Gold has great power and for centuries it has been seen as a very special status marker for many societies around the world. Quite naturally, the first objects made of it belonged to personal adornments, and most commonly they were shaped as beads. In Egypt, one of the earliest examples of gold items comes from the context of the Lower Egyptian culture. Beads discovered at Tell el-Farkha were analyzed in order to identify their chemical composition, details of workmanship and typical shapes, together with other known examples from a similar time and place of discovery (Kom el-Khilgan, Minshat Abu Omar and Gerzeh). Interestingly, regardless of their cultural connections, all the golden beads discussed show many similarities, mostly in terms of the goldsmithing techniques. Observation and uniqueness of the finds lead to the conclusion that all of them could have had common origin and were found distributed over such a vast area thanks to trade exchange.

L’or a une grande puissance et pendant des siècles a été considéré comme un marqueur de statut très particulier pour de nombreuses sociétés à travers le monde. Les premiers objets fabriqués dans cette matière appartenaient à des parures personnelles, et le plus souvent étaient façonnés sous forme de perles. Parmi les plus anciens exemples d’objets en or découverts en Égypte, certains sont associés à la culture de Basse Égypte. Des perles découvertes à Tell el-Farkha ont ainsi été analysées afin de déterminer leur composition chimique, les détails de leur fabrication ainsi que leurs formes caractéristiques, tout comme d’autres exemplaires provenant de contextes similaires (Kôm el-Khilgan, Minshat Abou Omar et Gerzeh). Fait intéressant,

1. The authors highly appreciate the permission granted by Béatrix Midant-Reynes to use the golden beads from Kom el-Khilgan as a comparison material in the article. The quoted artifacts will be published in the forthcoming publication (Duchesne et al., in prep.). We would also like to express our sincere gratitude to the Petrie Museum of Egyptian Archaeology UCL. Some of the golden beads from Gerzeh, which are quoted in the text as finds comparative to those from Tell el-Farkha, presently belong to the museum collection and their pictures were used under a Creative Commons Attribution-Non Commercial-Share Alike 3.0 Unported license as illustrative material.
indépendamment de leurs liens culturels, toutes les perles en or examinées présentent de nombreuses similitudes, notamment en termes de techniques d’orfèvrerie. Les observations et les particularités des objets étudiés mènent à la conclusion que tous auraient une origine commune et ont été distribués sur un vaste territoire grâce aux échanges commerciaux.

1. Introduction

All over the world, gold is highly praised for its beauty and for centuries it has been seen as a symbol of wealth. In Pharaonic Egypt it always accompanied kings, gods and elites, but the history of this special partnership dates back much further into the Predynastic period. Recent field research brings interesting data, which show that people of the Lower Egyptian culture also used this precious material. Since it was very unique and thus, special, they transformed gold into tiny pieces of personal adornments such as beads. It is an interesting situation since the presence of the valuable material provides another proof that the previously underestimated cultural unit might have been much more structured and internally developed than it was claimed before.

The Lower Egyptian culture, for historic reasons also called the Buto-Maadi complex, is the first unit known in the history of Northern Egypt, which covered such a wide area. It evolved, expanded and maintained active trade contacts with the Levant and Upper Egypt, being a real partner in the exchange. According to recent proposals, the Lower Egyptian culture should be dated to the period between 3900-3300/3200 BC and it is divided into three chronological phases (Maćzyńska 2011: tabl. 2; 2014): early – Naqada I-IIAB, middle – Naqada IIC-IID1 and transitional – Naqada IID2-early IIIA1. The level of social complexity of the Lower Egyptian culture is currently being widely discussed and new discoveries suggest a significant advancement in building technologies and high density housing planning. Good examples come from Tell el-Farkha from the Central and Western Koms (see below), where clear organization of the settlement pattern and very early application of mud bricks show that the Lower Egyptian society was much more organized than the relevant cemetery data would suggest. We are used to judging ancient societies by their burial customs, but in the case of the Lower Egyptian culture this way of thinking becomes more difficult and less appropriate. We are far from understanding the Lower Egyptian people, however, thanks to the most recent fieldwork, they can be seen as astute tradesmen, deeply rooted in the environment surrounding them, open to innovations and foreign contacts, but also quite conservative with their vision of a perfectly composed grave. What is interesting is the fact that the Lower Egyptian cultural context left some place reserved also for golden artifacts, which can be easily interpreted as unique, and thus, luxurious objects. Moreover, the fact that they come from both the burial and settlement contexts shows gold accompanied the people in various aspects of their life and thus, was well rooted in the culture.

2. Tell el-Farkha – scene of the discovery

Tell el-Farkha is located on the edge of Ghazala village, approximately 120 km North-East from Cairo. The first examination of this site took place in 1987 by the Italian Archaeological Mission as part of a survey program under which 31 archaeological sites were identified. After three seasons of Italian excavations led by Rodolfo Fattovich and Sandro Salvatori, the chronological sequence of strata was established. The time range covered periods from the Lower Egyptian culture till the Old Kingdom (Naqada IIB-C – Third and Fourth Dynasties) divided into seven occupational phases (Phase 1 being the oldest). Since 1998 Tell el-Farkha has been under examination by the Polish Archaeological Expedition to the Eastern Nile Delta directed by Krzysztof M. Ciałowicz from the Institute of Archae-
**Fig. 1.1**
Localization of sites with golden finds.

**Fig. 1.2**
Plan of the Lower Egyptian residence from Tell el-Farkha with localization of the golden beads discovery place (drawing by M. Nowak).

**Fig. 1.3**
General plan of Tell el-Farkha (drawing by M. Sip).

**Tell el-Farkha**

**Figs 1.4-5**
The “restored bead” from the Western Kom in Tell el-Farkha as found and after restoration.
Joanna Dąbowska-Ludwin, Karolina Rosińska-Balik & Marcin Czarnowicz

Archaeology, Jagiellonian University in Krakow and Marek Chłodnicki from the Poznań Archaeological Museum. The site consists of three mounds, later called tells or koms: Western, Central and Eastern (fig. 1.3). Different activities took place on each tell. On the Eastern tell multiphase cemeteries were located, as well as alternately occurring episodes of settlement. This kind of coexistence of burial and habitat episodes is quite unique in Lower and Upper Egyptian ancient history.

After 14 seasons of cemetery area examination, over 120 graves were discovered. Their chronology covers the period from Naqada IIIIB up to the Old Kingdom. To date, no burials related to the Lower Egyptian culture have been discovered at this site. However, there are three distinct cemeteries used during the Protodynastic, Early Dynastic and the Old Kingdom periods. Some traces of poor settlement were recorded mainly on the northern part of the Eastern Kom and, occasionally, on the cemetery area. And this is the zone of Tell el-Farkha, from which originate extraordinary findings in the form of two male figurines made of golden foil covering probably a wooden core (Ciałowicz 2012: 201-206). These magnificent and presumably the earliest examples of such representations of Egyptian rulers are now displayed in the Museum of Cairo.

During its over 1000 years of existence, the Central Kom has always fulfilled the function of a settlement. From the very beginning of the Lower Egyptian habitat, a clear arrangement of huts and pits was established. Such a division into zones separated by fences and the presence of large-sized buildings, called the Lower Egyptian residence, suggest that the Central Kom at this period must have played the role of a central point for the first villagers settled at the location of the site. In the next period, the plan of settlement was completely changed, although the main axis of foundations along NE-SW directions was preserved. At this time the Central Kom was not only a habitat zone, but part of it was a kind of industrial area which included three flint workshops. This area of the site was constantly inhabited until the final abandonment at the beginning of the Old Kingdom.

Finally, we turn to the Western Kom. The occupation of the Western Kom is surely confirmed from the Lower Egyptian culture (Naqada IIIB) until the First Dynasty. The oldest strata on the Western Kom show traces of simple habitat area, which were quickly transformed for industrial purposes. In this place a sequence of at least six breweries was recorded. The oldest example of a poorly preserved beer factory is connected with the Naqada IIIB period and thus, it becomes the oldest brewery in the Nile Delta region. Constant reorganizing and rebuilding of such devices in this place until Naqada IID1/IID2 may stress great significance of beer production for residents of the site. Subsequent phases of the brewery were caused by Nile floods, which were often and clearly registered on the site. The smallest existing brewery was connected to a large-sized edifice called the Naqadan residence. Since both the Naqadan residence on the Western Kom and the Lower Egyptian residence on the Central Kom are coeval, one can make an assumption of peaceful coexistence of autochthonous people of the Lower Egyptian culture and newcomers from the South – the Naqadans.

Further evidence of the Western Kom occupation suggest establishing a large-sized administrative and cultic center. In one of the two confirmed shrines in this center the greatest discovery was made – the deposit of over 60 small artefacts including numerous figurines of hippopotamus tusk. All of them are also exhibited in the Museum of Cairo.

3. Beads from Tell el-Farkha

3.1. Items from the Lower Egyptian residence

The Lower Egyptian residence from the Central Kom is a very interesting structure, partly because of its layout and partly because of small finds discovered there (fig. 1.2). This diversified group was composed, among others, of golden beads,
Golden beads in the context of the Lower Egyptian culture

which were found together with 23 other examples made of different kinds of semi precious stones (Chłodnicki & Geming 2012: 97, fig. 14-15). In the same area objects such as stone and bone mace-heads (Chłodnicki & Geming 2012: 97, fig. 13), Southern Levantine pottery (Czarnowicz 2012a: 261-264) and copper items for example a small knife (Czarnowicz 2012b: 351-352, fig. 1.2) were located. Analysis of the pottery found in the same strata suggests that the golden beads from Tell el-Farkha should be dated to Phase 1, probably the Naqada IIC period (Chłodnicki & Geming 2012: 95; Chłodnicki 2012: 13).

The residence was situated in the western part of the Central Kom. According to its plan, it was probably a rectangular building with central inner court surrounded by small rooms (cf. Chłodnicki & Geming 2012: fig. 7). Two main construction phases were observed, both dated to the time of the Lower Egyptian culture. The earlier part was built with timber and reed structures while the later one with mud bricks. This also applies to the fence surrounding the whole residence and dividing the area into small compounds of different functions (Nowak 2011: 49-55). It is clear that the building was an important place used by local nobility as a political and economic center of the village. The wealth of finds underlines the prosperity of their inhabitants and the site itself, and shows the main directions of long distance trade that Tell el-Farkha was involved in from its very beginning.

As was previously mentioned, gold objects were a part of a larger beads assemblage consisting of 27 items made of different materials such as carnelian, rock crystal, onyx etc. (fig. 2.1). Between them one large and three smaller ones were made of a golden foil as thin as around 0.005mm. The objects were tested by Thilo Rehren using pXRF and according to the analyses, their chemical composition differs from 95-98% of Au and 5-1% of Ag with some amounts of impurities. All the items belong to a group of so-called barrel-shaped beads, which were very popular at that time in Egypt. Their state of preservation is very good, only two smaller ones are slightly bent inside. The biggest bead is ca. 1.2 x 1cm large, while the three smaller beads measure ca. 0.6 x 0.8cm (fig. 2.2). All of them were made using a similar technique and are similar in every detail. They have openings on both ends to thread them on a cord. They are empty inside and have a very smooth surface. The edges of the beads are bent inside to the cord hole forming a very smooth curve (fig. 2.3-5). Doubtlessly, the golden barrel-shaped beads from Tell el-Farkha were made from extremely thin golden foil bent over an organic core. It cannot be excluded that some resin or other organic adhesive was used to help to attach the foil to the core, however nothing has been preserved. The most intriguing is the fact that none of the beads bear any visible joint of the metal sheet, and even precise microscopic examination did not reveal it. Goldsmiths, who the authors have consulted to discuss the finds in question, underline that the only known method of achieving such a bead is adhesion – covering the organic core with as thin pieces of golden foil as can stick together due to intermolecular forces interacting with the pieces. The process creates impermanent bonds on the surface of joining pieces. The thickness of golden foil used for the beads suggests that the application of the technique is very likely. Moreover, when preparing the text, its authors reexamined all available golden pieces from Tell el-Farkha such as a tiny golden foil, which possibly came from another unpreserved bead. During microscopic examination a small part of the foil came off and stuck to tweezers, proving that the process can be still easily performed.

The possibility of using the adhesion technique, supplemented with the use of organic adhesives and surface polishing should be seriously considered. The majority of golden objects of that time were made of foil and the method of their production was well known to ancient goldsmiths, just like the technique of coating different materials with gold. At Tell el-Farkha at least three other finds were made using a similar technique. One of them is a pendant found in
Grave 6. Its core was made of greywacke, then covered with foil (Dębowska 2004: 67). The other two better known examples are golden statuettes of an early ruler and his ka found at the Eastern Kom (Chłodnicki et al. 2012: 47-53). In this case, possibly a wooden core was used, which was covered with golden sheet attached to the core with small golden rivets. All of these objects show the state of technical and artistic skills of early Egyptian goldsmiths and prove that their craft dates back as early as the times of the Lower Egyptian culture.

Origins of the raw material used to make beads from the Lower Egyptian residence are not simple to trace. Unlike copper, gold does not provide us with information suitable for tracing possible sources of the raw materials. The most probable origin of gold seems to be accidentally found nuggets (Klemm & Klemm 2013: 3-4), which were later hammered into small objects, such as beads. However, thanks to extensive survey works, some Pre- and Early Dynastic gold mines were also found. They are located in the Eastern Desert and Lower Nubia (Klemm & Klemm 2013: 603) and it seems that nomadic tribes were involved in mining because so far no settlements in the vicinity of prehistoric gold mines have been found. Moreover, it is possible that the process of acquiring the gold was connected with copper mining (Klemm & Klemm 2013: 6-6, 601-604). Most likely, the beads in question are a product of Upper Egyptian Naqadan goldsmiths, since the branch of crafts was better developed in the South, nearer to the sources than in the North. When analyzed together, the set of beads from the residence can also be used to strengthen the theory on the Upper Egyptian origin of the golden beads from the Central Kom. It is possible thanks to a single item representing a common Upper Egyptian type. It was made of carnelian and is not rounded but has a heptagonal shape. The closest analogies to the bead can be found at Badari in group U (Brunton & Caton-Thompson 1928: Tab. L). The whole beads hoard was found in one place but no traces of leather or linen thread were found. Because of this, it is hard to reconstruct the actual look of the necklace. It cannot be excluded then that we are dealing here even with a couple of different jewelry pieces. If so, the golden beads might have been arranged in the shape of a Sweret-beads amulet, which was very common during prehistoric times. Such a necklace is composed of a large barrel-shaped bead in the center, flanked by smaller ones of the same or cylindrical shape (Aldred 1971: 141, fig. 23 & 24).

The presence of golden beads, products of Naqadan craftsmen, in a public building in the Delta shows close economic ties between the North and South of Egypt, underlining the fact that people called the Lower Egyptians were living in a stratified society with well developed nobility ruling the area of Nile Delta and handling long range trade.

3.2. Objects from the Naqadan residence at the Western Kom

The cylindrical bead

The golden cylindrical bead was found at the Western Kom in the first layers of the so-called First Naqadan Residence. It was a large mud brick construction, probably used by a Naqadan nobleman who was in charge of the goods redistribution process and was organizing barter with the locals. Inside the residence many objects of Upper Egyptian and Southern Levantine origin were found, as well as seals and numerous seals impressions, counters and other items used in trade. The political and social status of the inhabitants of the residence is not yet clear but the date of its construction, Phase 2 of Tell el-Farkha – that is Naqada IID1, is the period of great change at the site. At this time local Lower Egyptian tradition was turned into the Naqadan, but no signs of any kind of riots, conquest or any other manifestations of Naqadan power were observed during works on the first phase of this public building.

Most likely the object in question is a continuation of the same tradition as barrel-shaped beads found at the Central Kom. It is highly probable that it was brought from Upper Egypt to exchange it with the local population for Levantine wine or olive oil.
Golden beads in the context of the Lower Egyptian culture

**Tell el-Farkha**

Fig. 2.1
Set of golden and semi-precious beads from the Lower Egyptian residence in Tell el-Farkha.

Fig. 2.2
Golden beads from the Lower Egyptian residence in Tell el-Farkha.

Figs 2.3-5
Details of golden beads from the Lower Egyptian residence in Tell el-Farkha.

**Kom el-Khilgan**

Fig. 2.6
Necklace of gold and faience beads from grave S185 in Kom el-Khilgan.

Fig. 2.7
The necklace from grave S185 in Kom el-Khilgan in situ.

Fig. 2.8
Beads from grave S185 in Kom el-Khilgan (drawing © IFAO, Béatrix Midant-Reynes).
It might also have been a part of personal ornamentation belonging to one of the Naqadan residence inhabitants.

The reconstructed bead
Another interesting object was found during season 2003 and was reexamined in 2013. At the beginning it was thought to be a part of a broken golden foil 1 cm long, 0.4 cm wide and 0.1 mm thick (fig. 1.4). Microscopic prospection showed that it is actually not a piece of a gold sheet but a broken and smashed cylindrical bead. The object was provisionally restored to bring back its almost original look (fig. 1.5). Similarly to barrel-shaped specimens from the Central Kom, here also the surface was smooth without any visible joint and the cord hole was very well visible. Most probably, this bead was made using a technique similar to the one known from the previously mentioned beads. The object comes from the lower part of the Naqadan residence and is a slightly younger counterpart of the beads from the Central Kom and continuation of the discussed tradition.

4. Northern Egyptian analogies
Tell el-Farkha is not the only archaeological site in Northern Egypt that brought the discovery of golden objects. Although finds of gold related to the area in the Predynastic period are unique and rare, there are at least three more sites where similar objects were used – Kom el-Khilgan, Minshat Abu Omar and Gerzeh (fig. 1.1). What is interesting is the fact that despite the rather close location of the three quoted sites, similar date of origin and very similar workmanship used for the beads found there with the application of golden foil formed on a core, their forms vary significantly.

4.1. Beads from Kom el-Khilgan
Kom el-Khilgan is a cemetery site located in the Eastern Delta, near the village of Samara and ca. 6 km North from Tell el-Farkha. It was excavated by a French expedition organized under the auspices of IFAO in Cairo from 2002 to 2005 with a single study season in 2006 (Buchez & Midant-Reynes 2007: 43). The works were directed by Béatrix Midant-Reynes. At the site, 239 Pre- and Early Dynastic burials were excavated, which represented a vast time span from the first phase of the Lower Egyptian culture to the period of the First Dynasty. Almost half of the graves were very simple and poor, without offerings, while the remaining ones usually comprised a single pottery object. Only 23 burials were equipped with a few items like pottery, personal adornments and shells – typical for a simple Lower Egyptian society burial customs (Buchez & Midant-Reynes 2007: 45). But even among the seemingly poor inhumations some exceptions were also present, such as burial S185 (fig. 2.7), where the deceased was offered three pottery jars and a very interesting necklace (fig. 2.6). It was composed of eight cylindrical faience beads, two of them being covered with golden foil. The beads measured 1.9 and 2 cm of length and 0.7 and 0.8 cm in diameter, the edges of the foil were bent towards shorter sides of the beads (fig. 2.8). Burial S185 is related to the Lower Egyptian culture activity and the second phase of the occupation of the site (KeK2), which makes the golden beads from Kom el-Khilgan contemporary to those found in the Lower Egyptian residence at Tell el-Farkha.

4.2. Necklace from Minshat Abu Omar
The site of Minshat Abu Omar is a vast cemetery, located in a quite extreme western part of the Delta, about 150 km from Cairo (ca. 40 km from Tell el-Farkha) and by the ancient and presently non-existent Pelusiac Nile branch. Cultural identity of Minshat Abu Omar is still a subject of discussion, however, more and more specialists (see Buchez & Midant-Reynes 2011; Mączyńska 2011; 2014; Jucha and Mączyńska 2011; Dębowska-Ludwin 2014) accept that at least the first phase of the interesting and well known cemetery represents the Lower Egyptian culture, not the earliest Naqadan activity in the Delta.
Grave no. 9 (fig. 3.1 & 3.3) connected with phase MAO I revealed a significant discov-
Golden beads in the context of the Lower Egyptian culture

**Fig. 3.1**

**Fig. 3.2**
Golden necklace from grave no. 9(755) in Minshat Abu Omar (picture after Kroeper & Wildung 1994: Taf. 8).

**Fig. 3.3**
Grave no. 9(755) in Minshat Abu Omar (picture after Kroeper & Wildung 1994: Taf. 8).

**Fig. 3.4**
Beads from tomb 55 in Gerzeh.

**Fig. 3.5**
Offerings from tomb 67 in Gerzeh (picture after Petrie et al. 1912: Pl. IV/2).

**Fig. 3.6**
Necklace from tomb 67 in Gerzeh.
ery – a necklace composed of two limestone and 38 golden beads (Kroeper & Wildung 1994: 7–10, Taf. 8.16). According to scarce published data the objects were made of golden foil shaped into small (0.3cm of length and 0.4cm of diameter) and rather flat barrels (fig. 3.2). Also in this case the date of the golden elements seems roughly contemporary to the previous examples.

4.3. Golden beads from Gerzeh

Although there are some discrepancies (see Buchez & Midant-Reynes 2011), Gerzeh is usually seen as an example of purely Naqadan occupation in the area of Lower Egypt. As a representative of another cultural unit, the cemetery brought much more examples of golden artifacts, which may be used here as contemporary analogies of the same phenomenon, but set against a different cultural background. The site is located ca. 220 km South from Tell el-Farkha in the Fayum area in a shallow wadi with gravel bottom, South from a causeway which connects el-Riqqeh with Fayum. The region was quite densely occupied in many epochs but it is the most widely known as an eponymy location for the so-called Gerzean period. This interesting Predynastic cemetery counts 281 excavated burials, which revealed simple pit construction but, on the other hand, numerous and diversified offering goods. Beads of various materials formed one of the most frequently used category of objects and about 1% of all registered items of the kind was made of gold (Stevenson 2009, chart 7).

The early publication of the cemetery in Gerzeh mentions four burials with golden beads, unfortunately, in most cases the information is very general and scanty. According to the data, in tomb no. 76 some carnelian and gold beads were found in the sand filling of the skull (Petrie et al. 1912: 7), from tomb no. 55 come two unusual spiral gold beads (fig. 3.4) “magnified to double size” (Petrie et al. 1912: 22, pl. V) and tomb no. 80 revealed a long string of beads with 19 golden items, among others made of white limestone, lapis lazuli, onyx, sard, black steatite and carnelian (Petrie et al. 1912: 22, pl. V). Unfortunately, size and measurements of the artifacts were not published and the picture presented there is not clear enough to decide how many of them were cylindrical and barrel-shaped or to say anything about their technical details.

Tomb no. 67 from Gerzeh (Petrie et al. 1912: 8, pl. IV.2) is another interesting example. It is the richest grave registered at the site with pieces of weapon, which are unique at the cemetery (a mace-head and a harpoon), a single ivory vessel, iron beads and a necklace composed of beads of carnelian, steatite and nine cylindrical ones made of gold on paste (fig. 3.5). What is interesting is the fact that the necklace (fig. 3.6) was found at the neck of the deceased, whose head was separated from the rest of the body. Significance of the tomb has been a subject of discussion (see Stevenson 2006: 58–63) but it is still difficult to be assessed. It seems we are dealing here with a specially treated individual, who was offered an exceptional set of objects, among which the most precious materials such as iron and gold were also represented.

The list of golden finds from Gerzeh is supplemented by tomb no. 133, which Alice Stevenson (2009: 195) mentions as the one with the highest number of beads (over 200 items) and the highest diversity of materials (among them gold and iron) used for their production. The observation leads her to a suggestion that the whole collection of beads made of rare materials fetched from very distant origins, and not the beads themselves, had the actual meaning as a social status marker (Stevenson 2009: 194–198).

Conclusions

It is difficult to assess the significance of these early golden finds. Such objects are always rare, small and simple in their form, but it is their uniqueness that makes them so special. It is also apparent that for the ancient people the artifacts presented significant value. Accidentally found gold nuggets were hammered into the most beautiful and personal things that the people were able to
produce – beads. The level of workmanship is astounding, since without any magnifying device the Predynastic artisans transformed shapeless lumps into shiny and thin foil, which gave the beginning of meticulously worked elements of personal adornments. All the above-mentioned objects have cosmopolitan shapes – typical for Egyptian jewelry cylinders and barrels, and although the context of their discovery varies significantly, they are all somehow similar. It is then possible that they all have similar origin and were spread over the vast area as traded goods. However, to decide the case much more archaeometallurgical and geoarchaeological analyses have to be performed. What is visibly different is the fact that these kinds of items seem to be much less popular within the area of the Lower Egyptian culture influence. But can the presence of gold objects actually point to the level of a societal development? The authors think that it is only one of numerous factors which should be taken into consideration when analyzing an ancient culture, and especially the Lower Egyptian one, however, still bearing in mind that people probably always wanted to look and feel better than their neighbors.

Bibliography


