# BEADS AND PENDANTS FROM THE TUMULI CEMETERIES AT WADI QITNA AND KALABSHA-SOUTH, NUBIA

# Joanna Then-Obłuska

More than 500 beads and pendants were excavated by a Czechoslovakian team in the early 1960s at two sites in Lower Nubia. The beads were associated with 40 tumuli in the Wadi Qitna cemetery and two tumuli in the Kalabsha-South cemetery. These 4th-century cemeteries are related to the Blemmyes, the Eastern Desert dwellers whose pottery has been commonly recognized in the region between the Nile Valley and the Red Sea coast at a time of intensive overseas trade contacts. The bead assemblage, stored at the Naprstek Museum in Prague, was recently restudied and its materials and parallels could be more specifically identified. In addition to ostrich eggshell of Nubian Desert origin, Red Sea shells and glass beads of Eastern Mediterranean and South Asian origin are present. Some beads are modern European intrusions.

# **INTRODUCTION**

The Wadi Qitna and Kalabsha-South tumuli cemeteries lie to the west of the Nile Valley in the Lower Nubian region, 65 km to the south of Aswan (Figure 1). They are ascribed to the Blemmyes, the Eastern Desert dwellers. After the fall of the Meroitic state and the withdrawal of the Romans from Lower Nubia around A.D. 298, the Nobadians, possibly from the Western Desert, and the Blemmyes, from the Eastern Desert, encroached. The Blemmyes are well attested in the written sources (e.g., Dijkstra 2012). They, and other groups, occupied the region of the emerald and beryl mines in the Eastern Desert called *Mons Smaragdus*. The ethnic term "Blemmye" needs to be used with care since it probably included a wide variety of people living between the Red Sea and the Nile Valley (Dijkstra 2012).

The presence of the Eastern Desert dwellers in the Nile Valley is marked by their handmade pottery, the socalled Eastern Desert Ware that can be traced in the Eastern Desert as far as the Egyptian Red Sea ports of Berenike, Marsa Nakari, and Quseir to the east, and the Fifth Cataract region in Sudan to the south (Barnard 2006, 2008; Barnard and Magid 2006). Additionally, their graves are found on the west and left bank of the Lower Nubian Nile Valley and date to the mid-4th century A.D.; i.e., ca. A.D. 330/340-370/380 (Williams 1991b:12). Tumuli graves ascribed to the Blemmyes were excavated by the Oriental Institute Nubian Expedition at cemeteries A and B at Kalabsha-North, cemetery E to the north of Bab Kalabsha, and cemetery C at Kalabsha-South (Ricke 1967). Furthermore, a continuation of the Kalabsha-South cemetery and a cemetery at Wadi Qitna were explored in the 1960s by a Czechoslovakian team under the direction of Eugene Strouhal (1984). More than 500 beads and pendants recorded at the two cemeteries have been published in the excavation report (Strouhal 1984:223-227, Table 40, Figures 151-152, Plates 73-74). The beads are presently stored in the Naprstek Museum in Prague and are the subject of this paper.

Beads are said to come from 40 tumuli in the Wadi Qitna cemetery and from two tumuli in the investigated part of the Kalabsha-South cemetery (Strouhal 1984:223). While some beads were found in tumulus graves, others were surface collected. The latter were ascribed to the nearest tumulus and considered as ancient. Since the cemeteries had been heavily robbed, many beads were found as dispersed items. Nevertheless, some beads were found in a linen bag (Figure 2: P 3010) or with the original stringing (Figures 3: P 3027; 4: P 3011, P 3013b; 5: P 3019-3021; 6: P 3035, P3037; 7: P 3041; 8: P 3048). The latter were interpreted as necklaces (Strouhal 1984:223). It should, however, be mentioned that earrings in the form of beads threaded on a string or a metal wire have been recorded at other Blemmyan sites (Habachi 1967:68, 70). In accordance with a long-standing Nubian tradition (e.g., Then-Obłuska 2014), not only women and children, but also men were buried with their bead adornments (Strouhal 1984:223, Table 40).

The typology of beads in the excavation report was mainly based on material and shape, and many parallels were drawn accordingly. For this reason, the beads were generally considered as not very interesting from a chronological viewpoint since their shapes covered extensive chronological and geographical scopes (Strouhal 1984:226).



Figure 1. Map of Egypt and Nubia showing the locations of the sites mentioned in text (drawing: Szymon Maślak).



Figure 2. Beads from Tumuli 1 (P 3006, P 3007), 2c (P 3008), 9 (P 3009), and F (P 3010) (modern stringing) (all photos by author).

Studies by the author at the Naprstek Museum in 2015 permitted the identification of materials and manufacturing techniques, and the drawing of more specific parallels with contemporary sites. It also allowed the identification of a few modern intrusions which had previously been deemed ancient objects.

# LATE ANTIQUE BEADS

The antique beads and pendants are made of organic (wood, mollusk shells, ostrich eggshell, bone), inorganic (stone), and man-made (faience, glass) materials. They are illustrated according to their excavation number.

# Wood

A fragment of a long, square-sectioned, wood cylinder with traces of a perforation (Figure 3: P 3028) was found in Tumulus 173. The species has yet to be determined. There are not many wood beads at Nubian sites (cf. the section on modern beads), but among them is a set of long tubular beads found at a Blemmyan site at Bab Kalabsha (Habachi 1967:68, object B 9/3-4, Figure 77, Plate 27). It is presently in the Oriental Institute Museum of the University of Chicago (OIM E20378). Other wooden beads were recovered from the forecourts of two royal tombs at the Nobadian cemetery at Qustul (Emery and Kirwan 1938:201, no. 82, Tomb Q 2-92, Burial M; 204, no. 106, Q17-33, Burial T).

# **Mollusk Shell**

Thirteen small shells of *Conus taeniatus* sp. originated in the Red Sea (Figure 2: P 3010a). Their apexes have been ground down or cut off. Shell beads of Red Sea origin have been recorded at Nubian sites dated to the Meroitic period (Then-Obłuska 2015a) and especially those dated to the post-Meroitic period (Then-Obłuska 2017b). They were also found at the Red Sea port of Berenike (Then-Obłuska 2015b: Figure 1:13). Beads of mollusk shell or ostrich eggshell found at this Roman port site may indicate the presence of coastal or Eastern Desert dwellers there.



Figure 3. Beads from Tumuli 125 (P 3023), 130G (P 3024), 138 (P 3025), 161 (P 3026), 170B (P 3027), 173 (P 3028), and 195 (P 3029) (modern stringing).

# **Ostrich Eggshell**

Whereas the majority of the beads found at Wadi Qitna were previously identified as bone (Strouhal 1984:226), 330 beads appear to be made of ostrich eggshell (Figures 3: P 3024; 4: P 3011, 3016, 3017; 5: P 3019, 3020, 3021a; 6: P 3035, 3037; 7: P 3045; 9: P3030, P3032). This is one of the oldest and most common bead materials in Nubia. The beads became especially numerous at Nobadian and Blemmyan sites after the fall of the Meroitic state (Then-Obłuska 2014). Interestingly, they were also recognized at the contemporary Late Roman Red Sea port sites of Berenike and Marsa Nakari (Then-Obłuska 2015b: Figure 2.7, 2017a).

#### Bone

A globular pendant (Figure 4: P 3013a), a globular bead (Figure 4: P 3015), and three standard tubular beads are made of bone (Figure 8: P 3049). The pendant was found threaded on a plaited dark brown string around which red

thread had been twisted (Figure 4: P 3013b). A globular bone bead was also found at another Blemmyan site at Bab Kalabsha (OIM E42043D).

# Stone

Small carnelian beads perforated from one end (Figure 4: P 3014) show characteristic saw traces across the larger opening. This feature has been noted on stone beads from the Meroitic period. Small, oblate, and well-polished carnelian beads are also commonly recognized Meroitic types (Then-Obluska 2015a).

# Faience

Faience beads ceased to be produced in Egypt in the 3rd century A.D. They still continued to be produced in Nubia, however, and a few specimens were found at Wadi Qitna and Kalabsha-South. These are a tiny short cylinder (Figure 8: P 3046a), a disc cylinder (Figure 8: P 3046b), and a larger



**Figure 4.** Beads from Tumuli 17B (P 3011), 29 (P3012), 74 (P 3013), 77 (P 3014), 80 (P 3015), 86B (P 3016), 88 (P 3017), and 90A (P 3018) (modern stringing on all but P 3013b).

tubular specimen (Figure 2: P 3006). While tiny beads are present at Meroitic sites (e.g., Then-Obłuska 2015a: Figure 7, T268 c1/b), larger tubular beads are commonly found at Late Meroitic and post-Meroitic sites in Nubia (e.g., Then-Obłuska 2014: Figure 2).

## Glass

The recovered glass beads fall into five groups: drawn segmented, drawn rounded, mandrel-wound, mandrelformed, and rod-pierced.

## Drawn Segmented Beads

Short and standard oblate beads made of drawn and segmented glass are dark blue (Figure 3: P 3023, P 3025), yellow (Figure 6: P 3040), and black (Figure 9: P 3033) in

color. Molds for segmenting drawn glass tubes are known from both Early Roman and Early Byzantine contexts at Alexandria, Egypt (Kucharczyk 2011; Rodziewicz 1984). Single- and multiple-segment beads are the most common type at Meroitic sites in Nubia (Then-Obłuska 2015a), as well as at post-Meroitic Nubian sites (Then-Obłuska 2017b) and Late Roman contexts at the port of Berenike (Then-Obłuska 2015b).

Other single-segment drawn beads are long tubes of opaque red, black, and translucent blue (Figures 5: P3022; 8: P 3048a-c). Two long red beads are in the shape of a bicone (Figure 8: P 3048d). Long red tubes are known from a Blemmyan cemetery at Bab Kalabsha (OIM E42033).

Twenty-three metal-in-glass beads have silver foil between two transparent glass layers (Figure 3: P3027a). While gold foil dominates in metal-in-glass beads during the Early Roman period in Egypt and the Meroitic period in Nubia (e.g., Then-Obłuska 2015a, b), silver-in-glass beads



Figure 5. Beads from Tumuli 106 (P 3019), 112 (P 3020), 114 (P 3021), and 118 (P 3022) (modern stringing).

were more common during the post-Meroitic period in Nubia (e.g., Then-Obłuska 2014).

#### Drawn Rounded Beads

Three green glass beads were found together with ostrich-eggshell beads in an infant's grave in Tumulus 114 at Wadi Qitna (Figure 5: P 3021b). Drawn glass tubes were cut into sections and their sharp ends were heat-rounded. These types are associated with the Indo-Pacific bead tradition and their presence in northeast Africa is said to be restricted to port sites (Francis 2002). A yellow drawn and rounded bead from the port of Quseir (Myos Hormos) was found to have a South Indian or Sri Lankan origin through laboratory analysis (Then-Obłuska and Dussubieux 2016). Green beads, such as found at Wadi Qitna, belong to one of the most common South Asian types (drawn and rounded beads) which have been found at the Late Roman ports of Berenike (Francis 2002; Then-Obłuska 2015b) and Marsa Nakari (Nechesia) (Then-Obłuska 2017a), as well as at Late Antique Nubian sites that include other Blemmyan cemeteries (Then-Obłuska 2017b).

#### Mandrel-Wound Beads

Some beads were made by winding glass around a mandrel. They are usually globular in shape and blue and green in color (Figures 2: P 3009; 8: P 3047b-c, P 3048e). A black collared oblong-ovate is decorated with a central white trail (Figure 8: P 3047a) whereas long black cylinders are decorated with a spiral white trail (Figure 8: P 3048f). The latter have analogies in beads of Eastern Mediterranean provenance dating to the 4th century A.D. (Arveiller-Dulong and Nenna 2011: no. 296.39-40).

Three single- and multiple-coiled blue beads are rather large in size (Figure 6: P 3039), measuring ca. 8 mm in diameter. Similar beads are present at a Blemmyan site at Bab Kalabsha (OIM E 42035) and at the Red Sea port of Berenike (Then-Obłuska 2015b: Fig. 5: 7, 9).

Thirteen opaque and glossy red glass beads are single-, double-, and quintuple-coiled (Figure 7: P 3041). Similarly shaped beads have correlatives at Late Roman sites in Egypt (Arveiller-Dulong and Nenna 2011:175, cat. 214, doublesegment wound glass beads; Lankton 2003: Figure 7.0: 636).



Figure 6. Beads from Tumuli 255c (P 3035, P3036, P 3037), 330 (P 3038), 337 (P 3039), and 363 (P 3040) (modern stringing).

Two beads are faceted, having been marvered into a cornerless cube (Figure 2: P 3007) and a hexagonal bicone (Figure 7: P 3042). Another bead in the form of a hexagonal bicone, 14 mm in diameter, is made of transparent glass (Figure 4: P 3012). It is uncertain whether this large bead is late antique or modern.

#### Mandrel-Formed Beads

Several large globular blue beads were most probably made by folding a glass strip around a mandrel and fusing the ends together (Figure 9: P 3034). Traces of seams can be discerned on some of them. Black-and-white banded mosaic strips were folded into elongated beads (Figure 3: P 3027c). Similar specimens are present at other Blemmyan sites (OIM E42033, OIM E42038). Another bead was made by joining two glass segments of different shades of green (Figure 7: P 3044a). A semi-translucent green bead is most probably also mandrel-formed (Figure 9: P 3031).

Some mandrel-formed beads were additionally marvered to produce faceted shapes. These include a green

biconical bead fragment (Figure 6: P 3036) and slightly faceted opaque red bicones (Figure 3: P 3027b). Roughly shaped, dark blue cornerless cuboids (Figure 3: P 3029) have also been found in the Bab Kalabsha tumuli (OIM E42043B, OIM E42035).

# **Rod-Pierced Beads**

Rod-pierced mosaic cane sections belong to one of the most recognized glass types in Early Roman and Meroitic assemblages, although tabular mosaic beads with a socalled flower motif with radial "petals" in yellow and green emanating from a yellow center within a red ring (Figure 3: P 3027d) have been found at the post-Meroitic Lower Nubian sites of Qustul (Williams 1991b:143 and 300c; ca. A.D. 370/380-410), Serra East (Then-Obłuska, 2017b: Figure 7), and Ballana (Williams 1991a:235, Fig. 48h). In the latter instance, although published as Meroitic, the beads relate to the post-Meroitic reuse of the grave (Williams 1991b: 401). Among Egyptian parallels are specimens from Late Roman sites at Bagawat in Kharga Oasis (Metropolitan Museum



Figure 7. Beads from Tumuli 367A (P 3041), 377A (P 3042), 385A (P 3043), 386 (P 3044), and 387 (P 3045) (modern stringing).

of Art, accession no. 31.8.6, 4th-7th centuries), Gurob in the Fayum (Petrie Museum, UC58113, Late Roman), and the Berenike port (Then-Obłuska 2015b: Fig. 5: 37, Late Roman). Similar yellow and green beads, but with a red center, come from Late Meroitic contexts at Karanog (Woolley and Randall MacIver 1910: Pl. 40: 7906).

A mosaic cane section with purple and white radial stripes atop a red-on-white layer was rod-pierced and shaped into a globular bead (Figure 7: P 3044b). Traces of the red and white glass that comprise the core are visible in the chipped area at one end of the hole. Although tabular in shape, a bead with the same mosaic pattern is present at Late Roman Berenike (Then-Obłuska 2015b: Fig. 5:38).

#### Metal

A bronze coin with a single perforation (Figure 8: P 3058) was found with three beads in a child's grave in tumulus 195 (Figure 3: P 3029). Based on iconographic

comparison, it could be dated to Constantius II (Augustus, A.D. 337-361) (Strouhal 1984:230). A coin of Roman emperor Julian II (Augustus, A.D. 361-363) perforated with three holes was found in the Late Roman Harbor Temple at Berenike (Sidebotham and Zych 2010; Sidebotham et al. 2015). Coin settings were used in jewelry in late antiquity and this practice continues into modern times (Bruhn 1993). Pierced coins might be necklace components as suggested for the Wadi Qitna find (Strouhal 1984). Multiple pierced coins could be sewn or plaited into textiles. A pair of textile earrings (?) with sewn coral and glass beads bordering small perforated circular medallions, most probably coins, is dated to the 4th century A.D. and comes from Egypt (J. Paul Getty Museum 82.AI.76.26.1).

Twenty-three standard barrels (Figure 2: P 3010b), previously identified as glass (Strouhal 1984: Figure 151; Table 40) but most probably silver, were found together with *Conus taeniatus* sp. beads (see above). They were with a ribbon made of crudely woven linen in a linen bag.



Figure 8. Beads and pendants from Tumuli 387/1 (P 3046), 393 (P 3047), 431 (P 3048), K1c (P 3049), K20/74 (P 3050), and 195 (P 3058) (modern stringing).

# **MODERN BEADS**

Some specimens found at the Wadi Qitna and Kalabsha-South cemeteries are modern intrusions, and a few others are tentatively ascribed to this group.

A red mold-pressed glass bead with a raised seam around the middle was collected together with a metal cornerless cube and a perforated jasper pebble (Figure 3: P 3026a-c). The glass bead could be a Bohemian product (K. Karklins 2016: pers. comm.). The metal bead was tested and said to be made of pure silver (Strouhal 1984:223). The pebble pendant was perforated from either side creating a double-cylinder perforation with a conical indentation at one opening.

A globular wooden bead (Figure 2: P 3008) might also be a modern object. Similar beads were found together with some modern beads at Serra East (OIM E24513).

A red-on-white drawn bead, three yellow mold-pressed beads, and one drawn red cylinder bead form another group (Figure 6: P 3038a-c). The translucent red-on-opaque white bead is often referred to as *cornaline d'Aleppo* (Billeck 2008). They are also called *corniola perla* on a Nissim Namer bead sample card from Sudan, presently in the Royal Ontario Museum (Accession No. 907.31.11). The card exhibits European beads that were used by Sheikh Abdullah in about 1870. The handwritten note on the card speaks of Sheikh Abdullah being with the Mahdi during this period (Billeck 2008:50, Plates IXC, XA). Translucent redon-opaque white drawn beads were probably first made in Venice and continue to be made today in several countries (Billeck 2008:51).

Although a large plastic fragment (Figure 4: P 3018) was said to have an analogy in ancient Nubian beadwork (Strouhal 1984:227), it is neither a bead nor an ancient object. A yellow oval bead (Figure 8: P 3050) and a yellow cube-shaped bead (Figure 7: P 3043) appear to be made of molded plastic.



Figure 9. Beads from Tumuli 201F (P 3030), 215 (P 3031), 220 (P 3032), 240 (P 3033), and 253 (P 3034) (modern stringing).

# CONCLUSION

The beads and pendants found at the 4th-century tumuli cemeteries at Wadi Qitna and Kalabsha-South are associated with the Eastern Desert dwelling Blemmyes. According to textual and archaeological sources, they were very active between the Nile Valley and Red Sea coastal sites. The beads found in their graves are made of a variety of materials whose sources can be traced to the neighboring deserts, the Red Sea coast, the Eastern Mediterranean region, and as far as South India or Sri Lanka.

Previously identified as bone, beads of ostrich eggshell, a material readily available in the Nubian deserts, dominate the collection. *Conus taeniatus* sp. shells come from the Red Sea. Perfectly polished tiny carnelian beads with traces of saw marks next to the perforation are well known in the Meroitic period in Nubia.

Glass beads were made using diverse techniques including drawing, winding, folding, joining, and rodpiercing. Trail-decorated wound glass beads are elsewhere thought to be of Eastern Mediterranean production. Mosaic glass beads are paralleled at other contemporary Egyptian and Nubian sites. While drawn and segmented glass and metal-in-glass beads are well known in Egypt and Nubia, a few drawn and rounded beads are most probably of South Asian origin. Asian bead imports have already been identified at Red Sea ports in Egypt and recently they have also been identified at many post-Meroitic sites in the Nile Valley. That was a time of intensified maritime trade in the West Indian Ocean basin and it is possible that the Blemmyes, active between the Nile Valley and the Red Sea coast, played an intermediary role in the distribution of imported items.

A number of beads appear to be modern intrusions. In addition to the types already recognized at Lower Nubian sites (Then-Obłuska 2016) are the red-on-white and globular mold-pressed glass beads, as well as the yellow oval and cube-shaped plastic ones. A globular wooden bead, a large silver cornerless cube, and a perforated jasper pebble also appear to be modern.

# ACKNOWLEDGEMENTS

I would like to thank Dr. Pavel Onderka, director of The Naprstek Museum in Prague, for making this study possible. Special thanks go to Stefany Tomalin and Karlis Karklins for their help with the identification of the modern beads. This study is part of a broader research project aimed at interdisciplinary analysis of Nubian beads and funded by the National Science Center of Poland, grant UMO-2013/09/D/ HS3/04508.

## **REFERENCES CITED**

#### Arveiller-Dulong, Véronique and Marie-Dominique Nenna

2011 Les verres antiques du Musée du Louvre III. Parures, instruments et éléments d'incrustation. Musée du Louvre, Paris.

## **Barnard**, Hans

- 2006 Eastern Desert Ware from Marsa Nakari and Wadi Sikait. Journal of the American Research Center in Egypt 42:131-146.
- 2008 Eastern Desert Ware: Traces of the Inhabitants of the Eastern Deserts in Egypt and Sudan During the 4th-6th Centuries CE. British Archaeological Reports International Series 1824. Oxford.

#### Barnard, Hans and Anwar A. Magid

2006 Eastern Desert Ware from Tabot (Sudan): More Links to the North. *Archéologie du Nil Moyen* 10:15-34.

# Billeck, William T.

2008 Red-on-White Drawn or Cornelian Beads: A 19th-Century Temporal Marker for the Plains. *Beads: Journal of the Society of Bead Researchers* 20:49-61.

#### Bruhn, Jutta-Anette

1993 *Coins and Costume in Late Antiquity*. Dumbarton Oaks Research Library and Collection, Washington.

#### Dijkstra, Jitse H.F.

2012 Blemmyes, Noubades and the Eastern Desert in Late Antiquity: Reassessing the Written Sources. In *The History of the Peoples of the Eastern Desert*, edited by H. Barnard and K. Duistermaat, pp. 239-247. Cotsen Institute of Archaeology Press, Los Angeles.

#### Emery, Walter B. and Laurence P. Kirwan

1938 *The Royal Tombs of Ballana and Qustul.* 2 vols. Government Press, Cairo.

#### Francis, Peter Jr.

2002 Asia's Maritime Bead Trade 300 B.C. to the Present. University of Hawai'i Press, Honolulu.

# Habachi, Labib

1967 Kleinfunde. In Ausgrabungen von Khor-Dehmit bis Bet el Wali, edited by H. Ricke, pp. 68-70. The University of Chicago Press, Chicago.

#### Kucharczyk, Renata

2011 Glass from Area F on Kom El-Dikka (Alexandria). Excavations 2008. Polish Archaeology in the Mediterranean 20:56-67.

#### Lankton, James W.

2003 A Bead Timeline, Vol. I: Prehistory to 1200 CE. A Resource for Identification, Classification and Dating. The Bead Museum, Washington.

#### **Ricke, Herbert**

1967 Ausgrabungen von Khor-Dehmit bis Bet El-Wali. *Oriental Institute Nubian Expedition* 2.

# Rodziewicz, Mieczysław

1984 Les habitations romaines tardives d'Alexandrie: A la lumiere des fouilles polonaises a Kom el-Dikka. Editions Scientifiques de Pologne, Warsaw.

#### Sidebotham, Steven E. and Iwona Zych

2010 Berenike: Archaeological Fieldwork at a Ptolemaic-Roman Port on the Red Sea Coast of Egypt 2008-2010. *Sahara* 21:7-26.

# Sidebotham, Steven. E., Iwona Zych, Joanna. K. Rądkowska, and Marek Woźniak

2015 Berenike Project. Hellenistic Fort, Roman Harbor, Late Roman Temple, and Other Projects. Archaeological Work in the 2012 and 2013 Seasons. *Polish Archaeology in the Mediterranean* 24(1):297-324.

# Strouhal, Eugene

1984 Wadi Qitna and Kalabsha-South: Late Roman–Early Byzantine Tumuli Cemeteries in Egyptian Nubia I. Charles University, Prague.

#### Then-Obłuska, Joanna

2014 The Code of the Hidden Beads – From the Kerma to the Islamic Period According to the 4th Cataract Material from the Gdańsk Archaeological Museum Collection. *In* The Fourth Cataract and Beyond: Proceedings of the 12th International Conference for Nubian Studies, edited by J.R. Anderson and D.A. Welsby, pp. 1069-1090. *British Museum Publications on Egypt and Sudan* 1.

- 2015a Beads and Pendants from Sedeinga, Nubia. *Beads: Journal of the Society of Bead Researches* 27:29-45.
- 2015b Cross-Cultural Bead Encounters at the Red Sea Port Site of Berenike, Egypt, Preliminary Assessment (Seasons 2009-2012). *Polish Archaeology in the Mediterranean* 24(1):735-777.
- 2016 The 'Bead Side' Story of Medieval and Post-Medieval Nubia: Tentative Approach to the Bead Collection of the Museum of Archaeology University of Stavanger, Norway. In Aegyptus et Nubia Christiana. The Włodzimierz Godlewski Jubilee Volume on the Occasion of his 70th Birthday, edited by A. Łajtar, A. Obłuski, and I. Zych, pp. 579-612. Polish Centre of Mediterranean Archaeology UW, Warsaw.
- 2017a Bead Trade in Roman Ports A View from the Red Sea Port Marsa Nakari. In *The Red Sea and the Gulf: Two Alternative Maritime Routes in the Development of Global Economy, from the Late Prehistory to Modern Times*, edited by A. Manzo and Ch. Zazzaro. Proceedings of the Seventh International Conference on the Peoples of the Red Sea Region and Their Environment, 26-30 May, Naples – Procida. Brill, Leiden, forthcoming.
- 2017b Short and Long Distance Contacts of Late Antique Nubia: A View Through the Bead Hole. In Proceedings of the 13th International Conference for Nubian Studies, University of Neuchâtel, 1-6 September 2014, edited by M. Honegger et al. Orientalia Lovaniensia Analecta, Peeters Editions, forthcoming.

#### Then-Obłuska, Joanna and Laure Dussubieux

2016 Glass Bead Trade in the Early Roman and Mamluk Quseir Ports – A View from the Oriental Institute Museum Assemblage. Archaeological Research in Asia 6:81-103; http://doi.org/10.1016/j.ara.2016.02.008, accessed 10 October 2016.

#### Williams, Bruce B.

- 1991a Meroitic Remains from Qustul Cemetery Q, Ballana Cemetery B, and a Ballana Settlement. *Oriental Institute Nubian Expedition* 8.
- 1991b Noubadian X-Group Remains from Royal Complexes in Cemeteries Q and 219 and from Private Cemeteries Q, R, V, W, B, J, and M at Qustul and Ballana. *Oriental Institute Nubian Expedition* 9.

# Woolley, C. Leonard and David Randall-MacIver

1910 *Karanòg: The Romano-Nubian Cemetery*. Vols. 3-4. The University Museum, Philadelphia.

Joanna Then-Obłuska Polish Centre of Mediterranean Archaeology University of Warsaw Warsaw Poland j.then-obluska@uw.edu.pl