult to answer these questions because of the limited source material. Almost all of the large cemeteries that were occupied from the early 4<sup>th</sup> millennium on, such as Naqada and Ballas (Petrie & Quibell 1896), Diospolis Parva (Petrie 1901), Amrah (Randall-MacIver & Mace 1902), Abydos (Peet 1914; 1914a) and Mahasna (Ayrton & Loat 1911) were published with sketchy plans and with only descriptions of inventories from richer graves. At other cemeteries published in more detail, e.g., Naga ed-Dér (Lythgoe & Dunham 1965; Friedman 1981) or the Middle Egyptian sites Matmar (Brunton 1948), Badari (Brunton & Caton-Thompson

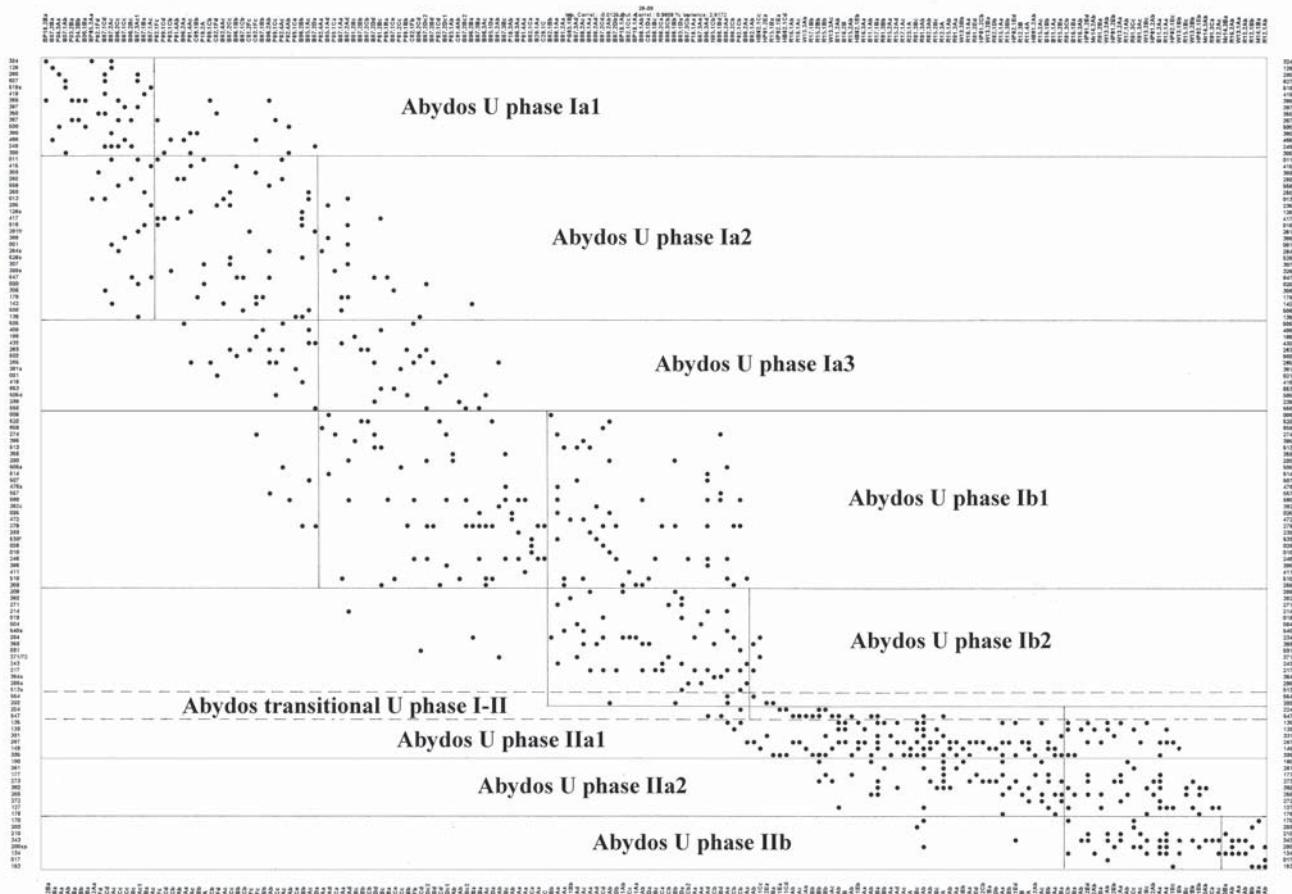
1928) and Mostagedda (Brunton 1937), the number of early graves with relevant pottery types is low. The pottery from the old excavations has almost exclusively been classified according to Petrie's typology, which not only has methodological problems with the definition of individual pottery classes, but has also led to new amendments to the corpus by different excavators due to missing criteria for separating individual types of vessels and their sketchy illustrations (discussion see Hendrickx 1996: 36-38, 44-47). This division into numerous, basically similar types of vessels, for example within the beakers and jars of the Black-topped ware and almost exclusively unique types of White cross-lined ware (Petrie 1921: pl. 20-25), severely complicates a seriation of the early graves and is only possible by grouping more scarce finds. This leads to considerable blurring of the fine chronology, such as the development of the Black-topped beaker shapes. At various cemeteries it also remains unclear if formally similar types are just local variations from the same phase or if they belong to different periods.

## Reorganization of the Early Naqada I based on the graves of Cemetery U at Abydos

The German Archaeological Institute in Cairo (DAI) has been excavating the Predynastic Cemetery U at Umm el-Qaab/Abydos since 1988 (Dreyer *et al.* 2003: 69-80; 2006: 71-73). The material found in approximately 650 graves from the Naqada I/II Period has made it possible to re-analyze questions pertaining to the chronology of the older Naqada Culture. Approximately 80% of all graves at Cemetery U belong to the Naqada I to Naqada IIB phase; among these are also a number of examples from the oldest periods IA and IB. In these early graves, pottery vessels are quite frequent, on average three vessels, so that a seriation of the oldest phases of the Naqada Culture, which so far has not been ascertainable at other cemeteries, seems possible. The pot-

tery vessels were classified according to fabrics and wares and the shapes were divided into vessel classes and shape groups (Hartmann 2009). In this seriation the predominantly early inventories excavated by E. Peet in 1910 (Peet 1914: 14-16) were included and the Petrie-types listed there transferred into the new classification model. Thus it was possible to directly compare the position of these graves and their vessel types in the seriation and *Stufen*-chronology, i.e., in *Stufen* Ia and Ib.

In the seriation (**fig. 1**), two main chronological phases could be distinguished separated by a transitional phase with little occupation that is visible as a marked step. The first main phase comprises the older Naqada Culture, i.e., Naqada IA-IIB; graves of the second main phase date to Naqada IIC-IIID2 (detailed discussion cf. Hartmann 2009; 2011). The older part of the first main phase termed here **phase Ia** exhibits three sub-phases Ia1-Ia3, in which older and younger groups of types appear because of the continuing replacement of the vessel types (**fig. 2**). In the oldest **phase Ia1** of Cemetery U there are just vessels made of untempered fine Nile silt. Black-topped ware dominates with compact and tall, slender beakers in cylindrical and conical shape. Characteristic types for this phase are round-based oval bowls, carinated bowls and a small conical bowl of Polished-red ware, as well as the Black-polished vessels P71m and F96G that seem to imitate basalt vessels. In the younger type group, there is for the first time a curved Black-topped beaker and a round-based Polished-red bowl, as well as deep bowls and slender, tall vases of White cross-lined ware that are decorated with geometrical and figurative motifs. In **phase Ia2**, the Black-topped ware slender conical and cylindrical beakers known from the preceding phase Ia1 continue. In addition, conical beakers with inflected wall and, for the first time, conical cups and Black-topped round-based bowls are characteristic. The Polished-red ware comprises of diverse types of bowls with round or flat bases and various shapes of high-walled vases. The array of shapes belonging to the White



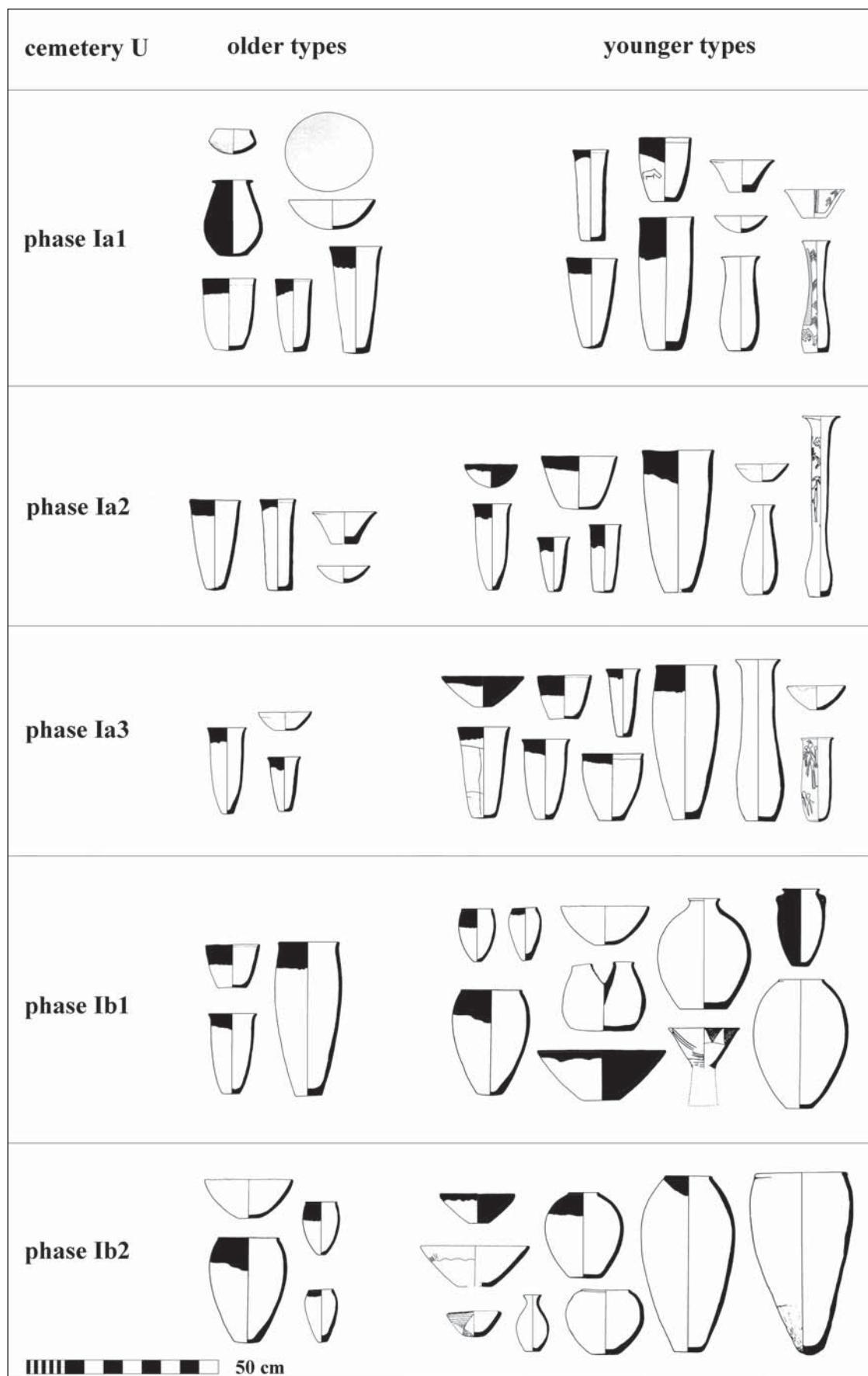
**Fig. 1**  
Seriation matrix  
for cemetery U,  
graves of  
Naqada IA-IIID2.

Cross-lined ware becomes more comprehensive; however, figurative representations are more common than geometrical patterns. In **phase Ia3** the oldest pottery types, such as the simple conical and cylindrical beakers are absent; instead beakers with stronger inflected S-shaped walls and conical cups almost exclusively occur. The numbers of flat based Black-topped- and Polished-red bowls clearly outweigh the round-based types. At this point, it is the development of slightly curved jars with a wide lip-rim aperture that indicates a general change in the type-assemblage of the Black-topped ware leading to the later ovoid jars of the series B72/74. In addition to the untempered fine Nile silts during this period, a few examples of medium to coarse straw-tempered vessels can be noted; a more common type fabric for storage vessels in the following periods. The continuous replication of vessels types, especially within the group of Black-topped beakers changes at the beginning of phase Ib, when

it is clear that new forms appear. Represented as a distinctive step in the diagonal matrix of the seriation (**fig. 1**), this change is indicated by the introduction of a significant number of closed-form Black-topped ware, Rough ware, as well as new vase and bowl shapes of the Polished-red ware. In **phase Ib1**, older beakers and younger jars are still found together within the graves (**fig. 2**). Furthermore, vessels from Petrie's Fancy ware and White Cross-lined ware are also represented; this phase features the most abundant range of the older Naqada Culture. From the last period of the first main phase, **phase Ib2**, older types known from phase Ia are absent, especially many Black-topped beaker types. In addition to ovoid and globular vessels adopted from phase Ib1, the first examples of a storage vessel with pointed base belonging to type R81 and of half-polished black or red bowls made of fine hard Nile silts make an appearance and continue into the second main phase.

**Fig. 2**

Characteristic pottery types  
of cemetery U,  
phases Ia1-Ib2.



## Correlation of the Results with Kaiser's Stufen-chronology and Petrie's Sequence Dates

The graves of Cemeteries U, U 1, U 13 and U16, published by Peet (1914: 15-16) and dated by Kaiser to *Stufe* Ia (Kaiser 1957: 73), contain the characteristic types for this *Stufe* along with graves b144 and b212 at Amrah. They appear in the seriation as belonging to phase Ia2, together with graves U 11 and U 20, assigned by Kaiser to *Stufe* Ib. This means that according to the seriation these graves at Cemetery U that were dated by Kaiser to *Stufen* Ia and Ib are actually contemporaneous. The range of types belonging to Kaiser's *Stufe* Ia generally correspond to the slender conical and cylindrical types of beakers of the older type-group of U-phase Ia2, e.g., B22b and B27g. The beakers with more inflected walls, e.g., B21c and B25c of Kaiser's *Stufe* Ib, occur in the younger type-group of phase Ia2. Therefore Kaiser's *Stufen* Ia and Ib correspond to the characteristic types of the older and younger type groups of phase Ia2. All graves that can be dated to phase Ia1,

according to the seriation, are thus older than Kaiser's *Stufe* Ia or at least contemporaneous; a temporal overlapping results from the conical beakers of series B22 and type B27g, which appear as characteristic types in phase Ia1 (younger type group) and phase Ia2 (older type group). The majority of the compact and slender cylindrical and conical beakers, carinated bowls, oval bowls and type P71m from the graves of Cemetery U are not attested in the *Stufen* chronology and represent the oldest known pottery types of the Naqada Culture. The range of shapes of phase Ia3 is comparable to some extent with Kaiser's *Stufe* Ib (e.g., cups, inflected beakers) and also to his *Stufe* Ic (e.g., ovoid jars as precursor of series B74). The characteristic types of phase Ib1 largely correspond to those of Kaiser's *Stufe* Ic, but also comprise elements from *Stufe* IIa (e.g., large Black-topped bowls, jars from series B56, 57, 58, etc., ovoid vessels of Rough ware). The material of phase Ib2 contains the most typical vessels of this *Stufe*; in addition there are also elements of *Stufe* IIb (e.g., Black-incised ware, types P56b and R81, half-polished bowls). In many cases, the seriation resulted in a slight

Petrie SD	Kaiser Stufen	Hendrickx Naqada	Abydos U - phases	Petrie SD	?
SD 63-	IIIa1	IID2	phase IIb1	SD 58- ?	
SD 40/45-63	IIId2		phase IIa2		
	IId1		phase IIa1	SD 47-58	
	IIc		transitional phase	SD 38-47	Naqada IC
SD 38-40/45	IIb	IIB	late early		
	IIa	IIA	phase Ib2		Naqada IB2
SD 30-38	Ic	IC	phase Ib1	SD 33-38	Naqada IB1
	Ib	IB	phase Ia3		Naqada IA3
	Ia	IA	phase Ia2	SD 31-33	Naqada IA2
			phase Ia1	SD 30	Naqada IA1

**Fig. 3**  
Correlation of chronological systems and suggested new terminology.

shift in the dating of the graves of Cemetery U in comparison to their temporal classification after the *Stufen*-chronology (fig. 3).

In comparison to Petrie's system of sequence dates, only a general correlation can be ascertained (fig. 3). When using sequence dates to date the graves at Cemetery U, only the two main phases (I and II) are evident, corresponding to Petrie's Amratian and Gerzean.

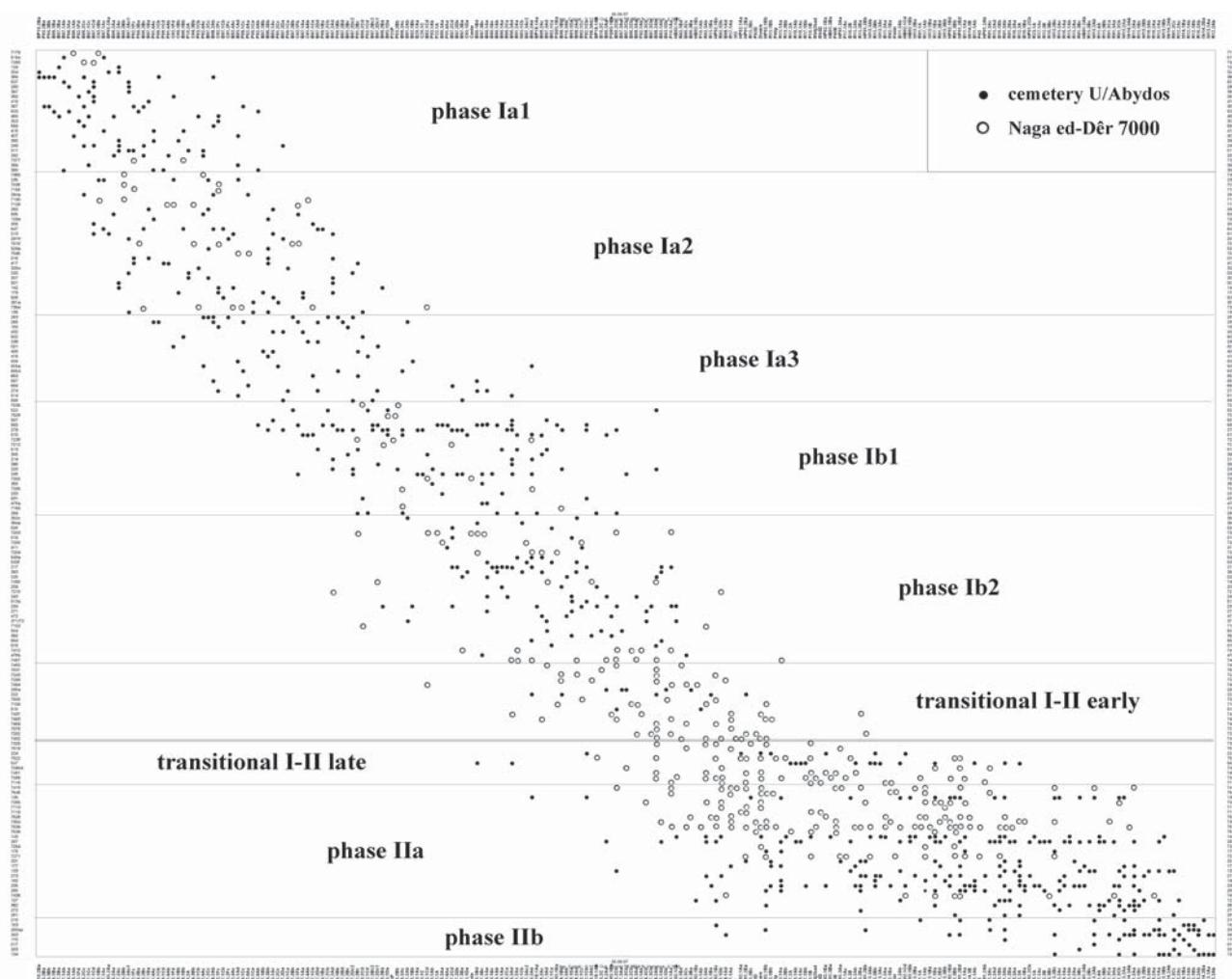
In what might be seen as a remarkable note, the current findings agree with the Sequence Date system in relation to the older phase Ia1. This phase corresponds to the early Amratian (SD 30), where, as with Cemetery U, the White-crossed lined ware is absent.

## Comparison with other cemeteries

The question as to how far the devised occupation phases of Cemetery U can be generalised and if the correlation with the *Stufen*-chronology or the terminology after Hendrickx commonly used today can be applied to other cemeteries cannot be answered without difficulties. A comparison has failed so far due to the multitude of published individual typologies. The material from Cemetery U provides a much wider data base, therefore offering the possibility to seriate the graves at Cemetery U together with inventories from other cemeteries by amalgamating a few pottery-types only to type-groups. Thus, direct comparison of the position of individual graves and pottery-types in the matrix of the seriation (detailed discussion see Hartmann 2009) can be achieved. In order to remain independent of Petrie-types, all vessel types that occur at other cemeteries and have parallels at Cemetery U had to be transferred into a new classification; while recognizing that one must ultimately have had to rely on identification of appropriate Petrie types in the published grave registers. Types of vessels that do not occur at Cemetery U were incorporated into the seriation as Petrie-types, which provided an overview of the differences within the type varieties and their combination in the grave assemblages at the cemeteries.

The results of these seriations, for example Cemetery U in combination with cemeteries Naga

ed Dér N7000 or el-Amrah a& b, show that the pottery inventories of the different cemeteries can be linked to those of Cemetery U, the graves of which remain stable in the defined occupation phases despite the greater amount of data (fig. 4). Thus it seems that the devised chronological system is more universally valid; for example, graves from Amrah b144 and b212, Mahasna H26 and H30, Naga ed-Dér N7179, N7260, N7377, Abydos E179 and Abydos C2 can all be assigned with certainty to phase Ia1 at Cemetery U. After the combined seriation with Cemetery U, it was possible to state that graves 1432 and 1414 at the cemetery at Armant, whose occupation in *Stufe* I had thus far been unresolved, were already occupied from Phase Ia2 onward; at least since Naqada IB. During the older Naqada Culture up to phase Ib2 at Cemetery U or Naqada IIB, the development of the pottery types at all of the examined cemeteries run for the most part parallel. Although the selection of vessel types at the various cemeteries shows differences, as in the case of Naga ed-Dér, where compact beakers and cups were the preferred grave good and slender types of beakers were rare, hardly any local characteristics in the formal design of the vessels are evident. If these local forms are present, they primarily relate to rare types of vessels such as the Fancy vases. From phase Ia3 or Naqada IB/C, distinct chronological differences in the introduction of some vessel types or shape groups become apparent. Closed-form Black-topped jars of the series B57/62/68/74 sporadically appear at Amrah and Mahasna in phase Ia3 (Naqada IB-IC); however not until phase Ib1 (Naqada IC-IIA) at other sites. Rough-ware can also be found in the cemeteries at different times and as various types of vessels. Occasionally these vessels are found in Cemetery U (R81v) and at Salmany (R66p) already by phase Ib1; however, it is not until phase Ib2 are they found in larger quantities at Mahasna (R82e), at Amrah (R80), Naga ed-Dér (R91b, series R3, R81) and Armant (series R3, R81v). As it was similarly apparent in the seriation of the graves at Cemetery U, a first break in the development of pottery types after phase Ia3 is also evident in the combined seriations. This is occurring at the time when a large number of closed Black-topped vessels were added to the inventories



of these cemeteries. The general change in wares and type-varieties at all sample cemeteries commences only after the older transitional phase of Cemetery U (Naqada IIB-IIC), as indicated by a distinct step in the seriations. Evidence for this period is scarce at Cemetery U; nevertheless, the transition is quite apparent at other cemeteries where the number of corresponding graves is much higher (fig. 4 & 5).

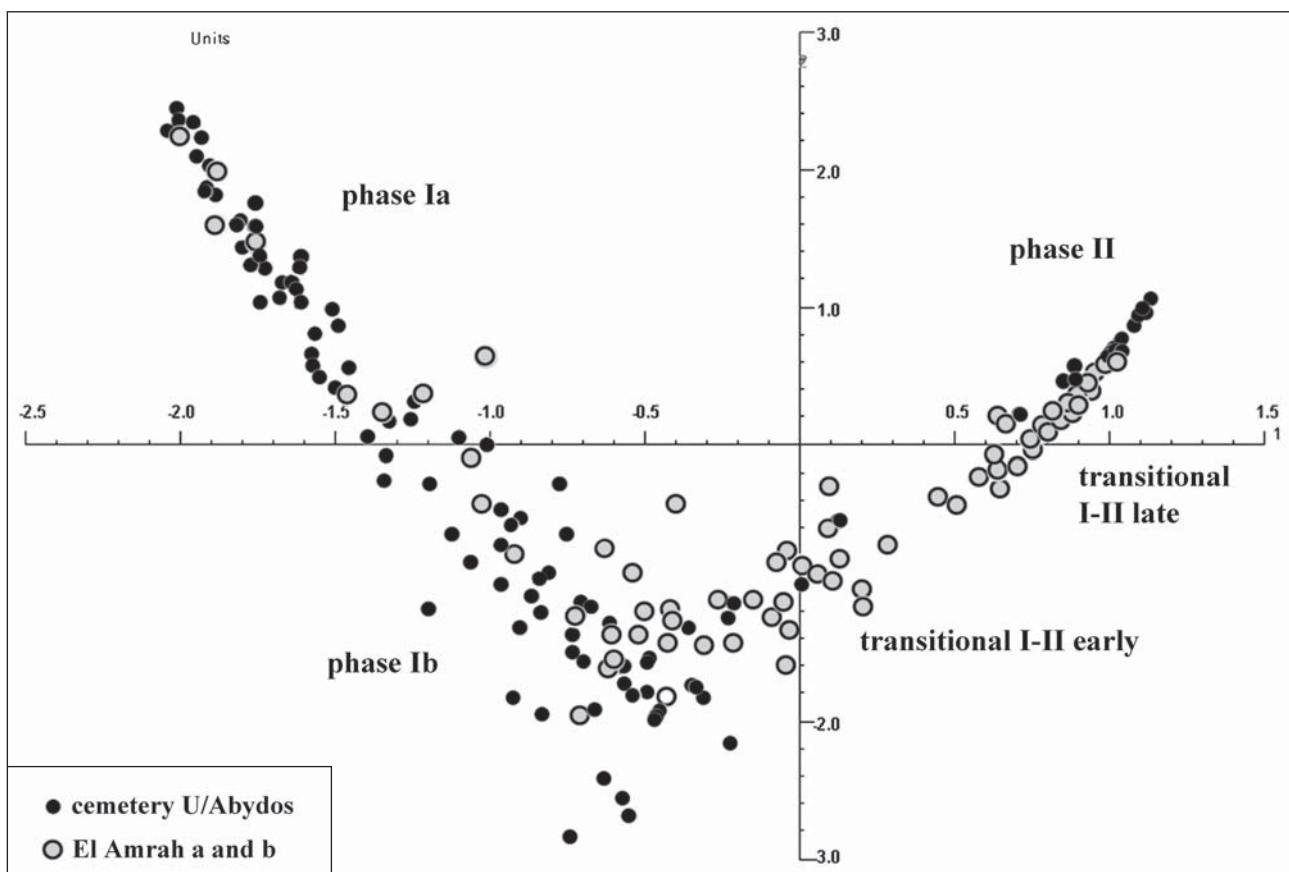
## Conclusion

The research proves that it is possible to transfer the chronological framework of Cemetery U to other cemeteries in order to observe similarities and differences in the assortment and chronological introduction of the types of vessels. The earliest period documented at Cemetery U Ia1, which precedes Kaiser's

*Stufe Ia*, and the amalgamation of Kaiser's *Stufen Ia* and *Ib* to phase Ia2, has been ascertained in the combined seriation with other cemeteries. Compared to the chronological systems of Kaiser and Hendrickx, the current research results in a slight shift or overlapping of the earliest phases of the Naqada Culture (Fig. 3). Based on the occupational phases of Cemetery U, it is suggested that there should be a change in the present terminology without requiring major changes to the existing systems as follows:

Cem. U	Kaiser	Hendrickx	
phase Ia1			Naqada IA
phase Ia2	<i>Stufen Ia-Ib</i>	Naqada IA-IB	Naqada IB
phase Ia3	<i>Stufen Ib-Ic</i>	Naqada IB-IC	Naqada IC
phase Ib1	<i>Stufen Ic-IIa</i>	Naqada IC-IIA	Naqada IIA
phase Ib2	<i>Stufen IIa-IIb</i>	Naqada IIA-IIB	Naqada IIB

**Fig. 4**  
Seriation matrix for  
cemetery U and  
cemetery N7000,  
Naga ed-Dér.

**Fig. 5**

Correspondence analysis for cemetery U and cemeteries of El Amrah.

Although the typological development of pottery types is comparable in all cemeteries, it is still not possible to apply a universal selection of characteristic pottery types for the various cultural phases, similar to the *Stufen*-chronology, but especially for the time from Naqada Ic onwards, when the number of graves and types of vessels increases dramatically and thus the differences in the type varieties becomes more apparent. The two distinct breaks in the matrix of all performed seriations mark concurrent changes at all of the cemeteries. The first break between U-phase Ia3 and Ib1 or Naqada IC and IIA occurs because of the introduction of numerous closed vessel types of Black-topped ware denoting the beginning of a change in the function of the funerary pottery. The second break between the older and younger transitional phase at Cemetery U, or Naqada IIB and IIC, indicates a preliminary finishing of this process that seems to have been linked to a general shift in the funerary rites (Endesfelder 1990: 105; Buchez 1998: 83-103). This break can be seen as a result of the introduction

of completely new groups of material such as the wavy-handled jars and the final abandonment of the Black-topped beakers. Graphically this cultural transition is conveyed by a dot-free surface in the diagram of the correspondence analysis (fig. 5), statistically it is expressed by the replacement of Black-topped ware by large numbers of Rough ware (Hendrickx 2006: pl. II 1.4b). Although Kaiser's separation of the main *Stufe* Naqada I and II after his *Stufe* Ic was not unjustified according to the development of the pottery, the transition to *Stufe* IIC is much more pronounced and indicates a shift of the beginning of Naqada II between the current phases Naqada IIB and IIC.

This necessary shift, made evident by the combined seriation of various cemeteries, requires an extension of the Naqada I Period, either by adding further sub-phases (Hartmann 2010) or by including the phase-terms of Cemetery U, which takes into account both breaks in the development of the pottery, into the general terminology:

Cem. U	Kaiser	Hendrickx	
phase Ia1			Naqada IA1
phase Ia2	Stufen Ia-Ib	Naqada IA-IB	Naqada IA2
phase Ia3	Stufen Ib-Ic	Naqada IB-IC	Naqada IA3
phase Ib1	Stufen Ic-IIa	Naqada IC-IIA	Naqada IB1
phase Ib2	Stufen IIa-IIb	Naqada IIA-IIB	Naqada IB2
transitional I-II early	Stufen IIb-IIc	Naqada IIB-IIIC	Naqada IC

Such an extension of the Naqada I Period naturally results in far-reaching modifications to the terminology of Naqada II (and thus also Naqada III); however, according to new examinations at other cemeteries, they seem to be justified (Buchez 2007; 2008). Before such an extensive revision can be made, the evidence from various other cemeteries needs to

be examined in detail. In addition to the pottery, other chronologically significant objects such as cosmetic palettes, stone vessels, flint knives, etc., which so far could only be assigned to wider chronological phases, must be taken into account. Only then can we decide if such a modification of the current terminology is justified and cultural-historically relevant.

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# Settlement Sites in the Nile Delta

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*The 4<sup>th</sup> millennium and the beginning of the 3<sup>rd</sup> millennium B.C. is a time of significant transformations in the Nile Delta. In the beginning of that period, possibly for the first time, the whole Nile Delta was settled by groups of people of the Lower Egyptian Culture. Another change is connected with the appearance of Naqadians in the north, which influenced local societies of the Lower Egyptian culture. As a result, a new unit that integrated elements of both cultural complexes arose. The process of state formation, leading to the foundation of a unified Egyptian state under the reign of king Narmer is the last important political, social and economic change of the Nile Delta in this period. These three changes have been recognised on almost all Delta settlement sites known today and are well represented among pottery, flint assemblages and in the architecture of the sites. In this paper we have tried to compare published materials from several Nile Delta site dated to the 4<sup>th</sup> millennium and the beginning of the 3<sup>rd</sup> millennium B.C. to show how these three transformations are visible in archaeological records.*

*Le 4<sup>e</sup> millénaire et le début du 3<sup>e</sup> millénaire correspondent à une période de transformations importantes dans le delta du Nil. C'est durant cette époque que la région est entièrement habitée, sans doute pour la première fois, par des groupes rattachés aux cultures de Basse Égypte. Une autre transformation est liée à l'apparition de traditions nagadiennes dans le nord du pays, qui ont définitivement influencé les sociétés autochtones, aboutissant au développement d'un nouveau complexe culturel intégrant les composantes des deux entités. Le processus de formation étatique, qui conduit à la fondation d'un État unifié sous le règne du roi Narmer, est la dernière mais la plus importante des mutations politiques, sociales et économiques qui marquent le Delta durant cette période. Ces transformations sont connues sur la plupart des sites d'habitat de la région découverts jusqu'à présent et sont bien attestées dans le matériel céramique et lithique mais aussi dans l'architecture des localités étudiées. Dans cet article nous comparons les données publiées pour la plupart des sites du 4<sup>e</sup> et du début du 3<sup>e</sup> millénaire afin de mettre en évidence ces trois phases de changements bien visibles dans les données archéologiques.*

## Introduction

The 4<sup>th</sup> millennium and the beginning of the 3<sup>rd</sup> millennium B.C. is a time of significant transformations in the Nile Delta. Following a long period of scarce occupation by early farming societies in the Fayum Oasis, Mermide Beni Salame and Wadi Hof in the Neolithic Period, the whole Nile Delta was, possibly for the first time, settled by groups of people described by some archaeologists as the Lower Egyptian Culture. It was a moment when important cultural, social and political processes began. The Lower Egyptian-Naqada transition is often considered the first important change. As a result, a new unit that integrated elements of both cultural complexes arose. Another factor of transformation is the process of state formation, leading to the foundation of a unified Egyptian state under the reign of king, Narmer. These changes have been recognised on almost all Delta settlement sites known today and are well represented among pottery, flint assemblages and in the architecture of the sites.

## Settlements of the Lower Egyptian Culture

The Lower Egyptian culture occupied northern Egypt between 3,900 and 3,300/3,200 B.C. (Ciałowicz 2001: 38, tab. 3). This cultural complex possibly covered nearly all of Lower Egypt. Today, a total of 21 sites of Lower Egyptian Culture have been identified (Mączyńska 2011, tab.1). However, most of these settlements are located in the central and eastern part of Lower Egypt. The western part of Lower Egypt still remains a mystery for researchers, thus requiring further archaeological survey.

The chronological division of the Lower Egyptian Culture involves three phases: early, middle and late with the Lower Egyptian-Naqada transition taking place during the last of these phases (Mączyńska 2011, tab.2).

The sites that are currently known do not allow us to say more about the precise settlement pattern of the Lower Egyptian Culture. We are unable to distinguish a centralised region as it seems probable that the sites operated independently. There were probably several independent centres, such as Maadi, Buto or Tell el-Farkha, all developing under specific local conditions. A settlement unit of the Lower Egyptian Culture most likely consisted of a settlement and its nearby cemetery.

The oldest known settlement site of this culture was discovered at Maadi (Rizkana & Seeher 1987; Hartung 2004: 337-356), with the cemeteries of Maadi and Wadi Digla recorded nearby (Rizkana & Seeher 1990). During the same period, the settlement in Buto was founded in the Northern Delta (von der Way 1997); however, the location of its cemetery is still unknown. For the cemetery in Heliopolis the situation is reverse as we do not know the location of its settlement (Debono & Mortensen 1988).

Corresponding to Naqada IIC in the south, the settlement in Maadi was abandoned (Faltings 1998: 372-373), yet new settlements appeared in other parts of the Delta at Mendes, Tell el-Farkha, Tell el-Iswid (South), Tell Ibrahim Awad and Sa el-Hagar/Sais (Chłodnicki & Ciałowicz: 2002a 63-118; 2004: 47-73; 2006: 71-128; van den Brink 1989: 55-108; 1992: 43-68; Friedman 1992: 199-206; Mączyńska 2003: 213-225; 2011: 884-886; Midant-Reynes 2007: 272-275; Tristant *et al.* 2008: 171-173; Wilson 2006: 75-126). The author is aware of only two cemeteries that were used by Lower Egyptians in this period at Minshat Abu Omar and Kom el-Khilgan<sup>1</sup> (Buchez & Midant-Reynes 2007: 43-70; 2011: 887; Kroeper & Wildung 1994; 2000; Midant-Reynes *et al.* 2003a:

1. According to N. Buchez and B. Midant-Reynes (*in press*) there is a time-lag between the earliest burials of Minshat Abu Omar and the burials of Kom el-Khilgan, which either reflects the chronological difference between these two sites or the difference in a site hierarchy.

55-64; 2004: 465-486). Although a settlement in Minshat Abu Omar was identified (Krzyżaniak 1989: 267-285; 1992: 151-156; 1993: 321-325), only the cemetery was excavated. Whereas the cemetery in Minshat Abu Omar was used continuously to bury the dead until the Early Dynastic Period, there appears to be a hiatus in the cemetery at Kom el-Khilgan during the Naqada IID2 Period with burials appeared again in Naqada IIIA.

Lower Egyptian society was not an isolated entity in that it maintained contacts with the Naqada Culture in the south and the late Chalcolithic/Early Bronze I society in the Southern Levant. Upper Egyptian and Southern Levantine imports have been recorded at the Lower Egyptian sites of Maadi, Wadi Digla, Heliopolis, Tell el-Farkha, Buto, Minshat Abu Omar, confirming the exchange of goods in the form of reciprocal trade (Mączyńska 2004a: 435-437; 2006; 2008: 763-779).

**Tab. 1**  
Chronology of the  
Delta settlement sites.

		PERIODS			SETTLEMENT SITES																	
PREDYNASTIC	PROTODYNASTIC	EARLY DYNASTIC	DYNASTY 2	DYNASTY 1	NAQADA I	NAQADA II	NAQADA III	KAISSER	HENDRICKX	MAADI	WADI DIGLA	HELIOPOLIS	SAS	BUTO	TELL EL-FARKHA	TELL IBRAHIM AWAD	TELL EL-ISWID	MENDES	TELL EL-FARKHA CEMETERY	KOM EL-KHILGAN	MINSHAT ABU OMAR	
LOWER EGYPTIAN CULTURE	MIDDLE	LATE TRANSITIONAL	II b	II A	II a-c	I C	III a1	III b1	III c1	III d1	II C	II b	II a	II	II	II b	II a	II b	II	II	II	II
EARLY			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a2	III b2	III c2	III d2	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B	IA	III a1	III b1	III c1	III d1	II C	II B	II A	II	II	II	II	II	II	II	II
			II b	II A	II a	I B																

The Naqada IID2 Period is often related to the Lower Egyptian-Naqada transition and the presence of Upper Egyptian communities migrating to northern Egypt. It has been suggested that these new arrivals from the south brought with them innovations such as building techniques and pottery production. For many years mud-brick architecture and new jar forms (e.g. Petrie's R76, R81 & R84-R86) were treated as chronological markers of this transition (Jucha 2005: 64; Mączyńska 2004a: 438). However, the latest research at Tell el-Farkha shows that although these innovations may have originated in Upper Egypt, they had been known to Lower Egyptians since the Naqada IIC-IID1 Period (Chłodnicki & Ciałowicz 2006: 76-77; Zdziebłowski 2008: 115). An explanation for this claim rests with the special character of the settlement at Tell el-Farkha. That it was situated on what was most probably the trade route with the Levant, it would have had some part in the exchange with that region (Mączyńska 2006: 946-955). A large brewery centre and a large building dated to NIIC-D1, both unique to northern Egypt for this period, could furthermore indicate the special position of the site in the settlement pattern of the Lower Egyptian Culture (Chłodnicki & Ciałowicz 2002b 68-70; 2006: 72-77; Ciałowicz 2001: 96-98; 2006: 918-920). Taking into consideration the data presented above, we cannot exclude that contact existed between Naqadans and the inhabitants of Tell el-Farkha during the Naqada IIC-D1 Period, which is earlier than previously supposed. Lower Egyptian-Naqada transition was also recorded at other sites such as the settlement in Buto and the cemetery in Minshat Abu Omar. On the basis of the finds made, we are able to conclude that contact and interaction between these two complexes resulted in a new unit, combining elements of the Lower Egyptian and the Naqada cultures. There is no cultural discontinuity in Lower Egypt for this period. In the beginning of the Naqada III Period, occupation continued at most of the sites, which were already settled in the previous period. This cultural continuity is also well observed in the pottery, flint production and architecture.

## Predynastic Period – Lower Egyptian Culture

The differences among three phases of the Lower Egyptian Culture are visible mostly among pottery; with some very small differences noticeable in the flint assemblages. However, no significant changes can be seen in the cultural complex with regard to settlement patterns, economy and social system/burial customs (Mączyńska 2011: 884-888).

The technology of Lower Egyptian pottery did not change significantly during these three phases. Local Nile clay tempered with fine to medium sand and medium to coarse straw (R2-ware) is the most popular material used during pottery production. Additionally, the most characteristic for this complex is very fine and long organic temper with the presence of hair, which was registered mostly on vessels belonging to P-ware found at Tell el-Farkha 1-2, Buto I-IIIa and Mendes Area B Unit 2-3 (Friedman 1992: 203; Mączyńska 2003: 216-217; Köhler 1992: 16-17). Pottery made of marl clay represents only of a very small part of ceramic assemblages and was imported from the south (Mączyńska 2003: 216-217; 2011: 889; von der Way 1997: 104-105).

The most characteristic types for the oldest phase are jars on a raised base and ovoid jars with a pointed base such as those found at Maadi, Wadi Digla and Heliopolis (**tab. 2:1**) (Debono & Mortensen 1988: 27-28; Rizkana & Seeher 1987: 34-36; 1990: 79); elongated barrel-shaped jars found at Maadi, Wadi Digla, Heliopolis and Kom el Khilgan 1 (**tab. 2:2**) (Buchez & Midant-Reynes

**Tab. 2**

The main pottery chronological markers for Lower Egyptian and Naqada cultures

NAQADA	23	24	25	26	27	28	29	30	31	32	33
III D											
III C2	—	—	—	—	—	—	—	—	—	—	—
III C1	—	—	—	—	—	—	—	—	—	—	—
III B											

NAQADA	12	13	14	15	16	17	18	19	20	21	22
III D											
III C2											
III C1											
III B			—	—	—	—	—	—	—	—	
III A2	—	—	—	—	—	—	—	—	—	—	—
III A1	—										
II D2											

NAQADA	1	2	3	4	5	6	7	8	9	10	11
III C1											
III B											
III A2											
III A1											
II D2				—	—	—	—	—	—	—	—
II D1											
II C											
II B	—	—									
II A											
I C											
I B											
IA											

2007: 45-47; Debono & Mortensen 1988: 25-26; Rizkana & Seeher 1987: 36; 1990: 81-84); ovoid and globular jars found at Maadi, Wadi Digla and Kom el Khilgan 1 (**tab. 2:3**) (Buchez & Midant-Reynes 2007: 45-47; Rizkana & Seeher 1987: 37; 1990: 85-87); bowls with a T-shaped profile found at Buto I (**tab. 2:4**) (von der Way 1997: 93) and large storage jars found at Maadi and Buto I (Rizkana & Seeher 1987: 37-38; von der Way 1997: 91). Black topped jars, both imported and locally made found at Maadi (Rizkana & Seeher 1987: 51-52), bowls with a pie-crust rim found at Buto Ia and Mendes<sup>2</sup> (Friedman 1992: 204; von der Way 1997: 102) and knob decoration found at Buto Ia (von der Way 1997: 102) were registered only in layers dated to this period. The last two decoration elements were most probably local adaptations from South Levantine vessels (Faltungs 2002: 166).

The flint industry of this phase is characterized by a domination of blades, bladelettes and the production of so-called “twisted blades” found at Maadi and Buto I (Schmidt 1992a: 32-34). The microretouche of the “Ouchtata” type is also common (Schmidt 1993: 269-277). Large sickle blades should also be mentioned among tools from Maadi (Rizkana & Seeher 1985: 249, fig. 9:5).

Cultural markers of the middle phase of the Lower Egyptian Culture include lemon-shaped jars such as those from Tell el-Farkha 1, Kom el Khilgan 2, Minshat Abu Omar I, Buto II and Tell el-Iswid A (**tab. 2:5**) (Buchez & Midant-Reynes 2007: 48, fig. 6; van den Brink 1989: 67, fig. 9:1-4; Kroeper & Wildung 1994: 9, 22, 26; Mączyńska 2003: 219, fig. 5:12-13; 2011: 892, fig. 2:3, 7-10, 13-14; von der Way 1997: 89, Taf. 1), and round jars with a rim slightly inverted to the exterior from Tell el-Farkha 1 and Tell el-Iswid A (van den Brink 1989: 67, fig. 8a; Mączyńska 2003: 217-128). Among the open forms, most dominant are small bowls with a simple rim, a rounded rim or a rim formed into a small external lip found at Tell el-Farkha 1, Tell el-Iswid A and Buto II (van den Brink 1989: 68, fig. 9: 5-10; Mączyńska 2003: 219, fig. 5:8, 14; von der Way 1997: 92-93, Taf. 22-24, 28). Also recorded are two decoration patterns consisting of incised or dotted zigzagging on jars and impressed semi-circles on bowls found at Tell el-Farkha 1, Buto II, Tell el-Iswid A, Tell Ibrahim Awad 7 and Sais III (**tab. 2:6-7**) (van den Brink 1989: 70, fig. 10, 11, 12: 6-8, 18-19; 1992: 54, fig. 10:1-6; Mączyńska 2003: 217-218, fig. 5:1-6; von der Way 1997: 96-98, Taf. 4:2-6, 5:1-6; Wilson 2006: fig. 21:14, 23:26).

The flint assemblages include Hemamiya Knives from Buto II, Tell el-Farkha 1, Tell el Iswid A and Tell Ibrahim Awad 7. They are typical for the Naqada IIC-D Periods and occurred at sites in both Upper and Lower Egypt (Kabaciński 2003: 201-202; Schmidt 1992a: 32-34; 1992b: 85). The microretouche of the “Ouchtata” type and large sickle knives still continue to occur at Buto II and Tell el-Farkha 1 (Kabaciński 2003: 202; Schmidt 1993: 270). “Twisted blades” was registered also at Buto II, Tell el-Iswid A and Tell Ibrahim Awad 7 (Schmidt 1992a: 32; 1992b: 85).

On most sites of the last phase of Lower Egyptian Culture the pottery possesses numerous common features, such as at Buto IIIa, the lower strata of Unit 3 of Area B at Mendes, Tell el-Farkha 2 and Minshat Abu Omar I. Lemon jars still occur as does pottery decorated with a zigzag and semi-circles at Tell el-Farkha 2 (Mączyńska 2011: 894-897). Additionally, small bag-shaped jars were found with a rounded or slightly pointed body (Petrie’s R65) at Buto IIIa and Tell el-Farkha 2 (**tab. 2:8**) (Jucha 2005: 65; Köhler 1992: 18-19, fig. 6:7-9; 7; Mączyńska 2011: 897-898). Additionally, the amount of Naqadan pottery increases during this stage

2. From the level beneath Unit 3 in Area B (Friedman 1992: 204).

(Köhler 1992: 16-17). Pottery made of marl clay; new forms of vessels (e.g. Petrie's R76, R81, R84-R86) and D-ware pottery were found more abundantly than in the previous phases (Jucha 2005: 64-66; Köhler 1992: 18-19; 1998: 44; Mączyńska 2004a: 435-436, fig. 10). Some fragments of jars with wavy handles belonging to W-ware were also registered at Buto II/IIIa and Minshat Abu Omar I (**tab. 2:9**) (von der Way 1997: 192-194, Taf. 45-47; Kroeper 1988: 13-14, fig. 27-28, 59-61). Within the flint assemblages, Hemamiya Knives and sickle blades knives and the microretouche of the "Ouchtata" type are also present at Tell el-Farkha 2 and Buto IIIa (Schmidt 1992a: 32-34). Additionally, locally made new tools imitating the Upper Egyptian items appeared including bifacial blade knives without a handle at Tell el-Farkha 2 (Kabaciński 2003: 99-101).

## Settlements of the Naqada Period

It seems that the Nile Delta was densely populated as early as the Predynastic Period and many of the sites, which became important later have existed since that time. This includes several previously known settlements that were still inhabited into the subsequent Naqadan phases such as Tell el-Farkha, Buto, Tell Ibrahim Awad and Tell el-Iswid (South). The research also proves the existence of a great number of other settlements as well as cemeteries such as Mendes, Tell Masha'la, Tell Gabbara, Tell el-Murra, Kom el-Khilgan, Minshat Abu Omar, Tell el-Daba'a (el-Qanan), Tell el-Samara, Beni Amir, Ezbet el-Tell/Kufur Nigm, Minshat Ezzat<sup>3</sup> and Kafr Hassan Dawood (Hassan *et al.* 2008). Moreover, several new sites emerged in the Memphite Region (Köhler 2004: 311; 2008: 534-536). The quantity of sites dating to the end of Protodynastic/Early 1<sup>st</sup> Dynasty is especially significant. Apart from the above-mentioned sites there are further sites dating to this period based on the surface material collected during surveys (van den Brink 1993: figs. 4-7; Chłodnicki *et al.* 1992: tab.1; Jucha 2009b; Krzyżaniak 1989; Wilson 2006). However, it is quite possible that some older occupation layers are also present at these sites. A great many of them were situated in the North-Eastern Delta, probably alongside the former Tanitic branch or/and its tributaries and the trading route leading to the southern Canaan (van den Brink 1993: 294). This situation must be related to increasing commercial relations between that region and Egypt, in which inhabitants of these sites undoubtedly participated and can be confirmed by the occurrence of imported objects, both from Canaan as well as Upper Egypt (Hendrickx & Bavay 2002; Jucha 2008a: figs. 1; 2:1-2; 3:5). Moreover, it is very likely that the settlement pattern of the Nile Delta during this formative period consisted of several centres of the same significance and size that developed independently (Ciałowicz 2006: 924; van den Brink 1993: 301-302). A number of finds, among them several dated to the period before the traditional date of unification and comparable in character to objects coming from the South of Egypt, confirms the significance of the Nile Delta sites. This is observable especially in both the type and size of architectural mud-brick constructions. The most important structures uncovered so far include: a residence of the Naqada Period (Naqada II/III); a monumental (sepulchral?) brick structure (Protodynastic) and an administrative-cultic centre (end of Protodynastic/beginning of the Early Dynastic Period) at Tell el-Farkha (Ciałowicz 2006; 2008); a shrine/temple (from the Protodynastic) at Tell Ibrahim Awad (Eigner 2000: 29-35; van Haarlem 1998); and an administra-

<sup>3</sup>. For references, see: Hendrickx & Brink 2002: 348-349, 370-371; tab. 23.1; 23.2; Jucha 2009b: 83-84; Tristant 2005: vol. II.

tive building at Buto (Early Dynastic) (Hartung 2008: 1209-1213). Other important finds comprise temple deposits (miniature anthropomorphic and zoomorphic figurines, miniature vessels, miniature models of ships, rattles and other objects) from Tell Ibrahim Awad (van Haarlem 1995) and Tell el-Farkha (Ciałowicz 2006: 924-932); two golden figurines from Tell el-Farkha (Chłodnicki & Ciałowicz 2007); and a decorated palette from Minshat Ezzat (el-Baghdadi 2003: fig. 7).

The existence and prosperity of these settlements may indicate the increasing importance of this region, which was finally incorporated by early Egyptian rulers. These sites became included within the royal commercial network and thus came under the control of royal administration. There is an increasing number of finds that reflect the development of a system of collection and redistribution of commodities controlled by the state during this time such as seals and seal impressions (Chłodnicki 2008: 493-497, figs. 1-5; Kaplony 1992). "Pot-marks" and royal names (Jucha 2008b; Köhler 2004: 306-310, fig. 8; Kroeper 2000; Tassie *et al.* 2008: 208-209) occur quite frequently at this stage and the occurrence of two complete and probably one fragmentarily preserved example of the name of Iry-Hor at Tell el-Farkha (Jucha 2008b: fig. 3:5) is of great importance, as previously known pottery inscriptions referring to him derive mostly from the South (van den Brink 2001: 46-51). Other *serekhs* of Protodynastic rulers, dated prior to Iry-Hor were also attested at several sites (van den Brink 2001: 86, 89-90), including those found at Tell el-Farkha.

Considering the above-mentioned settlements, the published evidence allows us to compare and correlate the phases distinguished at Buto and Tell el-Farkha as well as, although to a lesser extent, at Tell Ibrahim Awad, Tell el-Iswid (South) and Mendes.

### **The end of Naqada II and the beginning of Naqada III Period**

In this period occupation continued on most of the sites of Lower Egypt. The ceramic assemblages recorded at Tell el-Farkha (phase 3, the beginning of phase 4), Buto (Schicht IIIb-f), Mendes (the upper layers of Unit 3 and Unit 2 of Area B), Tell el-Masha'la, the cemeteries in Minshat Abu Omar (group II-III), Kom el-Khilgan (phase 3) and Kafr Hassan Dawood all show close affinity (Buchez & Midant-Reynes 2007: 45; Friedman 1992: 199-206; Hassan *et al.* 2008: 41-59; Jucha 2005: 66-69; Köhler 1998; Kroeper & Wildung 1994; 2000; Midant-Reynes *et al.* 2004: 465-486; Rampersad 2007: 789-816). The published reports from the sites at Tell el-Iswid (phase B) and Tell Ibrahim Awad (phase 6) seem to prove a dating later than E. van den Brink (1989: 55-108; 1992: 43-68) had assumed in his publications (Jucha 2005: 69).

There is no major break in the pottery production between Naqada IID2 and IIIA1 (Hendrickx *et al.* 2002: 279-280). Most forms of vessels known from the last phase of the Lower Egyptian Culture still occur in the assemblages dated to the beginning of Naqada III Period such as hole-mouth jars and small bowls of different types (Friedman 1992: 200-204; Jucha 2005: 66-69; Köhler 1998: 46-47). There are several noticeable changes in technology at this point; namely, that hairline temper is no longer added to the paste and a significant feature of the pottery from this period is the comparatively small amount of P-ware in comparison to the pottery of the Lower Egyptian Culture seen at Tell el-Farkha 3, Buto III b-c and Mendes 3 (Friedman 1992: 200-204; Jucha 2005: 66-69; Köhler 1998: 46-51; Mączyńska 2011: 889). The gradual development of pottery production in this period shows that Lower Egyptian-Naqada cultural transition should be treated as a gradual, continuous process.

An important change in the pottery tradition occurs between Naqada IIIA1 and Naqada IIIA2 where significant progress in technology can be easily noted. A stand-

ardisation of production, of cheaper and more efficient vessels, is apparent and can be connected to the appearance of pottery workshops in these centres (Köhler 1997: 81-89; 1998: 63-72). It is clear that a rotating device was in common use in the workshops and as a result many new vessel shapes emerged. Moreover, there is an increase in the amount of good quality pottery of P-ware and S-ware such as those recorded at Tell el-Farkha 4 and Buto IIId-f (Jucha 2005: 33, Fig. 13). According to Ch. Köhler (1997: 81-89; 1998: 63-72), this change could be caused by increased demand, eventually linked to the growing complexity of society and/or changes in its socio-economic structure.

Cultural markers for Naqada IIIA Period include rolled rim jars with flat bases (Petrie's R84) (**tab. 2:11**) and bag-shaped jars (Petrie's R65) (**tab. 2:8**). Tall tapering jars also appear at Tell el-Farkha 3-4 and Buto IIIb-d (**tab. 2:13**) (Jucha 2005: 70; Köhler 1992: 11-22; 1998: 17-18). Vessels with wavy handles still occur; however, they become more slender and their handles lose their function and change into a continuous decoration band (Hendrickx 2006: 83-84). By the end of this period cylindrical or almost cylindrical jars make an appearance, decorated with a wavy design made by pushing the clay up or a motif impressed with a finger. Some of these jars are decorated with a painted net pattern, such as the ones recorded at Tell el Farkha 3-beginning of 4, Kom el-Khilgan 3 and Buto IIIb-f (**tab. 2:12**) (Jucha 2005: 59-60, pl. 98; Köhler 1998: 33-34, Taf. 59; Midant-Reynes *et al.* 2003b: 31-32, fig. 13). The most common pattern on pottery belonging to D-ware is a painted wavy line or parallel wavy lines in small groups found at Tell el-Farkha 3-4 and Buto IIIb-f (**tab. 2:10**). Another decoration pattern noted on potsherds consists of a punctured decoration (**tab. 2:17**) (Jucha 2005: 55-57; Köhler 1998: 35, Taf. 57: 3-4, 6, 63: 7-11, 64: 1-8).

At this point "Twisted blades" and large sickle blade knives disappear from the flint production corpus. The basis of the flint industry now consists of more or less regular blades, used mostly for production of rectangular sickle blade that appear in great quantity at Tell el-Farkha 3-4 and Buto IIIb-f (Kabaciński 2003: 201-212; Schmidt 1992a: 34-36). This change in the flint industry could indicate the appearance of new planting and harvesting techniques affecting the scale of cereal production and processing (Wengrow 2006: 163). Additionally, locally made bifacial knives started to appear more frequently at Tell el-Farkha 3 and Buto III (Kabaciński 2003: 201-212; Schmidt 1992: 34). By the Naqada IIIA2 Period, among knives, there can be found bifacial items with separated handles formed by stepped retouching at the lower edge and knives of the Gebel el-Arak type (e.g. a knife of ripple flake found along with the famous golden figures at Tell el-Farkha) (Chłodnicki & Ciałowicz 2007: 18-19; Kabacinski 2003: 206; Schmidt 1992a: 35; 1992b: 86).

### The end of Protodynastic/beginning of Dynasty 1

The subsequent phases, distinguished at the Nile Delta sites, correspond to a later stage of the process of state formation in Egypt (Naqada IIIB/C1). The following are dated to that period (**tab. 1**): Tell el-Farkha end of 4/5 (Jucha 2005: 74-78), Buto IIIIf/IV (Köhler 1998: 48-49, 52-53); Tell Ibrahim Awad 6/5b (van den Brink 1992: 52-53); Tell el-Iswid B (strata VII/VIII) (van den Brink 1989: 64,71-78, tab. 1); Mendes 2/1 (Friedman 1992: 200-202, figs. 2-3). These can be further correlated to the Nile Delta cemeteries at Minshat Abu Omar, group III (3b/c) (Kroeper 1988: 14-16) and the oldest graves among the first group at Tell el-Farkha (Abłamowicz *et al.* 2004: 406-415; Dębowska-Ludwin *et al.* 2010). Such dating and correlation of these phases can be confirmed mainly by the occurrence of similar pottery forms, especially those that are considered chronological markers for the period. Most distinctive pottery types include especially fine-ware cylindrical jars decorated with different impressed or incised decoration

patterns (**tab. 2:14**; Petrie 1921: pl. XXX: W71a, W80, W85; 1953: pls. VIII-IX: 47, 48, 49), characteristic of Naqada IIIB (Hendrickx 1999: 31, fig. 9; 2006: 84-86, tab. II; Kaiser 1957: Taf. 24). Such jars were found mostly in the above-mentioned phases, though some types of decoration were attested slightly earlier (Jucha 2005: 59-60; Pl. 100; Köhler 1998: 33, 49, Abb. 24, Taf. 58:3-11; van den Brink 1989: fig. 14:13-14; 1992: fig. 7:4). They also occur in similarly dated graves at Minshat Abu Omar (group III/3b) (Kroeper 1988: figs. 78, 86-88) and Tell el-Farkha (Dębowska-Ludwin *et al.* 2010: fig. 2:1-2; Jucha 2008a: 71, fig. 8:1). Other decoration patterns occurring on different types of storage jars include decoration composed of half-bows around the shoulder: lightly smoothed, impressed, cut or with the upper edge pushed upwards (Jucha 2005: 60-61; pl. 102:3-9; Köhler 1998: 34, Taf. 59:6-11; 62). These types are also present in the Nile Delta cemeteries at Minshat Abu Omar, group III (3b-c) (Kroeper 1988: 14-16, figs. 80, 91-95, 140-143) and Tell el-Farkha (Jucha 2008b: figs. 1:lb-II; 2:V). Jars belonging to Type II and III according to van den Brink typology (**tab. 2:15-16**; van den Brink 1996: 144-147, fig. 2) occur at Tell el-Farkha in graves dated to Naqada IIIB Period. Other types (**tab. 2:24**) were also attested in later graves of the first group. The above-mentioned strata contains fragments of jars with a rope band pattern (**tab. 2:25**; Jucha 2005: 60, pls. 101; 102:1-2; Köhler 1998: 34, Abb. 24:13, Taf. 60:13, 16; 61:1-2, 5-6), which appear during this time and continue into the Early Dynastic Period (Jucha 2008b: figs. 1:Ia; 2:IIIa; Petrie 1953: pl. XXII; van den Brink 1996: 148; fig. 3). Forms decorated with impressed (punctured) dots, sometimes with incised decoration beside the dots (**tab. 2:17**), can be found (Jucha 2005: 56-57; pls. 93-94; Köhler 1998: 33, Taf. 57:3-4,6), although such decoration at Tell Ibrahim Awad and Tell el-Iswid (South) were also present in earlier periods (van den Brink 1989: fig. 12:10, 12; 1992: fig. 10:7).

Among the rough-ware jars, the type with a tall cylindrical neck, a direct or only slightly thickened external extension of the rim and roughly made lower part of the body (**tab. 2:18**; Petrie 1953: pl. XVII:73f,h,k) seems to be the most typical of the described phases in the settlements (Jucha 2005: pl. 35:2-3; Köhler 1998: Taf. 11:2; Ihde 2000: Abb. 8:18-19) as well as cemeteries and are seen at Minshat Abu Omar, group III(3b) (Kroeper 1988: fig. 99) and Tell el-Farkha graves of Naqada IIIB date (Dębowska-Ludwin *et al.* 2010: fig. 2:4). The same concerns “granary” jars (**tab. 2:19**; Petrie 1921: Pl. XLVII:L34a-b; 1953: Pl. XVII:70o, 72d-g) with a closed mouth, simple rim and incised groove (Mączyńska 2004b: 60, fig. 11:12; Ihde 2000: Abb. 7:1,3; Kroeper 1988: fig. 101). Other jars that frequently occur constitute forms with a distinct neck of concave contour and an exterior lip (Jucha 2005: pls. 31-32; Köhler 1998: Taf. 11:8, 10; 53:14-15) and narrow-shouldered forms with a short and broad neck and flaring rim (Jucha 2005: pl. 33:7-9; Köhler 1998: 16, Taf. 4:4, 6-7).

The described phases also include rough-ware bowls with a concave contour of wall and direct rim (**tab. 2:20**) or with a thickened external lip (Jucha 2005: 48, pls. 48:5-8; 49:1; Köhler 1998: 25, Taf. 33:3-4). These occur mostly in the Protodynastic Period and less frequently during the Early Dynastic Period (Dębowska-Ludwin *et al.* 2010: fig. 2:3; Kroeper 1988: fig. 106; Emery 1961: 213, fig. 122: 26). The red-polished bowls include forms with convex sides and a simple rim (Jucha 2005: pls. 59-64; Köhler 1998: 22-23, Taf. 27:1; van den Brink 1989: fig. 14:1-8) or a thickened external lip-rim (Jucha 2005: pls. 54; 55:1-4; Köhler 1998: 22); both were found in subsequent phases. Among the bread moulds the most typical are shallow and wide forms or slightly deeper examples without or, in a few cases with an angular transition dividing the body into two zones (Jacquet-Gordon 1981: fig. 1:1-4). These include examples with a rounded (**tab. 2:21**), flattened or concave rim top (Jucha 2005: pls. 68-72; Köhler 1998: 47, Taf. 42:2-3; van den Brink 1989: fig. 13:4-8; 1992: 52-53, fig. 7:3).

Apart from the pottery, similarities are also observed among the flint assemblages found in the described settlement phases of the Nile Delta sites. The assemblages are dominated mostly by the occurrence of the segmented blades often used as sickle inserts (Kabaciński 2003: 207; Schmidt 1992a: 35). Among them, rectangular segment blades and backed segment blades constitute the main types, although the former seem to be more popular (Kabaciński 2003: figs. 4:2, 4-9). The number of triangular segment blades is limited (Kabaciński 2003: 207); however, bifacial knives (Schmidt 1992a: 35), among them wide and narrow examples (Kabaciński 2003: 207, figs. 4:10; 5:1-2, 4), can still be identified. Furthermore, a fragment of a retouched flint bracelet was found at Tell el-Farkha, phase 5 (Kabaciński 2003: 207, fig. 4:3). Similar examples, dated to the Early Dynastic Period occur also at Buto (Schmidt 1992a: 37, fig. 4:1) and Tell Ibrahim Awad (Schmidt 1992b: 88, fig. 8:51).

### **Early Dynastic**

The above-mentioned Protodynastic settlements of the Nile Delta were still inhabited during the Early Dynastic Period (Naqada IIIC-D). Phases dated to that period and distinguished at these sites can be roughly correlated as follows (**tab. 1**): Tell el-Farkha 6 (Jucha 2011), Buto IV-V, V (Köhler 1998: 53-54, 58), Tell Ibrahim Awad 5a-b/4 (van den Brink 1992: 50-51), Tell el-Iswid B (strata VIII-X) (van den Brink 1989: 64-65, 71-78, Tab. 1) and Mendes 1 (Friedman 1992: 199, fig. 1). Their dating and correlation can be confirmed mostly by similarities of pottery forms, among which there are examples regarded as chronological markers.

Several pottery forms were attested both in the Dynasty 1 and 2 strata. These include bread moulds that are deeper than previous forms, most belonging to the types with an angular transition dividing the body into two zones. Forms with a diagonal and wavyly formed external contour of the rim (**tab. 2:22**; Jucha 2011: figs. 1:31, 33; 2:27, 29; 3:34-36; Köhler 1998: 27, Taf. 44:2, 4-5) seem to be especially typical from the beginning of this period. Other forms include examples with a diagonal outer part of the rim and a flat (Jucha 2011: figs. 1:32; 2:28; 3:35; Köhler 1998: 27, Taf. 46.4), or rounded (Jucha 2011: figs. 1:27; 2:24; 3:30; Köhler 1998: 27, Taf. 42.1) contour. Forms with a concave (Jucha 2011: figs. 1:29-30; 2:26; 3:33; van den Brink 1989: fig. 13.5), rounded (Jucha 2011: figs. 1:25-26; 2:23; 3:29; Köhler 1998: 27, pl. 42.4; van den Brink 1989: fig. 13.6) or a flat rim top (Jucha 2011: figs. 1:28; 3:32; van den Brink 1989: fig. 13.4) are still present. The same concerns the red-polished bowls with a simple rim (Ihde 2000: Abb.6; Jucha 2011: figs. 1:15-17; 2:17-18; 3:22-23; Köhler 1998: 22-23, Taf. 27:2, 7-9; 28:1, 3, 5), or a lip-rim (Jucha 2011: figs. 1:13; 3:18-19; Köhler 1998: 22, Taf. 23:6, 11).

Several of the Early Dynastic forms can be connected mostly with the Dynasty 1 strata. Among them are examples known from the previous period, which include shallow spherical bread moulds with a rounded base and a rounded rim top (**tab. 2:21**; Jucha 2011: figs. 1:24; 2:22; Köhler 1998: 27, Taf. 42:2; van den Brink 1989: fig. 13.7-8), jars with a concave neck and a lip-rim (Jucha 2011: fig. 1:4) and jars with an out-turned rim (Jucha 2011: figs. 1:5; 2:7-8; Köhler 1998: 18-19, Taf. 13:1). Rim fragments of the latter may belong to the jars decorated with a row of slightly smoothed half-bows around the shoulders (**tab. 2:24**) that also occur in Naqada IIIB-C1/C2 graves (Jucha 2008b: fig. 2:V; Kroeper 1988: 14-16, figs. 80, 92-93, 142-143). Bowls with concave sides and a lip-rim with coated and polished interior and smoothed exterior (**tab. 2:23**; Jucha 2011: figs. 1:21; 2:19; Köhler 1998: 25, Taf. 33:6-7) seem to be typical of described period.

Forms characteristic of the strata belonging to the first half of the Dynasty 1 can be easily distinguished. These include bowls (similar to the above-mentioned types) with a groove on the outer edge of the lip-rim (Jucha 2011: fig. 1:22) and bowls with concave sides (**tab. 2:20**; Jucha 2011: fig. 1:19-20), although the latter occur less frequently than during the previous period. The same strata also contains fine-ware cylindrical jars without any decoration (**tab. 2:26**; Jucha 2011: fig. 1:6, Köhler 1998: Taf. 15:1) typical of the Naqada IIIC1/C2 Period (Hendrickx 1999: fig. 9; 2006: 86-87) and fragments of jars with a modelled rope band pattern that may belong to wine jars with three decorative bands (**tab. 2:25**; Jucha 2008b: figs. 1:1a). It is possible therefore to correlate these strata with the later graves among the first group at Tell el-Farkha (Jucha 2008a: 72-73, fig. 9; 2009a: 49-50) and graves of Group III (3c) at Minshat Abu Omar (Kroeper 1988: 16, fig. 139) (**tab. 1**).

Several forms that become typical during the second half of Dynasty 1 (and occur also during Dynasty 2) can also be distinguished. These forms comprise rough ware flat bases with a scraped surface (Jucha 2011: figs. 2:10; 3:2), probably belonging to the type of beer jars found in graves dated to the second half of Dynasty 1 (**tab. 2:27**; Jucha 2009a: fig. 1:1-4; Kroeper 1988: figs. 161-163). Although typical of the later part of Dynasty 1, they are sporadically found in earlier strata (Jucha 2005: 42-43; Köhler 1998: 16-17). Fragments of rough-ware jars with a straight neck and a simple rim, sometimes with an irregularly (wavy) formed surface at the shoulder were found in the same context (Jucha 2011: figs. 2:1; 3:1; Köhler 1998: Taf. 1:14-15, 17; 2:1-6; 10:13, 15). These may derive from various types of beer jars with scraped and irregularly formed surfaces (**tab. 2:28**) or only irregular surfaces (**tab. 2:29**), which also occur in graves dated to the period commencing in the second half of Dynasty 1 (Naqada IIIC2/D) (Jucha 2009a: figs. 1:2-3; 2:1). Ovoid jars (made of finer quality fabric), with an almost rounded or slightly flattened base and smoothed surface also occur at this point (**tab. 2:33**; Jucha 2009a: 58, fig. 3). Flat plates with a red-coating, polished interior and uncoated, smoothed, outer surface (**tab. 2:30**) seem to become typical from the same period (although intermittently attested to earlier strata as well) (Jucha 2011: figs. 2:17; 3:24). These forms can be found in graves together with the above-mentioned beer jar types (Jucha 2009a: 50; Kroeper 1988: 16, fig. 177). The most characteristic bread mould form since this time has a distinct transition dividing the body into two zones and a thickened internal part of the rim (**tab. 2:31**; Hartmann 2007: Abb. 5:8; 12:4; Jucha 2011: figs. 2:30; 3:37; Köhler 1998: 27, Taf. 45.2-4; Wodzińska 2000: 154-155, Abb. 10.1; Emery 1954: 160, fig. 222:EE1; 1958: pl. 32:R1; Raue 1999: 174-175, Abb. 34:3). Most of the forms described here make it possible to correlate the discussed strata with the second group of graves at Tell el-Farkha (Jucha 2009a: 50-52) and group IV at Minshat Abu Omar (Kroeper 1988: 16) (**tab. 1**).

The subsequent strata representing the end of Dynasty 1 and Dynasty 2 contains forms that can be considered as chronological markers for this period. These comprise of bowls with a wavy external contour of the rim (**tab. 2:32**; Jucha 2011: fig. 3:15; Köhler 1998: Taf. 24:7); flat plates with an angular transition between the sides and the base (Jucha 2011: fig. 3:25; Köhler 1998: 26-27, Taf. 38:7-9; cf. Raue 1999: 176-177, Abb. 35:4); jars with an angular transition between the upper and lower part of the rim (Jucha 2011: fig. 3:3; Köhler 1998: Taf. 52:10); red-polished bowls with an internal lip-rim (Jucha 2011: fig. 3:20) or an angular inner edge of the rim (Jucha 2011: fig. 3:21; Köhler 1998: 23, Taf. 28.9-16); spouted brewing vats with a lip-rim (Jucha 2011: fig. 3:13; Köhler 1998: 22, Pl. 24.2-6, cf. Hendrickx *et al.* 2002: 292-293; Emery 1958: pl. 32:P1); and rounded bases with the scraped surface, most probably belonging to

beer jars with the scraped surface (Jucha 2011: fig. 3:10; Köhler 1998: 16-17, Taf. 5-7), recorded also from the graves dating to Naqada IIIC2/D (Jucha 2009a: fig. 1:5).

Similarities between the described settlement phases of Dynasty 1 and 2 are visible among the flint assemblages. Segmented blades are still present (Schmidt 1992a: 37, figs. 5:3-4, 6-7), the most typical among them are rectangular examples (Kabaciński 2003: 207, fig. 5:9; Schmidt 1992b: 82-83, fig. 2:1-10). They continue to occur in the subsequent period, although reduction in the width of the blades was observed between the Early Dynastic and the Old Kingdom pieces (Schmidt 1992b: 82-83). The number of triangular segment blades is limited in comparison to the rectangular examples (Kabaciński 2003: 207; Schmidt 1992b: 83, fig. 3:11-12) and backed segment blades are absent (Kabaciński 2003: 207).

“Razor blades” constitute another tool class that is especially characteristic of the Early Dynastic Period and occur at Tell el- Farkha only in Phase 6 (Kabaciński 2003: 207, figs. 5:5; 6:1-2). Similarly, at Buto, Tell el-Iswid (South) and Tell Ibrahim Awad, they belong to the “new tools,” which start to appear from this period. Furthermore, one can observe a chronological development from the blades with rounded retouched ends, dated to the beginning of the Early Dynastic (Schmidt 1992a: 37, figs. 4:2), to the examples with straight retouched ends that occur during Dynasty 2 and the Old Kingdom (Schmidt 1992a: 37, figs. 4:4; 1992b: 84-85, fig. 7:39-46).

Bifacial knives, and among them narrow examples (Kabaciński 2003: 207, fig. 6:3), some with handles (Schmidt 1989: 304, fig. 16:1; 1992a: 37, fig. 3:2; 1992b: 86-87, figs. 8:48; 9:52; 10:55), occur quite frequently.

Moreover, the finds include large triangular scrapers (Schmidt 1989: 301, fig. 15:7; 1992a: 37, fig. 4:3) and fragments of a retouched flint bracelet (see below).

## Conclusion

New information has recently been gained from the increasing number of surveys and excavations in the Nile Delta, which confirm that a number of sites existed in that region during the Predynastic - Early Dynastic Periods.

The results of this research contribute new and important data concerning the character of the infiltration of the inhabitants from Upper Egypt (belonging to the Naqada Culture), who appear to have superseded the inhabitants of the Nile Delta (belonging to the Lower Egyptian Culture). These findings confirm that the transition could have been gradual rather than rapid. It seems that instead of an extermination of local inhabitants by the new settlers coming from the South, we may speak rather of their assimilation with groups representing the Naqada tradition.

This new data sheds light on the role played by the Nile Delta settlements in the process of state formation in Egypt. Although a major role was played by the sites of Upper Egypt, it seems that Nile Delta sites were also important. The existence of several centres and the character of the finds prove that the sites had a great significance not only in developing contacts between Egypt and the Southern Levant, but also in the process that finally led to political unification. It is even possible that some of the local rulers reigned locally just prior to the final stage of unification.

The published evidence allows us to compare the phases distinguished at several Nile Delta sites. Work at many of these sites is still in progress; therefore we can expect further new data, which will enrich our knowledge of that region.

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