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More than people and pots: identity and regionalization in Ancient Egypt during the second intermediate period, ca. 1775-1550 BC

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Citation

Sacco, A. (2021, June 23). *More than people and pots: identity and regionalization in Ancient Egypt during the second intermediate period, ca. 1775-1550 BC*. Retrieved from <https://hdl.handle.net/1887/3192232>

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Issue Date: 2021-06-23

NETWORKS OF MATERIALS

This chapter deals with the circulation of materials during the Late Middle Kingdom and the Second Intermediate Period. More specifically, the distribution of the materials used to produce the objects analysed in the present work, and the connections they create, are examined. The distribution of the different materials is summarized in Table 129.

The reason for this further analysis is that, while **certain** materials **are** widely found, others have a defined geographical provenance. Therefore, studying how these materials are distributed can help understand how they circulated from their sources and, consequently, shed further light on the relations between different sites. Furthermore, if a particular category of objects made of the same material is found on multiple sites, but there are no shapes shared between these sites, this could imply that they were manufactured locally.

To have a clearer image, each section deals with lithic materials according to the location of their sources (i.e. the Sinai, the central and southern part of Egypt, the southernmost part of Egypt, the lithic materials widely found in Egypt, and the ones that had to be imported). Successively, another two sections deal with metals and with organic materials, because their industries are different from the lithic ones.

LITHIC MATERIALS FROM THE SINAI

Turquoise was mined in the Sinai (numbers 2 and 3 on Map 1).¹ Rock crystal was present in the same area, as well as in the Western Desert, between the oases of Fayyum and Bahariya.²

1 Aston, Harrell, and Shaw 2000, 62–63; Lucas 1948, 460–61.

2 B.G. Aston 1994, 64–65; Aston, Harrell, and Shaw 2000, 50–53; Lucas 1948, 459–60.

Turquoise

For the Late Middle Kingdom, at Tell el-Dab'a,³ Harageh,⁴ and Lisht⁵ turquoise beads have been found, while at Dahshur⁶ and Lahun⁷ both beads and scarabs of turquoise have been found. Harageh has most turquoise beads and has a few types in common with the other sites, especially Tell el-Dab'a. For the Early Second Intermediate Period, turquoise beads have been excavated at Tell el-Dab'a,⁸ mostly, and at Harageh.⁹ However, there are no types shared. For the Late Second Intermediate Period, turquoise beads have been retrieved only from three tombs in Tell el-Dab'a.¹⁰

Rock crystal

Rock crystal beads have been discovered in tombs of the Late Middle Kingdom in Tell el-Dab'a,¹¹ while one rock crystal scarab has been recorded in one context of the Early Second Intermediate Period at Tell el-Dab'a.¹² Rock crystal beads come mostly from tombs of the Late Second Intermediate Period in Tell el-Dab'a,¹³ and in one context respectively in Tell el-Maskhuta,¹⁴ Balabish,¹⁵ and the Theban area¹⁶. Tell el-Dab'a has the greater variety of types, while the other sites only have one type, which they share with Tell el-Dab'a.

Contacts with the Sinai

Tell el-Dab'a was likely the point where the described materials entered Egypt. This is suggested by different elements. Firstly, the geographical position of Tell el-Dab'a, in the Eastern Delta, makes it a favourable point to enter Egypt from the Sinai through land routes. The site was connected to the so-called 'Ways of Horus',¹⁷ namely the land route that led from Egypt to the Sinai; this

3 Schiestl 2009, 98, 360.

4 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

5 Kemp, Merrillees, and Edel 1980, 220–25.

6 De Morgan et al. 1895, 62; Oppenheim 1996, 26.

7 Petrie, Brunton, and Murray 1923, 13–15, pls. XLVIII and LXIII; Winlock 1934, 22, 30–41, 55.

8 Forstner-Müller 2008, 140–91.

9 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

10 Forstner-Müller 2008, 299–332 and 343–84.

11 Bietak, Mlinar, and Schwab 1991, 33; Forstner-Müller 2008, 129–40.

12 Forstner-Müller 2008, 189–90; Mlinar 2001b, n. 211.

13 Bietak, Mlinar, and Schwab 1991, 214; Forstner-Müller 2008, 221–41; Forstner-Müller et al. 2015, 35–39.

14 Redmount 1989.

15 Wainwright and Whittemore 1920, 8–16 and 19–23, pls. VIII and XVI–XVII.

16 Hayes 1959, 20–21.

17 Bietak 1996, 1.

route was dotted with military forts and camps and settlements, run by the Egyptian authorities.¹⁸ Secondly, the amount of weapons, especially swords, knives, axes, and spearheads (see Chapter 12), as well as the installations and tools uncovered at Tell el-Dab'a, including moulds and forms, kilns, tuyères (bellows) and crucibles, and metal ingots and remains,¹⁹ have shown that the site was characterized by metal (copper) working. Given that locations in the Sinai where both copper and turquoise were present are known, such as Serabit el-Khadim,²⁰ it is possible that turquoise and copper were brought together from the Sinai to the site. Thirdly, the role of people from Syria-Palestine, who were also an important part of the community at Tell el-Dab'a,²¹ in mining operations in the Sinai is known from written documents, in which Levantine names are reported in connection with these operations, and wall paintings in tombs, where people with features usually associated with the Levant in Egyptian art are shown in representations of operations in the Sinai (see Chapter 4). Lastly, Tell el-Dab'a is the only site where turquoise and rock crystal were present in contexts dating not only to the Late Middle Kingdom, but also to the entire Second Intermediate Period; hence, Tell el-Dab'a is the only site that kept receiving these materials.

As a consequence, the network of turquoise detected in the Late Middle Kingdom suggests that the material, after entering Egypt through Tell el-Dab'a, was distributed in the Memphis-Fayyum area, where the capital of the time was located.²² This implies that the royal family, the members of the royal court, and other rich inhabitants of the area had the means to acquire turquoise, as demonstrated by both royal and non-royal tombs in Dahshur, Lahun, Lisht, and Harageh.²³ Turquoise was present also during the Early Second Intermediate Period in Harageh. This shows that there was still an elite class present in the Memphis-Fayyum area, and that trade between the area and Tell el-Dab'a still happened; this has already been suggested on the basis of other objects, such as pottery made of fabrics found in the Memphis-Fayyum area and excavated at Tell el-Dab'a,²⁴ and Tell el-Yahudiyah ware found at Harageh.²⁵ Moreover, it has also been suggested that a ruling class, namely the last part of the Thirteenth Dynasty, was still present in the area

18 As described in: Oren 1987.

19 Bietak and Forstner-Müller 2006; Philip 1995a; Philip 1995b; Philip 2006, 169–203.

20 Beit-Arieh 1985; Lucas 1948, 228–36; Ogden 2000, 149–55.

21 Main summary on the history of Levantine presence in Tell el-Dab'a is in: Bietak 1996.

22 Agut and Moreno-García 2016, 249–53; Quirke 2005.

23 Di. Arnold 1996; Arnold et al. 1992; Baba and Yazawa 2015; Brunton 1920; De Morgan, Legrain, and Jéquier 1903; De Morgan et al. 1895; Grajetzki 2004; Petrie, Brunton, and Murray 1923; Winlock 1934.

24 Aston, Bader, and Kunst 2009.

25 Aston and Bietak 2012, 169 and 553.

(see Chapter 2): the results of the analysis support this theory. During the Late Second Intermediate Period, turquoise was present only at Tell el-Dab'a and was not transported further into Egypt: this can be due to the fact the other sites did not have the resources necessary to acquire expensive materials such as turquoise. This is confirmed also by the fact that precious materials, such as imported stones and gold, are not common in Egypt at the time and are found only in richer tombs, as shown further in this chapter.

There are good reasons to assume that during the Late Middle Kingdom turquoise was transported as raw material to the Memphis-Fayyum area and worked locally. Firstly, there are more types of turquoise objects, both beads and scarabs, in the Memphis-Fayyum area than at Tell el-Dab'a. Secondly, the two areas have one type of bead in common, suggesting workshops in either region worked according to local traditions or tastes. Lastly, in the Memphis-Fayyum area was the location of the capital and of the royal workshops where, as shown for example by the pottery,²⁶ the style of the material culture was produced. During the Early Second Intermediate Period, turquoise was worked according to local traditions both at Tell el-Dab'a and Harageh. This is suggested by the fact that the two sites have no types of turquoise beads in common, and by the fact that Harageh was an important site, as demonstrated by the present analysis, where an elite class was still present, as shown by the burials and as mentioned above;²⁷ therefore, people buried at Harageh likely had the means to work turquoise locally.

Concerning rock crystal, the network detected shows that it reached further south than Tell el-Dab'a only during the Late Second Intermediate Period. This was probably allowed by the fact that, during that time, rock crystal arrived also from the Western Desert: this is supported by the contacts between Tell el-Dab'a and the oases, demonstrated by the analysis conducted in the present work and discussed in the conclusions. It is possible that rock crystal was worked at Tell el-Dab'a and transported as finished goods. This is suggested by the fact that not only Tell el-Dab'a has the majority, and the larger variety, of beads of this material, but also that the other sites share the only type of bead that they have with Tell el-Dab'a. Moreover, rock crystal objects are present outside Tell el-Dab'a only during the Second intermediate Period, when the site was a capital, and therefore an independent and thriving site with the means to produce and distribute rock crystal objects, contrarily to when it was controlled by the capital during the Late Middle Kingdom (refer to Chapters 2 and 14 for discussions on the historical framework). Hence, during the Second Intermediate Period finished objects of rock crystal found

26 For the style of the Middle Kingdom: Wodzińska 2009.

27 Grajetzki 2004.

their way from Tell el-Dab'a not only to the Eastern Delta, but also to southern Upper Egypt, witnessing contacts between the Hyksos and the Theban rulers.

LITHIC MATERIALS FROM CENTRAL-SOUTHERN EGYPT

Both in the central and southern parts of Egypt, along the Nile Valley and in the Eastern Desert, were found steatite (numbers 23, 27, 28, 33, 43 on Map 1),²⁸ calcite-alabaster (numbers 7, 11, 32 on Map 1),²⁹ diorite (number 17 on Map 1),³⁰ and amethyst (15, 21, 36 on Map 1).³¹ Though haematite occurred widely in Egypt, the only sources where it could be extracted are known only in the central and southern parts of the Eastern Desert (numbers 14, 16 20, 26 on Map 1).³²

Amethyst

Amethyst beads have been found at nearly all the sites included in the analysis of the Late Middle Kingdom. For the same period, most of the amethyst scarabs has been excavated at Dahshur,³³ Abydos,³⁴ and Hu.³⁵ Other sites include Tell el-Dab'a,³⁶ Lahun,³⁷ Qasr el-Sagha,³⁸ Matmar,³⁹ Qau el-Kebir,⁴⁰ the Theban area,⁴¹ Nubt,⁴² Esna,⁴³ and Edfu.⁴⁴ The sites have no types of amethyst scarabs in common, but the types of amethyst beads they do have in common focus on the sites in Middle and Upper Egypt.

Amethyst beads of the Early Second Intermediate Period have been retrieved from Tell el-Dab'a⁴⁵ and Qau el-Kebir,⁴⁶ which share more types, as well as

- 28 B.G. Aston 1994, 59–60; Aston, Harrell, and Shaw 2000, 58–59; Lucas 1948, 479–80.
- 29 B.G. Aston 1994, 42–47; Aston, Harrell, and Shaw 2000, 59–60; Lucas 1948, 447–48.
- 30 B.G. Aston 1994, 13–15; Aston, Harrell, and Shaw 2000, 30–31; Lucas 1948, 465–67.
- 31 B.G. Aston 1994, 66–67; Aston, Harrell, and Shaw 2000, 50–52; Lucas 1948, 445.
- 32 B.G. Aston 1994, 73; Aston, Harrell, and Shaw 2000, 38; Lucas 1948, 452.
- 33 Ben-Tor 2004, figs. 2, 6; Ben-Tor 2007, 30–37; De Morgan et al. 1895, 62; Keel 1989, 285; Oppenheim 1995, 10–11; Oppenheim 1996, 26; Tufnell, Martin, and Ward 1984, pl. 52.
- 34 Ayrton et al. 1904; Garstang, Newberry, and Milte 1901, 11, 44.
- 35 Bourriau 2009, 59; Petrie and Mace 1901, 43–44.
- 36 Mlinar 2001b, n. 18; Schiestl 2009, 375.
- 37 Petrie, Griffith, and Newberry 1890, 29.
- 38 Śliwa 1992a, 184; Śliwa 1992b, 32.
- 39 Brunton 1948, 54 and pl. LXIX.
- 40 Brunton, Gardiner, and Petrie 1930, 1.
- 41 Loyrette, Nasr, and Bassiouni 1994, 116–18.
- 42 Ben-Tor 2007, 29; Petrie, Quibell, and Spurrell 1896, 66 and pl. LXXXI.
- 43 Downes 1974, 63.
- 44 Michałowski et al. 1939, 31–33.
- 45 Forstner-Müller 2008, 140–217.
- 46 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.

Harageh⁴⁷ and Ain Asil.⁴⁸ The only amethyst scarab mentioned in the publications for this period is from Tell el-Dab'a.⁴⁹ Amethyst beads of the Late Second Intermediate Period have been discovered at Tell el-Dab'a,⁵⁰ Tell el-Retaba,⁵¹ Tell el-Maskhuta.⁵² Sedment,⁵³ Matmar,⁵⁴ Mostagedda,⁵⁵ Qau el-Kebir,⁵⁶ Hu,⁵⁷ and the Theban area.⁵⁸ Amethyst scarabs of the same period have been recorded mostly from Tell el-Dab'a⁵⁹ and Tell el-Maskhuta,⁶⁰ as well as from Tell el-Yahudiyah,⁶¹ Matmar,⁶² Qau el-Kebir,⁶³ Hu,⁶⁴ and the Theban area.⁶⁵ There are no types of amethyst scarabs in common between the sites. However, the types of amethyst beads in common between the sites connect Tell el-Dab'a with Sedment, Mostagedda, and Qau el-Kebir; they link the last two sites as well.

Calcite-alabaster

During the Late Middle Kingdom, calcite-alabaster vessels have been reported from nearly all the sites included in the analysis. The types in common con-

- 47 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.
- 48 Marchand, Soukiassian, and Bourriau 2010, 301–4 and 308.
- 49 Forstner-Müller 2008, 180–81.
- 50 Bietak, Mlinar, and Schwab 1991, 172–274; Forstner-Müller 2008, 221–384; Forstner-Müller et al. 2015, 35–39.
- 51 Rzepka et al. 2014, 39–46.
- 52 Redmount 1989.
- 53 Petrie & Brunton, 1924, 16–21 and pls. XLVI–XLVII.
- 54 Brunton 1948, 56–58 and pls. XLIV, LXXIII.
- 55 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.
- 56 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV, XXXII.
- 57 Petrie and Mace 1901, 46, 51, 53.
- 58 Hayes 1959, 20–21.
- 59 Bietak, Mlinar, and Schwab 1991, 170–80; Forstner-Müller 2008, 277–80, 322–25; Mlinar 2001b, ns. 504–5, 513, 522, 605, 616–17.
- 60 Ben-Tor 2007, 97.
- 61 Griffith 1890, 39 and pl. X.
- 62 Brunton 1948, 56.
- 63 Brunton, Gardiner, and Petrie 1930, 12 and pl. XIX.
- 64 Ben-Tor 2007, 92–93; Bourriau 2009, 82; Petrie and Mace 1901, pl. XLI.
- 65 Winlock 1924, 258.

nect mainly Dahshur,⁶⁶ Harageh,⁶⁷ Rifeh,⁶⁸ Riqqeh,⁶⁹ Abydos,⁷⁰ Hu,⁷¹ Esna,⁷² Edfu,⁷³ hence sites of the Memphis-Fayyum area and sites in southern Upper Egypt.

During the Early Second Intermediate Period, calcite-alabaster vessels have been unearthed at all the sites included in the analysis. The types in common connect mainly Tell el-Dab'a⁷⁴ and Edfu,⁷⁵ as well as the latter and Abydos⁷⁶ and, through this, Tod.⁷⁷ During the Late Second Intermediate Period, calcite-alabaster vessels have been recovered from nearly all the sites included in the analysis. The types in common connect mainly Sedment,⁷⁸ Mostagedda,⁷⁹ Matmar,⁸⁰ and Qau el-Kebir,⁸¹ thus the sites in Middle Egypt; these sites function also as bridges between the sites in Lower Egypt and the ones in southern Upper Egypt.

Diorite

Diorite beads have been recovered only from contexts of the Late Middle Kingdom in Esna⁸² and Armant,⁸³ while diorite vessels have been found in contexts of the Late Middle Kingdom in Esna⁸⁴ and Edfu,⁸⁵ from respectively

- 66 B.G. Aston 1994, 142, 145; De Morgan, Legrain, and Jéquier 1903, 48–68 and 74–77; De Morgan et al. 1895, 63, 71–75 and 96–114.
- 67 B.G. Aston 1994, 142–45; Engelbach and Gunn 1923, 16–17 and pl. XLVII.
- 68 B.G. Aston 1994, 142–43; Petrie, Thompson, and Crum 1907, 13 and pl. XIA.
- 69 B.G. Aston 1994, 144; Engelbach et al. 1915, 13 and 16, pls. VII and XIII.
- 70 B.G. Aston 1994, 141–46; Ayrton et al. 1904, 19, 47 and pl. XI; Garstang, Newberry, and Milte 1901; Kemp, Merrillees, and Edel 1980, 124–26; Peet and Loat 1913, 24–27; Petrie et al. 1925, pl. XXX; Randall-MacIver, Mace, and Griffith 1902, 55; Tooley 2015.
- 71 B.G. Aston 1994, 141–45; Bourriau 2009, 52–53, 55–57, 59, 61–63, 67, 69, 71, 73, 75–81, and 83–90; Petrie and Mace 1901, 44 and pl. XXVIII–XXX.
- 72 B.G. Aston 1994, 141–46; Downes 1974, 96–99.
- 73 B.G. Aston 1994, 143–46; Michałowski et al. 1939, 46–49 and pls. XX–XXI; Michałowski et al. 1950, 177–82 and pls. XVIII–XX.
- 74 Bietak, Mlinar, and Schwab 1991, 43; Forstner-Müller 2008, 140–217; S.E.M. Müller 2013, 120.
- 75 Michałowski et al. 1950, 177–82, pls. XVIII and XX.
- 76 B.G. Aston 1994, 142–44; Garstang, Newberry, and Milte 1901; Peet 1914, 57–64; Randall-MacIver, Mace, and Griffith 1902, 67 and 97–101.
- 77 Barguet 1952, 19–21 and 29.
- 78 Petrie and Brunton 1924, 16–21 and pl. XLI.
- 79 B.G. Aston 1994, 146–47; Brunton and Morant 1937, 114–22 and 128–29, pl. LXVIII.
- 80 B.G. Aston 1994, 147; Brunton 1948, 56–58 and pl. XLII.
- 81 B.G. Aston 1994, 146–47; Brunton, Gardiner, and Petrie 1930, 3–10 and pls. XX–XXI.
- 82 Downes 1974, 50–55 and Tomb catalogue.
- 83 Mond and Myers 1937.
- 84 B.G. Aston 1994, 141–46; Downes 1974, 96–99.
- 85 Michałowski et al. 1939, 46–49 and pls. XX–XXI; Michałowski et al. 1950, 177–82 and pls. XVIII–XX.

two tombs and one tomb. However, as far as both the beads and the vessels are concerned, there are no types in common between the sites.

Haematite

For the Late Middle Kingdom, haematite beads come mostly from Armant,⁸⁶ as well as from Harageh⁸⁷ El-Kab,⁸⁸ and Edfu,⁸⁹ hence only from Middle and southern Upper Egypt. Based on the types in common, the sites in southern Upper Egypt share strong connections. For the Early Second Intermediate Period, one haematite vessel has been uncovered in one tomb in Tell el-Dab'a.⁹⁰ For the Late Second Intermediate Period, only one type of haematite bead has been reported from both Mostagedda⁹¹ and Qau el-Kebir.⁹²

Steatite

Concerning the Late Middle Kingdom, steatite beads have been unearthed at Harageh,⁹³ Mostagedda,⁹⁴ Qau el-Kebir,⁹⁵ Abydos,⁹⁶ Armant,⁹⁷ and Esna,⁹⁸ while steatite vessels have been recovered from Lisht⁹⁹ and Harageh,¹⁰⁰ in one tomb at each site. Moreover, steatite scarabs have been found at nearly all the sites examined for this chronological phase. There are no types of vessels in common between the sites. However, the types of beads and scarabs in common connect mainly sites in the Memphis-Fayyum area and in Middle Egypt, which share strong connections with sites in southern Upper Egypt.

With respect to the Early Second Intermediate Period, only steatite scarabs have been excavated at Tell el-Dab'a¹⁰¹ and Ain Asil,¹⁰² which do not share types. Regarding the Late Second Intermediate Period, steatite beads have

86 Mond and Myers 1937.

87 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

88 Quibell, Clarke, and Tylor 1898, 15.

89 Michałowski et al. 1939, 31–33, 126, 130–31; Michałowski et al. 1950, 183–84, 312.

90 Forstner-Müller 2008, 169–72.

91 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.

92 Brunton, Gardiner, and Petrie 1930, 3–10, pls. V–VIII, XI, XXIV–XXV and XXXII.

93 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

94 Brunton and Morant 1937, 113–14 and pl. LXXI.

95 Brunton, Gardiner, and Petrie 1930, 1–3, pls. II and IV.

96 Garstang, Newberry, and Milte 1901; Tooley 2015.

97 Mond and Myers 1937.

98 Downes, 1974, 50–55 and Tomb catalogue.

99 Lansing and Hayes 1934.

100 Engelbach and Gunn 1923, 16–17 and pl. XLVII.

101 Ben-Tor 2007, 89; Bietak, Mlinar, and Schwab 1991, 46–89; Forstner-Müller 2008, 143–90; Mlinar 2001b, ns. 201–307.

102 Marchand 2003, 305–7.

been retrieved mostly from Tell el-Dab'a,¹⁰³ as well as Qau el-Kebir¹⁰⁴ Tell el-Maskhuta,¹⁰⁵ Lisht,¹⁰⁶ Matmar,¹⁰⁷ and Mostagedda.¹⁰⁸ Moreover, steatite scarabs have been discovered at nearly all the sites examined for this chronological phase. This distribution shows that steatite objects of this period, both beads and scarabs, were present mostly in Lower and Middle Egypt. The types shared connect more strongly the sites in Middle Egypt and in the Memphis-Fayyum area with the sites in Lower Egypt.

Contacts with central-southern Egypt

The fact that for the Late Middle Kingdom objects of these materials, whose sources were both in the central and southern parts of Egypt, come from sites in Middle and southern Upper Egypt, which are geographically near the sources, is not surprising. These materials also reached the Memphis-Fayyum area: this can be explained by the fact that this was the area of the capital of the time and its inhabitants had the resources necessary to get the materials, as discussed above.

The types of beads and scarabs in common create stronger connections for the sites in the Memphis Fayyum area and in Middle Egypt. This suggests that the types were mostly produced there, especially as far as more prestigious objects and materials are concerned, or that the mentioned sites set the styles followed in other areas of Egypt. This theory is also supported by the fact that a unified style, produced in royal workshops in the capital in the Memphis-Fayyum area, is known from other objects, as discussed above. The capital area had more contacts with southern Upper Egypt than Lower Egypt. Many prominent sites where administrative tasks – e.g. the inspecting, storing and transferral of commodities and goods stored in wooden boxes, baskets, and ceramic jars, and documenting these processes on papyri and ostraca – and cultic activities were performed were located in southern Upper Egypt. These sites were not only located near the resources in question, but also played an important role in their circulation. These sites include Abydos (where temples were built, such as the mortuary one of Senwosret III; several seal impressions witness the completion of the administrative activities mentioned earlier),¹⁰⁹ Esna (whose importance is shown by its large cemetery

103 Forstner-Müller 2008, 241–332; Forstner-Müller et al. 2015, 35–39.

104 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.

105 Redmount 1989.

106 Hayes 1959, 12–13.

107 Brunton 1948, 56–58, pls. XLIV and LXXIII.

108 Brunton and Morant 1937, 114–22, 125–26 and pls. LXVIII–LXXII.

109 Wegner 1998; Wegner 2001; Wegner 2004; Wegner 2010; Wegner, Smith, and Rossell 2000.

with tombs accompanied by stelae, and by a chapel of Senwosret I),¹¹⁰ Edfu (where a large cemetery and a large complex with many seal impressions have been uncovered),¹¹¹ and Elephantine (where a large settlement and many seal impressions have been unearthed).¹¹² Lastly, contacts likely happened largely via the Nile (where most sites detected as major ones in the present analysis are located), but also through the oases, as demonstrated by the role of bridging site detected for Ain Asil: these results are further discussed in the conclusions.

During the Early Second Intermediate Period, objects of the materials discussed in this section have been recorded nearly exclusively from sites in Lower and Middle Egypt, with few instances in Ain Asil and southern Upper Egypt. The sites in Lower and Middle Egypt are also the ones more connected through the types of beads and scarabs in common, even though connections are overall weak, and even weaker with the sites in southern Upper Egypt. Nevertheless, this pattern suggests that the materials come from the central part of Egypt. This can be because, given the political divisions of the time, the southern part was not easy to access for the sites in northern Egypt, and communications were overall difficult. Lastly, the fact that Tell el-Dab'a is the site that shares the larger number of types also suggests that the material could be worked and distributed from there; this is also suggested by the major role detected for the site, which seem to be flourishing at the time.

During the Late Second Intermediate Period, objects of the materials discussed in this section were present also in southern Upper Egypt but have been reported mostly from sites in Middle and Lower Egypt, which also share the larger number of types. Therefore, the circulation of objects of these materials passed by the sites in Middle Egypt, like in the previous periods, but its focus switched from Upper to Lower Egypt; this suggests that, at the time, the sources in the central part of Egypt were more exploited than the ones in its southern part. This theory is also supported by the role detected for the sites in Middle Egypt during this period and the importance they acquired probably because, as discussed in the conclusions, the communities of the Pan-grave culture occupying those sites played a role, directly or indirectly, in acquiring and circulating the materials.

110 Downes 1974; El-Saghir 1999; Liszka 2012a.

111 Bruyère et al. 1938; Michałowski et al. 1939; Michałowski et al. 1950; Moeller 2009; Moeller 2010; Moeller 2012; Moeller, Marouard, and Ayers 2011.

112 Von Pilgrim 1996.

LITHIC MATERIALS FROM SOUTHERN EGYPT

Sources for anhydrite (numbers 12, 32, 37 on Map 1),¹¹³ feldspar (numbers 27 and 31 on Map 1),¹¹⁴ jasper (number 22 on Map 1),¹¹⁵ marble (numbers 14 and 41 on Map 1),¹¹⁶ and serpentine (numbers 19, 27, 29, 33, 42 on Map 1)¹¹⁷ were in the southern part of Egypt, especially in the Eastern Desert. Siltstone was also found in the Eastern Desert, in its lower and central part, although mines are known only in the southern part.¹¹⁸

Anhydrite

In contexts of the Late Middle Kingdom, anhydrite vessels have been uncovered at Matmar,¹¹⁹ Qau el-Kebir,¹²⁰ Abydos,¹²¹ Esna,¹²² Denderah,¹²³ and Edfu.¹²⁴ In contexts of the Late Second Intermediate Period, anhydrite vessels have been unearthed at Mostagedda,¹²⁵ Qau el-Kebir,¹²⁶ Abydos,¹²⁷ the Theban area,¹²⁸ and Balabish.¹²⁹ For both periods, the sites do not have any types in common.

- 113 B.G. Aston 1994, 51–53; Aston, Harrell, and Shaw 2000, 22–23; Lucas 1948, 470–71.
- 114 Aston, Harrell, and Shaw 2000, 45–46; Lucas 1948, 450–51.
- 115 B.G. Aston 1994, 69–71; Aston, Harrell, and Shaw 2000, 29–30; Lucas 1948, 454–55.
- 116 B.G. Aston 1994, 55–56; Aston, Harrell, and Shaw 2000, 44–45; Lucas 1948, 472–73.
- 117 B.G. Aston 1994, 56–59; Aston, Harrell, and Shaw 2000, 56–57; Lucas 1948, 479–80.
- 118 B.G. Aston 1994, 28–32; Aston, Harrell, and Shaw 2000, 57–58; Lucas 1948, 477–79.
- 119 Brunton 1948, 54–56 and pl. XLII.
- 120 B.G. Aston 1994, 142–44; Brunton, Gardiner, and Petrie 1930, 1–3 and pl. III.
- 121 B.G. Aston 1994, 141–46; Garstang, Newberry, and Milte 1901; Peet and Loat 1913, 24–27.
- 122 B.G. Aston 1994, 141–46; Downes 1974, 96–99.
- 123 Petrie and Griffith 1900, 25–26 and pl. XX.
- 124 Michałowski et al. 1950, 177–82 and pls. XVIII–XX.
- 125 Brunton and Morant 1937, 114–22 and 128–29, pl. LXVIII.
- 126 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. XX–XXI.
- 127 B.G. Aston 1994, 142–44; Peet 1914, 57–64; Randall-MacIver, Mace, and Griffith 1902, 67 and 97–101.
- 128 Petrie and Walker 1909, 7–8, 11.
- 129 Wainwright and Whittemore 1920, 8–12 and 33, pl. XIII.

Feldspar

For the Late Middle Kingdom, feldspar beads have been excavated at Dahshur,¹³⁰ Harageh,¹³¹ Hawara,¹³² Ain Asil,¹³³ Lahun,¹³⁴ Riqqeh,¹³⁵ Matmar,¹³⁶ Mostagedda,¹³⁷ Abydos,¹³⁸ Ballas,¹³⁹ Armant,¹⁴⁰ Esna,¹⁴¹ El-Kab,¹⁴² and Edfu.¹⁴³ Feldspar scarabs of the same chronological phase have been retrieved from Dahshur,¹⁴⁴ Lisht,¹⁴⁵ Lahun,¹⁴⁶ and Esna.¹⁴⁷ Hence, feldspar is not found more north than the Memphis-Fayyum area. While there are no types of scarabs in common between the sites, the types of beads in common are mostly among the sites in the Memphis-Fayyum area and between them and Abydos.

For the Early Second Intermediate Period, feldspar beads have been discovered at Harageh¹⁴⁸ and Edfu,¹⁴⁹ but there are no types in common between the sites. For the Late Second Intermediate Period, feldspar beads have been recorded at Tell el-Dab'a,¹⁵⁰ Lisht,¹⁵¹ Balabish,¹⁵² Mostagedda,¹⁵³ and Qau el-Kebir,¹⁵⁴ thus in Lower and Middle Egypt. One feldspar scarab of the same period comes from Mostagedda.¹⁵⁵ The types of beads in common connect Tell el-Dab'a with Balabish, and this latter with Mostagedda.

- 130 De Morgan, Legrain, and Jéquier 1903, 48–68, 74; De Morgan et al. 1895, 61–68, 91–114.
- 131 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.
- 132 Farag and Iskandar 1971, 34–40; Petrie, Wainwright, and Mackay 1912, 35–36.
- 133 Aufrère and Ballet 1990, 10–13.
- 134 Brunton 1920, 12–17, 22–41; Petrie, Brunton, and Murray 1923, 13–15, pls. XLVIII and LXIII; Winlock 1934, 22, 30–41.
- 135 Engelbach et al. 1915, 13–14 and pls. XL–XLIII.
- 136 Brunton 1948, 54–56, pls. XLIII and LXXIII.
- 137 Brunton and Morant 1937, 113–14 and pl. LXXI.
- 138 Peet 1914, 54; Peet and Loat 1913, 24–28.
- 139 Petrie, Quibell, and Spurrell 1896, 2, 8.
- 140 Mond and Myers 1937.
- 141 Downes 1974, 50–55 and Tomb catalogue.
- 142 Quibell, Clarke, and Tylor 1898, 15.
- 143 Michałowski et al. 1950, 183–84, 312.
- 144 De Morgan et al. 1895, 69.
- 145 Lansing 1924, 41; Martin 1971, ns. 642, 1619.
- 146 Winlock 1934, 55.
- 147 Downes 1974, 60–62.
- 148 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.
- 149 Michałowski et al. 1950, 183–84 and 312.
- 150 Forstner-Müller et al. 2015, 35–39.
- 151 Hayes 1959, 12–13.
- 152 Wainwright and Whittemore 1920, 8–16 and 19–23, pls. VIII and XVI–XVII.
- 153 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXII.
- 154 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.
- 155 Brunton and Morant 1937, 113–14 and pl. LXIX.

Jasper

Jasper beads have been uncovered in contexts of the Late Middle Kingdom in Tell el-Dab'a,¹⁵⁶ Lahun,¹⁵⁷ Harageh,¹⁵⁸ the Theban area,¹⁵⁹ Esna,¹⁶⁰ El-Kab,¹⁶¹ and Elephantine,¹⁶². Furthermore, jasper scarabs of the same period have been reported from Lisht,¹⁶³ Hu,¹⁶⁴ and Nubt.¹⁶⁵ The sites have no types of scarabs in common, whereas the types of beads they have in common link Esna with the Theban area and this latter with Tell el-Dab'a and Harageh. For the Late Second Intermediate Period, jasper scarabs have been unearthed at Rifeh,¹⁶⁶ Mostagedda,¹⁶⁷ and the Theban area.¹⁶⁸

Marble

Vessels of marble have been recovered from two tombs of the Late Middle Kingdom in Harageh.¹⁶⁹

Serpentine

For the Late Middle Kingdom, serpentine beads have been excavated only at Harageh,¹⁷⁰ while serpentine vessels have been discovered in two tombs in Harageh¹⁷¹ and in one tomb in Edfu.¹⁷² For the Early Second Intermediate Period, serpentine vessels have been recorded in one tomb in Abydos.¹⁷³ For the Late Second Intermediate Period, serpentine beads and scarabs come from Tell el-Dab'a,¹⁷⁴ while serpentine vessels have been uncovered at Tell el-

156 Schiestl 2009, 436–40.

157 Petrie, Brunton, and Murray 1923, 13–15, pls. XLVIII and LXIII.

158 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

159 Anthes 1943, 10–12.

160 Downes 1974, 50–55 and Tomb catalogue.

161 Quibell, Clarke, and Tylor 1898, 15.

162 Von Pilgrim 1996, 320.

163 Martin 1971, ns. 195–196.

164 Bourriau 2009, 59; Petrie and Mace 1901, 44.

165 Petrie, Quibell, and Spurrell 1896, 66 and pl. LXXX.

166 Petrie, Thompson, and Crum 1907, 20–21 and pl. XXIII.

167 Brunton and Morant 1937, 113–14 and pl. LXIX.

168 Winlock 1924, 231–32.

169 Engelbach and Gunn 1923, 16–17 and pl. XLVII.

170 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

171 B.G. Aston 1994, 142–45; Engelbach and Gunn 1923, 16–17 and pl. XLVII.

172 B.G. Aston 1994, 143–46; Michałowski et al. 1939, 46–49 and pls. XX–XXI.

173 Garstang, Newberry, and Milte 1901.

174 Bietak, Mlinar, and Schwab 1991, 177–80 and 267–68; Forstner-Müller et al. 2015, 35–39; Hein, Jánosi, and Kopetzky 2004, 339–52; Mlinar 2001b, ns. 512, 908.

Dab'a,¹⁷⁵ Sedment,¹⁷⁶ and the Theban area,¹⁷⁷ from one tomb respectively. For both periods, there are no types in common between the sites, for any of the objects mentioned.

Siltstone

Only one type of siltstone bead and one type of siltstone scarab are included in the present research, from two contexts of the Late Middle Kingdom, respectively in Edfu¹⁷⁸ and in Nubt.¹⁷⁹ For the same period, siltstone vessels have been reported from Edfu.¹⁸⁰ Siltstone vessels have been unearthed also in one tomb of the Early Second Intermediate Period in Ain Asil¹⁸¹ and in contexts of the Late Second Intermediate Period in Tell el-Dab'a.¹⁸²

Contacts with southern Egypt

Considering the location of the sources, in southern Egypt, it comes as no surprise to find objects made of the aforementioned materials mostly at sites in southern Upper Egypt, which are in geographical proximity and had administrative and religious importance, as discussed above. It is also not surprising that such objects were often present also in Late Middle Kingdom contexts in the Memphis-Fayyum area, because it was the area of capital and, as such, the people living there had the means to get the materials, as discussed above.

Rarely, objects of the materials discussed in this section were present also in Lower Egypt. During the Late Middle Kingdom, the fact that these objects have been often excavated in the Memphis-Fayyum area suggests that the materials passed by there on their way from Upper to Lower Egypt. Concerning the Second Intermediate Period, the fact that these objects have been retrieved from both the Memphis-Fayyum area, the Dakhla Oasis, and the sites in Middle Egypt suggests that, at that time, the materials reached Lower Egypt by travelling through both the desert and the Nile Valley. The materials discovered in Dakhla Oasis and dated to the Early Second Intermediate Period further suggest that the desert route was active at this time.

During the Early Second Intermediate Period, among the materials available in the southern part of Egypt, only the ones, such as feldspar and siltstone and serpentine, which were more available along the main wadis, namely

175 Bietak, Mlinar, and Schwab 1991, 123–31, 177–80, 201.

176 Petrie and Brunton 1924, 16–21 and pl. XLI.

177 Petrie and Walker 1909, 7–8, II.

178 Michałowski et al. 1939, 31–33, 126, 130–31.

179 Ben-Tor 2007, 93–94; Petrie, Quibell, and Spurrell 1896, 66 and pl. LXXXI.

180 Michałowski et al. 1950, 177–82 and pls. XVIII–XX.

181 Marchand, Soukiasian, and Bourriau 2010, 293–96.

182 Forstner-Müller 2008, 343–84; Forstner-Müller et al. 2015, 43.

the Wadi Hammamat and the Wadi Barramiya, were used. These wadis respectively led from Koptos and Edfu to the Eastern Desert. The importance of these sites is also shown by the large number of scarabs of the Second Intermediate Period excavated there,¹⁸³ though these scarabs could not be included in the present analysis because their dating and/or the types to which they belonged were not clear from the publications. Therefore, the materials located deeper into the desert were not exploited. Moreover, no connections can be detected through materials from the southern part of Egypt because no objects of these materials are shared. All this suggest that in the Early Second Intermediate Period there no networks to exchange materials from southern Upper Egypt, especially when it came to bring them to Lower Egypt.

The situation changed slightly during the Late Second Intermediate Period, when materials from southern Egypt reached Lower Egypt. Nevertheless, only Tell el-Dab'a, Balabish, and Mostagedda share types of objects of these materials. Considering the presence of communities of Pan-grave culture, or at least of Nubian origins, at the sites,¹⁸⁴ it is possible that these communities played a role in their circulation.

The question is whether the materials from southern Egypt were transported as raw materials or as finished goods, both during the Late Middle Kingdom and the entire Second Intermediate Period. The fact that the sites generally do not share many types during neither of the chronological phases examined, suggests that the materials were transported raw and worked into finished goods locally. Only types of feldspar beads during the Late Middle Kingdom are more shared. Nevertheless, the connections are mostly inside the Memphis-Fayyum area: this still points to a localized production.

COMMON LITHIC MATERIALS IN EGYPT

The following subsections each deal with common types of lithic materials: agate, basalt, carnelian, garnet, limestone, quartz, and sedimentary quartzite. The final subsection discusses the evidence for contacts based on an analysis of these materials.

Agate

Agate could be found in form of pebbles, even though it is found also with haematite mines (number 20 on Map 1).¹⁸⁵ Agate beads have been recovered from

183 Moeller 2012; Moeller, Marouard, and Ayers 2011; Petrie 1896.

184 For Balabish: Wainwright 1920. For Tell el-Dab'a: Aston and Bietak 2017; Forstner-Müller and Rose 2012. For Mostagedda: Brunton and Morant 1937.

185 B.G. Aston 1994, 68–69; Aston, Harrell, and Shaw 2000, 26; Lucas 1948, 442–43.

contexts of the Late Middle Kingdom at Tell el-Dab'a,¹⁸⁶ Lahun,¹⁸⁷ Armant,¹⁸⁸ and Esna;¹⁸⁹ only Tell el-Dab'a and Armant have one type in common. For the Late Second Intermediate Period, agate beads have been found only at Tell el-Dab'a¹⁹⁰ and Lisht.¹⁹¹ However, the two sites do not share any type.

Basalt

Basalt had numerous sources, though the only known quarry is in the Fayyum (numbers 6 and 9 on Map 1).¹⁹² Beads and one vessel of basalt of the Late Middle Kingdom have respectively been excavated at Harageh¹⁹³ and Denderah.¹⁹⁴ Basalt beads of the Late Second Intermediate Period have been retrieved only from Tell Hebua.¹⁹⁵

Carnelian

Carnelian could be found both in the Western Desert and in the Eastern Desert, though it was probably mined in southern Egypt (numbers 20, 38, 39 on Map 1).¹⁹⁶ For the Late Middle Kingdom, carnelian beads have been discovered at nearly all the sites included in the analysis, with the stronger connections between Dahshur,¹⁹⁷ Harageh,¹⁹⁸ Lisht,¹⁹⁹ Lahun,²⁰⁰ Riqqeh,²⁰¹ Matmar,²⁰² Qau el-Kebir,²⁰³ Hu,²⁰⁴ the Theban area,²⁰⁵ Armant,²⁰⁶ Esna,²⁰⁷ El-Kab,²⁰⁸ and Ed-

186 Schiestl 2009, 97, 418–21.

187 Petrie, Brunton, and Murray 1923, 13–15, pls. XLVIII and LXIII.

188 Mond and Myers 1937.

189 Downes 1974, 50–55 and Tomb catalogue.

190 Forstner-Müller 2008, 221–41.

191 Hayes 1959, 12–13.

192 B.G. Aston 1994, 18–21; Aston, Harrell, and Shaw 2000, 23–24; Lucas 1948, 463–64.

193 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

194 Petrie and Griffith 1900, 25–26 and pl. XX.

195 Maksoud 1998, 261.

196 B.G. Aston 1994, 67–68; Aston, Harrell, and Shaw 2000, 26–27; Lucas 1948, 448.

197 De Morgan, Legrain, and Jéquier 1903, 48–68, 74; De Morgan et al. 1895, 61–68, 91–114; Oppenheim 1996.

198 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

199 Lansing and Hayes 1934; Kemp, Merrillees, and Edel 1980, 220–25.

200 Brunton 1920, 12–17, 22–41; Petrie, Brunton, and Murray 1923, 13–15, pls. XLVIII and LXIII; Petrie, Griffith, and Newberry 1890, 22; Winlock 1934, 22, 30–41.

201 Engelbach et al. 1915, 13–14 and pls. XL–XLIII.

202 Brunton 1948, 54–56, pls. XLIII and LXXIII.

203 Brunton, Gardiner, and Petrie 1930, 1–3, pls. II and IV.

204 Bourriau 2009, 59; Petrie and Mace 1901, 42–44.

205 Anthes 1943, 10–12.

206 Mond and Myers 1937.

207 Downes 1974, 50–55 and Tomb catalogue.

208 Quibell, Clarke, and Tylor 1898, 15.

fu.²⁰⁹ For the same period, carnelian scarabs have been recorded at Dahshur,²¹⁰ Lahun,²¹¹ Esna,²¹² and the Theban area,²¹³ while one carnelian vessel come from one royal tomb of the Late Middle Kingdom in Dahshur.²¹⁴ During this phase, the Memphis-Fayyum area, Middle Egypt and the Theban area have the higher number of types of carnelian beads in common. All the carnelian scarabs are not inscribed, hence no links based on types of designs in common could be detected.

For the Early Second Intermediate Period, carnelian beads have been uncovered at nearly all the sites included in the analysis, with the higher number of types in common between Tell el-Dab'a,²¹⁵ Harageh,²¹⁶ Ain Asil,²¹⁷ Qau el-Kebir,²¹⁸ and Edfu.²¹⁹ More in detail, the connections between Tell el-Dab'a and Edfu seem to pass through Harageh, then from there both through Ain Asil and through Qau el-Kebir.

For the Late Second Intermediate Period, carnelian beads have been reported from nearly all the sites included in the analysis; the stronger connections created by the types of carnelian beads in common between the sites follow a line joining Tell el-Dab'a²²⁰ to Sedment,²²¹ to Mostagedda,²²² to Qau el-Kebir,²²³ while Abydos²²⁴ and the Theban area²²⁵ do not show strong links with the other sites. Carnelian scarabs of the same period have been unearthed mostly at Mostagedda,²²⁶ as well as Tell el-Dab'a²²⁷ and Qau el-Kebir.²²⁸ Because these

- 209 Michałowski et al. 1939, 31–33, 126 and 130–31; Michałowski et al. 1950, 183–84 and 312.
- 210 De Morgan et al. 1895, 69.
- 211 Winlock 1934, 55.
- 212 Downes 1974, 63.
- 213 Anthes 1943, 10.
- 214 B.G. Aston 1994, 142, 145; De Morgan et al. 1895, 63, 71–75 and 96–114.
- 215 Bietak, Mlinar, and Schwab 1991, 66, 71, 85–86; Forstner-Müller 2008, 140–217; S.E.M. Müller 2013, 124–26.
- 216 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.
- 217 Marchand, Soukiassian, and Bourriau 2010, 301–4, 308.
- 218 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.
- 219 Michałowski et al. 1939, 31–33, 126, 130–31; Michałowski et al. 1950, 183–84 and 312.
- 220 Aston, Bader, and Kunst 2009, 67–68; Bietak, Mlinar, and Schwab 1991, 116–281; Forstner-Müller 2008, 221–384; Forstner-Müller et al. 2015, 35–39; Hein, Jánosi, and Kopetzky 2004, 34–48, 100–49.
- 221 Petrie and Brunton 1924, 16–20 and pls. XLVI–XLVII.
- 222 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.
- 223 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.
- 224 Peet 1914, 62–64; Randall-MacIver, Mace, and Griffith 1902, 101.
- 225 Hayes 1959, 20–21.
- 226 Brunton and Morant 1937, 113–14 and pl. LXIX.
- 227 Bietak, Mlinar, and Schwab 1991, 170–75; Mlinar 2001b, n. 503.
- 228 Brunton, Gardiner, and Petrie 1930, 12 and pl. XIX.

scarabs are not inscribed, no connections based on types in common could be established.

Garnet

Garnet could be found in the Sinai and in the entire Eastern Desert, though a mine is known in southern Egypt (number 25 on Map 1).²²⁹ During the Late Middle Kingdom, the types of garnet beads shared between the sites show stronger connections between Tell el-Dab'a,²³⁰ Harageh,²³¹ Abydos,²³² Armant,²³³ and Esna.²³⁴ Furthermore, garnet beads have been recovered from Lahun,²³⁵ Matmar,²³⁶ and Denderah.²³⁷ During the Early Second Intermediate Period, a garnet bead is known from a tomb in Qau el-Kebir.²³⁸ During the Late Second Intermediate Period, garnet beads have been found at Sedment,²³⁹ Matmar,²⁴⁰ Mostagedda,²⁴¹ and Qau el-Kebir.²⁴² Nevertheless, only the last three sites have types in common.

Limestone

Limestone had many sources along the Nile Valley, as well as in the Western and Eastern Desert.²⁴³ For the Late Middle Kingdom, limestone beads have been excavated at Harageh,²⁴⁴ Lahun,²⁴⁵ Matmar,²⁴⁶ and Esna,²⁴⁷ while limestone vessels have been retrieved from Harageh,²⁴⁸ Riqqeh,²⁴⁹ Lahun,²⁵⁰ Mat-

229 Aston, Harrell, and Shaw 2000, 31–32; Lucas 1948, 451–52.

230 Schiestl 2009, 97, 418–21.

231 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

232 Garstang, Newberry, and Milte 1901; Peet and Loat 1913, 24–28; Randall-MacIver, Mace, and Griffith 1902, 55.

233 Mond and Myers 1937.

234 Downes 1974, 50–55 and Tomb catalogue.

235 Brunton 1920, 12–17 and 22–41; Petrie, Brunton, and Murray 1923, 13–15 and pls. XLVI–II, LXIII.

236 Brunton 1948, 54–56, pls. XLIII and LXXIII.

237 Petrie and Griffith 1900, 25–26.

238 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.

239 Petrie and Brunton 1924, 16–21 and pls. XLVI–XLVIII.

240 Brunton 1948, 56–58, pls. XLIV and LXXIII.

241 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.

242 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV, XXXII.

243 B.G. Aston 1994, 35–39; Aston, Harrell, and Shaw 2000, 40–42; Lucas 1948, 471–72.

244 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

245 Brunton 1920, 12–17, 22–41.

246 Brunton 1948, 54–56, pls. XLIII and LXXIII.

247 Downes 1974, 50–55 and Tomb catalogue.

248 B.G. Aston 1994, 142–45; Engelbach and Gunn 1923, 16–17 and pl. XLVII.

249 Engelbach et al. 1915, 13 and 16, pls. VII and XIII.

250 Petrie, Brunton, and Murray 1923, 13–14, 17, 28 and pl. XLVIII.

mar,²⁵¹ Qau el-Kebir,²⁵² Edfu,²⁵³ and Elephantine,²⁵⁴ and limestone scarabs have been discovered in tombs in Edfu²⁵⁵ and in the Theban area.²⁵⁶ Only Harageh and Esna have one type of limestone bead in common.

For the Early Second Intermediate Period, one limestone bead is known from Harageh.²⁵⁷ For the Late Second Intermediate Period, only one type of limestone bead has been recorded, from Qau el-Kebir²⁵⁸ and Tell el-Dab'a.²⁵⁹ Limestone vessels of this period come from one tomb in Sedment²⁶⁰ and one tomb in Matmar,²⁶¹ from two tombs in Mostagedda,²⁶² and from a settlement context in Tell el-Dab'a,²⁶³ while one limestone scarab has been uncovered in the settlement of Tell el-Yahudiyah.²⁶⁴ All these sites, though, do not have any types in common of any of the limestone objects.

Quartz

Quartz was widely found along the Nile Valley.²⁶⁵ Quartz beads of the Late Middle Kingdom have been reported from Harageh,²⁶⁶ Esna,²⁶⁷ and Armant,²⁶⁸ while quartz vessels of the same period have been unearthed in two tombs in Tell el-Dab'a.²⁶⁹ Nevertheless, these sites do not have types in common for any of the quartz objects.

For the Early Second Intermediate Period, quartz vessels have been excavated in two tombs in Tell el-Dab'a.²⁷⁰ For the Late Second Intermediate Period, quartz beads have been recovered from Matmar,²⁷¹ Mostagedda,²⁷² and

251 Brunton 1948, 54–56 and pl. XLII.

252 Brunton, Gardiner, and Petrie 1930, 1–3 and pl. III.

253 Michałowski et al. 1939, 46–49 and pls. XX–XXI; Michałowski et al. 1950, 177–82 and pls. XVIII–XX.

254 Von Pilgrim 1996, 320.

255 Michałowski et al. 1950, 184 and pl. XLIV.

256 Loyrette, Nasr, and Bassiouni 1994, 116–18.

257 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

258 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.

259 Hein, Jánosi, and Kopetzky 2004, 100–49.

260 Petrie and Brunton 1924, 16–21 and pl. XLI.

261 Brunton 1948, 56–58 and pl. XLII.

262 Brunton and Morant 1937, 114–22 and 128–29, pl. LXVIII.

263 Hein, Jánosi, and Kopetzky 2004, 179.

264 Griffith 1890, 39 and pl. X.

265 B.G. Aston 1994, 65; Aston, Harrell, and Shaw 2000, 51–52; Lucas 1948, 459–60.

266 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

267 Downes 1974, 50–55 and Tomb catalogue.

268 Mond and Myers 1937.

269 Forstner-Müller 2008, 129–40.

270 Forstner-Müller 2008, 140–217.

271 Brunton 1948, 56–58 and pls. XLIV and LXXIII.

272 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.

Qau el-Kebir,²⁷³ while quartz beads and vessels have been found at Tell el-Dab'a,²⁷⁴ However, only Tell el-Dab'a and Matmar have one type of quartz bead in common.

Sedimentary quartzite

Sedimentary quartzite was widely found in the Western and Eastern Desert, as well as in the Nile Valley, though mines are known near Memphis and Elephantine (numbers 4 and 35 on Map 1).²⁷⁵ Sedimentary quartzite vessels have been excavated in tombs of the Late Middle Kingdom, respectively one in Harageh²⁷⁶ and one in Mostagedda,²⁷⁷ which have no types in common, as well as in two tombs in Tell el-Dab'a²⁷⁸ and in three tombs of the Late Second Intermediate Period in Tell el-Dab'a.²⁷⁹

Contacts through materials widely found in Egypt

For the objects of agate, basalt, limestone, quartz, and sedimentary quartzite, a localized production can be suggested. This is supported by the fact that the types shared between the sites are few: considering that the materials were widely found, they could have been obtained nearby the sites and worked locally. If, conversely, the objects were worked in specific workshops and transported from there, one would expect a more uniform range, hence more shared types.

This is the case with carnelian and garnet beads, which were more common probably because of the symbolic significance of these stones, whose red colour was connected to life-sustaining blood, power and vitality, as well as the sun.²⁸⁰ For the Late Middle Kingdom, the shared types mainly connect the sites in the Memphis-Fayyum area with the ones in Middle Egypt and in southern Upper Egypt, and suggest that the objects were probably worked – or their style was established – in the royal workshops in the capital in the Memphis-Fayyum area, as discussed above. For the entire Second Intermediate Period, the shared types show stronger connections between the sites in Lower and, especially in the case of garnet beads, Middle Egypt. The role detected for Tell el-Dab'a, which was an important site at the time, and its

273 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV, XXXII.

274 Forstner-Müller 2008, 140–91; Forstner-Müller et al. 2015, 35–39; Hein, Jánosi, and Kopetzky 2004, 100–49.

275 B.G. Aston 1994, 33–35; Aston, Harrell, and Shaw 2000, 53–55; Lucas 1948, 477.

276 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

277 Brunton and Morant 1937, 113–14 and pl. LXXI.

278 Forstner-Müller 2008, 140–217.

279 Forstner-Müller 2008, 295–343.

280 Harrell 2012.

contacts with the sites in Middle Egypt, as elaborated on in the conclusions, suggest that the objects were worked there or that their style was established there.

IMPORTED LITHIC MATERIALS

Lapis lazuli and obsidian are not present in Egypt. Lapis lazuli was imported in Egypt from Western Asia, mostly from modern-day Afghanistan.²⁸¹ Obsidian was imported from the horn of Africa and the Arabian Peninsula, as well as from the Levant and the Aegean (especially the island of Melos).²⁸²

Lapis lazuli

For the Late Middle Kingdom, lapis lazuli beads have been retrieved from Tell el-Dab'a,²⁸³ Dahshur,²⁸⁴ Harageh,²⁸⁵ Lisht,²⁸⁶ Lahun,²⁸⁷ Riqqeh,²⁸⁸ Mostagedda,²⁸⁹ Qau el-Kebir,²⁹⁰ and El-Kab.²⁹¹ Based on the types in common between the sites, the major connections are among the sites of the Memphis-Fayyum area, and from there the connections lead both northward to Tell el-Dab'a and southward to the sites in Middle and in southern Upper Egypt. For the same period, one lapis lazuli vessel has been discovered in one royal tomb in Dahshur.²⁹² Lapis lazuli scarabs have been recorded at Tell el-Dab'a,²⁹³ Dahshur,²⁹⁴ Lahun²⁹⁵ Harageh,²⁹⁶ and Abydos;²⁹⁷ however, there are no types in common between the sites.

281 B.G. Aston 1994, 72–73; Aston, Harrell, and Shaw 2000, 39–40; Lucas 1948, 455–56.

282 B.G. Aston 1994, 23–26; Aston, Harrell, and Shaw 2000, 46–47; Lucas 1948, 473–74.

283 Schiestl 2009, 98, 289–93.

284 De Morgan, Legrain, and Jéquier 1903, 48–68, 74; De Morgan et al. 1895, 61–68, 91–114; Oppenheim 1996.

285 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

286 Lansing and Hayes 1934.

287 Brunton 1920, 12–17, 22–41; Petrie, Brunton, and Murray 1923, 13–15, pls. XLVIII and LXIII; Winlock 1934, 22, 30–41.

288 Engelbach et al. 1915, 13–14 and pls. XL–XLIII.

289 Brunton and Morant 1937, 113–14 and pl. LXXI.

290 Brunton, Gardiner, and Petrie 1930, 1–3, pls. II and IV.

291 Quibell, Clarke, and Tylor 1898, 15.

292 De Morgan et al. 1895, 71–75.

293 Mlinar 2001b, n. 19; Schiestl 2009, 241.

294 Ben-Tor 2007, 36–37; De Morgan et al. 1895, 69; Newberry 1907, pl. XVIII.

295 Ben-Tor 2007, 33–35; Tufnell, Martin, and Ward 1984, pl. 53; Winlock 1934, 55–56.

296 Engelbach and Gunn 1923, pl. XXII.

297 Garstang, Newberry, and Milte 1901, 11–12, 44 and pl. I; Martin 1971, n. IIII.

For the Early Second Intermediate Period, lapis lazuli beads come from Tell el-Dab'a²⁹⁸ and Harageh,²⁹⁹ but these sites have no types in common. For the Late Second Intermediate Period, lapis lazuli beads have been uncovered only at Tell el-Dab'a.³⁰⁰

Obsidian

Obsidian vessels of the Late Middle Kingdom have been reported from Harageh,³⁰¹ Dahshur,³⁰² and Lahun,³⁰³ respectively in one tomb for each site. The tombs in Dahshur and Lahun are royal ones and have one type of obsidian vessel in common. Obsidian scarabs of the same period have been unearthed at Lisht,³⁰⁴ Abydos,³⁰⁵ and Esna;³⁰⁶ however, these sites have no types in common. For the Late Second Intermediate Period, one obsidian vessel has been recovered from one tomb, known for its rich burial equipment, in the Theban area,³⁰⁷ while one obsidian scarab has been found in one tomb in Sedment.³⁰⁸

Contacts through imported materials

Obsidian probably entered Egypt from the horn of Africa or the Arabian peninsula, and from there was transported to the Memphis-Fayyum area. This is suggested by the fact that objects of obsidian have been excavated between southern Upper Egypt and the Memphis-Fayyum area, but not further north. During the Late Middle Kingdom, obsidian circulated between southern Upper Egypt and the Memphis-Fayyum area. The presence of obsidian in southern Upper Egypt can be explained by the administrative role played by the sites located in the area, as suggested by the fact that the only obsidian objects excavated at these sites are scarabs, which indicate that the population was busy with administrative activities, as explained earlier. The presence of obsidian in the Memphis-Fayyum area can be explained by the presence of the elite class living in the capital area, as discussed above; this is also supported by the fact that obsidian vessels have been unearthed in the area, which were

298 S.E.M. Müller 2013.

299 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.

300 Forstner-Müller et al. 2015, 35–39.

301 B.G. Aston 1994, 142–45; Engelbach and Gunn 1923, 16–17 and pl. XLVII.

302 De Morgan et al. 1895, 71–75.

303 Winlock 1934, 66–69.

304 Ben-Tor 2007, 29; Martin 1971, n. 619.

305 Martin 1971, n. 1279; Peet and Loat 1913, 27 and pls. IV, VIII.

306 Downes 1974, 64.

307 Petrie and Walker 1909, 7–8, II.

308 Petrie and Brunton 1924, 18–19 and pl. XLIII.

used as grave goods in tombs of upper and middle classes. Obsidian was not imported during the Early Second Intermediate Period, probably because the troubles caused by the incipient political divisions made it difficult to import this material from the south. During the Late Second Intermediate Period, obsidian did not circulate, but has been found only at Thebes and Sedment. While on one side this shows contacts between southern Upper Egypt and the Memphis-Fayyum area, likely through desert routes, as discussed in the conclusions, on the other side it suggests that the sites usually did not have the means to acquire obsidian anymore. Lastly, the fact that there are no, or few types shared between the sites, during all the three periods examined, suggests that obsidian was transported as raw material and worked in local workshops according to local traditions.

Concerning lapis lazuli, there are good reasons to assume that Tell el-Dab'a was the point where it entered Egypt. Firstly, the geographical position of the site makes it a convenient point to enter Egypt from Asia through the Ways of Horus, as discussed above. Moreover, Tell el-Dab'a is the place where most lapis lazuli objects have been excavated. Lastly, lapis lazuli is found at the site not only during the Late Middle Kingdom, but also in the entire Second Intermediate Period; therefore, Tell el-Dab'a is the only site where this happens. For the Late Middle Kingdom, the distribution of objects of lapis lazuli shows that this material, after entering Egypt through Tell el-Dab'a, was transported to the Memphis-Fayyum area and to southern Upper Egypt. The connections created by the types shared during this period suggest that lapis lazuli reached southern Upper Egypt through the Memphis-Fayyum area, as well as that the types were mostly fabricated in the Memphis-Fayyum area and then sent from there; this suggestion is also supported by the existence of a unified style produced in royal workshops in the Memphis-Fayyum area, as discussed above. During the Early Second Intermediate Period, lapis lazuli was still present in the Memphis-Fayyum area, while during the Late Second Intermediate Period it was present only at Tell el-Dab'a. One possible interpretation is that Tell el-Dab'a kept receiving lapis lazuli during the entire Second Intermediate Period, and that during the Early Second Intermediate Period there was still an elite, possibly even a ruling, class present in the Memphis-Fayyum area, which had trade relations with Tell el-Dab'a. However, this hypothesis needs further investigation because there is also the possibility that – especially small – objects of lapis lazuli in contexts of the Second Intermediate Period could have been reworked from older objects.

METALS

Copper could be found in the Sinai and in the Eastern Desert at the latitudes of both the Memphis-Fayyum area and the Theban area (numbers 1, 2, 8, 28, 30 on Map 1),³⁰⁹ while gold and electrum came from southern Egypt and from Nubia (numbers 18 and 40 on Map 1).³¹⁰ Silver was mostly imported from the Aegean and the Levant, though traces of this metal can be found in gold or lead ores.³¹¹ Furthermore, chemical analyses have demonstrated that silver objects of the Middle Kingdom and the Second Intermediate Period could be made of silver retrieved from the gold mines of the Eastern Desert.³¹²

Copper

Most of the copper objects analysed in the present work is made of weapons. Beads of copper included in the analysis have been discovered only in contexts of the Late Middle Kingdom in Matmar³¹³ and in Esna;³¹⁴ these two sites do not have any type in common.

The copper weapons examined for the Late Middle Kingdom show that the major sites in the network were Tell el-Dab'a, Lahun, and Hu. Moreover, the types shared show two clusters, of which one includes Tell el-Dab'a, Esna, and Lisht, and one includes Qau el-Kebir and Lahun; the two clusters are connected through Hu, which shares types with both clusters. Concerning the copper weapons from the contexts analysed for the Early Second Intermediate Period, there are nearly no types in common. Only Tell el-Dab'a and Hu have one type in common.

The types in common for the copper weapons during the Late Second Intermediate Period show three clusters, of which one includes the sites in Lower Egypt, especially in the Eastern Delta, one includes the sites in Middle Egypt, and one includes only the Theban area.

309 Lucas 1948, 228–36; Ogden 2000, 149–55.

310 Lucas 1948, 257–62, 267–68; Ogden 2000, 161–64.

311 Lucas 1948, 478–83; Ogden 2000, 170–71.

312 Gale and Stos-Gale 1981.

313 Brunton 1948, 54–56, pls. XLIII and LXXIII.

314 Downes 1974, 50–55 and Tomb catalogue.

Gold and electrum

Gold and electrum beads of the Late Middle Kingdom have been recorded at Tell el-Dab'a,³¹⁵ Hawara,³¹⁶ Dahshur,³¹⁷ Harageh,³¹⁸ Lahun,³¹⁹ Lisht,³²⁰ Riqqeh,³²¹ Abydos,³²² Hu,³²³ Esna,³²⁴ and El-Kab.³²⁵ The types in common between the sites connect Tell el-Dab'a with the sites in southern Upper Egypt mostly through the sites in the Memphis-Fayyum area.

Gold and electrum beads of the Early Second Intermediate Period come from Tell el-Dab'a³²⁶ and Abydos,³²⁷ but the sites have no types in common. Gold and electrum beads of the Late Second Intermediate Period have been uncovered at Tell el-Dab'a,³²⁸ Tell el-Maskhuta,³²⁹ Sedment,³³⁰ Mostagedda,³³¹ Qau el-Kebir,³³² Balabish,³³³ and the Theban area.³³⁴ In this network, two types are in common between Tell el-Dab'a, Qau el-Kebir, and the Theban area, while the other sites have only one type in common.

Silver

For the Late Middle Kingdom, beads of silver have been reported mostly from Tell el-Dab'a,³³⁵ as well as from Dahshur,³³⁶ Matmar,³³⁷ Abydos,³³⁸ Hu,³³⁹ and

- 315 Forstner-Müller 2008, 129–40; Schiestl 2009, 98–99 and 418–40.
- 316 Farag and Iskandar 1971, 34–40; Petrie, Wainwright, and Mackay 1912, 35–36.
- 317 De Morgan, Legrain, and Jéquier 1903, 48–68 and 74; De Morgan et al. 1895, 61–68 and 91–114; Oppenheim 1996.
- 318 Engelbach and Gunn 1923, 9–13 and pls. L–LIII.
- 319 Petrie, Brunton, and Murray 1923, 13–15, pls. XLVIII and LXIII; Winlock 1934, 22 and 30–41.
- 320 Lansing 1924; Lansing and Hayes 1934.
- 321 Engelbach et al. 1915, 13–14 and pls. XL–XLIII.
- 322 Garstang, Newberry, and Milte 1901; Peet and Loat 1913, 23–28.
- 323 Bourriau 2009, 59; Petrie and Mace 1901, 42–44.
- 324 Downes 1974, 50–55 and Tomb catalogue.
- 325 Quibell, Clarke, and Tylor 1898, 15.
- 326 Forstner-Müller 2008, 140–91; S.E.M. Müller 2013.
- 327 Garstang, Newberry, and Milte 1901.
- 328 Forstner-Müller 2008, 295–99.
- 329 Redmount 1989.
- 330 Petrie and Brunton 1924, 16–20 and pls. XLVI–XLVII.
- 331 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.
- 332 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV, XXXII.
- 333 Wainwright and Whittemore 1920, 8–16 and 19–23, pls. VIII and XVI–XVII.
- 334 Hayes 1959, 20–21; Petrie and Walker 1909, 8–10; Tate et al. 2009; Troalen et al. 2009.
- 335 Forstner-Müller 2008, 129–40; Schiestl 2009, 98 and 436–40.
- 336 De Morgan, Legrain, and Jéquier 1903, 48–68 and 74.
- 337 Brunton 1948, 54–56, pls. XLIII and LXXIII.
- 338 Peet and Loat 1913, 23–28.
- 339 Petrie and Mace 1901, 42–44.

the Theban area,³⁴⁰ but these sites have no types in common. For the same period, silver spears have been found at Tell el-Dab'a.³⁴¹

For the Early Second Intermediate Period, silver beads have been unearthed at Qau el-Kebir.³⁴² For the Late Second Intermediate Period, silver beads have been recovered from Matmar,³⁴³ Mostagedda,³⁴⁴ Qau el-Kebir,³⁴⁵ and the Theban area,³⁴⁶ with types in common mostly between Mostagedda and Qau el-Kebir.

Contacts through metals

Concerning copper, both during the Late Middle Kingdom and the entire Second Intermediate Period there are few types shared, for both the beads and the weapons. This suggests a localized production, as supported also by the presence of copper workshops in Tell el-Dab'a, discussed above. Nevertheless, the clusters detected based on the shared types of weapons can hint at different traditions. For the Late Middle Kingdom, the two clusters detected can hint at two groups, of which the one with Tell el-Dab'a follows Levantine traditions (see Chapter 11), while the other one does not. For the Late Second Intermediate Period, the sites in Lower Egypt have in common types of narrow axes and knives and daggers, while the sites in Middle Egypt have in common types of axes from Pan-grave tombs, and the Theban area does not have any types of metal weapons in common with other areas. This shows three different traditions, of which one related to the Hyksos rulers, one related to the sites occupied by members of the Pan-grave culture, and one related to the Theban rulers.

Concerning gold and electrum, the connections detected through the shared types during the Late Middle Kingdom show stronger links between southern Upper Egypt and the Memphis Fayyum area, and between the latter and Lower Egypt. This suggests that gold objects travelled from Upper to Lower Egypt through the Memphis-Fayyum area. This also indicates that the types mostly originated in the Memphis-Fayyum area and then transported; this theory is also supported by the fact that, as discussed above, a unified style produced in royal workshops in the Memphis-Fayyum area, is known. For the Early Second Intermediate Period, the fact that beads of gold and elec-

340 Anthes 1943, 10–12.

341 Bietak and Hein 1994, n. 19; Bietak et al. 1994; Philip 2006, 64–67; Schiestl 2009, 377–82.

342 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.

343 Brunton 1948, 56–58, pls. XLIV and LXXIII.

344 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.

345 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.

346 Hayes 1959, 20–21.

trum have been found at Tell el-Dab'a and Abydos shows that these sites had access to the necessary resources, though the absence of shared types suggests a localized production. While Abydos could have acquired the gold from nearby, from the Wadi Hammamat and Koptos, together with the other materials southern Egypt discussed above, Tell el-Dab'a may well have obtained it from the Levant, as shown by the fact that the golden beads are found mostly in tombs in which imported Levantine pottery has been found. For the Late Second Intermediate Period, gold and electrum objects show connections between Lower and southern Upper Egypt, which are suggested also by other materials discussed above.

Concerning silver, Tell el-Dab'a was probably the place where the material entered Egypt during the Late Middle Kingdom. Firstly, this is suggested by the fact that Tell el-Dab'a, as shown by the Cypriot pottery and by the presence of a Cypriot community (see Chapter 11), was a harbour playing a role in the relations with the Aegean, where silver was imported from. Furthermore, this is suggested by the fact that most silver objects have been excavated there. The fact that the sites share no types at the time also suggests that silver was distributed as raw material and worked locally, or that they had different sources for silver, which could partially be acquired also from gold mines. During the Second Intermediate Period, the fact that silver beads were present at sites in Middle and southern Upper Egypt can suggest that these sites acquired silver from the gold mines, which were geographically not distant. The number of types of silver objects shared between Mostagedda and Qau el-Kebir could be connected to the presence of people of the Pan-grave culture at both sites, showing that these communities became able to acquire silver during the Late Second Intermediate Period, probably because of an increased importance they had.

ORGANIC MATERIALS

There are two types of organic materials that are relevant to the present research: bone and shell. The final subsection discusses what the study of organic materials reveals about contacts in Egypt.

Bone

For the Late Middle Kingdom, bone beads have been retrieved from Edfu³⁴⁷ and Hu,³⁴⁸ which share one type. For the Early Second Intermediate Period,

347 Michałowski et al. 1939, 31–33, 126 and 130–31; Michałowski et al. 1950, 183–84 and 312.

348 Petrie and Mace 1901, 42–44.

bone beads have been discovered at Tod³⁴⁹ and Qau el-Kebir,³⁵⁰ which do not have any type in common. For the Late Second Intermediate Period, bone beads have been recorded at Tell el-Maskhuta³⁵¹ and Abydos,³⁵² which only have one type in common, and at Mostagedda,³⁵³ which shares no types.

Shell

For the Late Middle Kingdom, shell beads come from Matmar,³⁵⁴ Mostagedda,³⁵⁵ Abydos,³⁵⁶ Ballas,³⁵⁷ Esna,³⁵⁸ El-Kab,³⁵⁹ Edfu,³⁶⁰ and Elephantine.³⁶¹ When the types in common between the sites are considered, two separate groups are detected: one involving the sites in southern Upper Egypt, and one involving the sites in Middle Egypt; Elephantine bridges the two groups, because it has types in common with both of them.

For the Early Second Intermediate Period, shell beads have been uncovered at Tod³⁶² and Qau el-Kebir,³⁶³ which share one type, in mother of pearl, typical of the Pan-grave culture. For the Late Second Intermediate Period, shell beads have been reported from Tell el-Maskhuta,³⁶⁴ Lisht,³⁶⁵ Sedment,³⁶⁶ Matmar,³⁶⁷ Mostagedda,³⁶⁸ Qau el-Kebir,³⁶⁹ Balabish,³⁷⁰ Hu,³⁷¹ and the Theban area,³⁷² thus mostly in Middle and southern Upper Egypt. The types in common between the sites mainly link Matmar, Mostagedda, and Qau el-Kebir, while Tell el-

- 349 Barguet 1952.
- 350 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.
- 351 Redmount 1989.
- 352 Peet 1914, 54.
- 353 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.
- 354 Brunton 1948, 54–56, pls. XLIII and LXXIII.
- 355 Brunton and Morant 1937, 113–14 and Pl. LXXI.
- 356 Peet 1914, 54.
- 357 Petrie, Quibell, and Spurrell 1896, 2, 8.
- 358 Downes 1974, 50–55 and Tomb catalogue.
- 359 Quibell, Clarke, and Tylor 1898, 15.
- 360 Michałowski et al. 1950, 183–84 and 312.
- 361 Von Pilgrim 1996, 320.
- 362 Barguet 1952.
- 363 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV and XXXII.
- 364 Redmount 1989.
- 365 Hayes 1959, 12–13.
- 366 Petrie and Brunton 1924, 16–21 and pls. XLVI–XLVII.
- 367 Brunton 1948, 56–58, pls. XLIV and LXXIII.
- 368 Brunton and Morant 1937, 114–22 and 125–26, pls. LXVIII–LXXII.
- 369 Brunton, Gardiner, and Petrie 1930, 3–10 and pls. V–VIII, XI, XXIV–XXV, XXXII.
- 370 Wainwright and Whittemore 1920, 8–16 and 19–23, pls. VIII and XVI–XVII.
- 371 Petrie and Mace 1901, 46, 51, 53.
- 372 Hayes 1959, 20–21.

Maskhuta is the only site that does not have any type in common with the other sites.

Contacts through organic materials

Beads of bone have been unearthed mostly at sites in southern Upper Egypt, and mostly at sites with Pan-grave tombs. The bead from Tell el-Maskhuta comes from a well-furbished tomb where also a bead of shell has been recovered, probably belonging to people who had contacts with southern sites.

Ostriches were found in the southernmost parts of Egypt.³⁷³ Therefore, the distribution of shell beads during the Late Middle Kingdom shows that the material did not circulate further north than Middle Egypt. The sites in Middle Egypt and the ones in southern Upper Egypt probably belonged to two different traditions, as suggested by the fact that the two areas had a different range of types. Furthermore, the fact that Elephantine shares types with both groups suggests that shell beads were distributed from there. For the Second Intermediate Period, shell beads were still present mostly in Middle and southern Upper Egypt, while the types shared create the stronger links between the sites where people of the Pan-grave culture were present.

It should be mentioned that the quality of the soil in Lower Egypt makes it more difficult for objects of organic materials to be preserved. Therefore, it cannot be excluded that more objects of organic materials were present there, and it should be kept in mind that conclusions drawn here are based only on the available data. However, analyzing the data from the sites in Upper Egypt, it still seems that bone and shell beads were mostly affiliated with sites with Pan-grave traditions, especially during the Second Intermediate Period.

CONCLUSIONS

During the Late Middle Kingdom, lithic materials, though these were more present at sites in geographic proximity of their sources, were widely distributed and were often transported far from their sources. They could be channelled through the Memphis-Fayyum area, where they were transported as raw materials and worked into finished objects in the royal workshops in the area. Precious stones, such as turquoise, and imported stones, such as lapis lazuli and obsidian, were mostly directed to the Memphis-Fayyum area and worked there, likely because the capital, and thus the royal family, the royal court, and other affluent people with the necessary resources, were located there. Only the very widespread stones, such as for example agate and limestone, show a more localized production, probably because they were

373 Lucas 1948, 48–49; Phillips 2000.

considered less prestigious and, therefore, kept to local workshops. The only exceptions to this trend are carnelian and garnet, which – probably on account of their symbolic significance – show contacts with the capital, where the objects could be produced or the style followed in the local workshops could be established. Among metals, only gold appears to create connections with the capital in the Memphis-Fayyum area, probably because of its preciousness, while silver, which likely was imported and entered Egypt through Tell el-Dab'a, and copper objects were mostly worked according to local traditions. Lastly, organic materials such as bone and shell have been found only in Middle and southern Upper Egypt; especially the shell beads show that Middle and southern Upper Egypt followed different traditions.

During the Early Second Intermediate Period, the variety of lithic materials decreased, as did their circulation. These materials appear to circulate mostly between Lower and Middle Egypt, while the Memphis-Fayyum area was still included in the distribution of the most precious stones and of the stones entering Egypt through Tell el-Dab'a. This shows that trade still continued between Tell el-Dab'a and the Memphis-Fayyum area, as well as that an elite class capable of acquiring expensive materials, probably even a ruling class made of the last kings of the Thirteenth Dynasty, was still present at the Memphis-Fayyum area. When the materials could be found in both the central and southern parts of Egypt, the sources in the central part appear to have been the ones more used, while the resources from the southern part were acquired only when available in proximity of the main wadis in the Eastern Desert, namely the Wadi Hammamat and the Wadi Barramiya, probably because the sites did not have the means to reach deeper into the desert or because it was too dangerous in a time of political divisions. Materials from the southern part of Egypt did not reach Lower Egypt, the only exception being the feldspar beads found at Harageh. Lastly, stones imported from further south in Egypt have not been found in contexts of this time: this could derive from the fact that there were no sites with the resources required to do so at the time. All in all, the types shared suggest that the lithic materials were worked locally or, in the case of materials that could be found also in the central part of Egypt, at Tell el-Dab'a: this is supported by the fact that the site was an important and thriving place at the time, as discussed in the conclusions. At the same time, metal objects show a mostly localized production, worked according to the traditions of the site or the area. While gold was still transported to Lower Egypt, probably from the Levant, silver was probably not imported at this time, but extracted from gold mines. Silver, together with bone and shell objects, seems to be indicator of the Pan-grave culture and, especially silver, of a possible importance that communities of this culture had at the time.

During the Late Second Intermediate Period, lithic materials, especially the ones from the central part of Egypt, still appear to circulate more commonly between Lower and Middle Egypt, though contacts were present between Lower and southern Upper Egypt. The Memphis-Fayyum area was still involved in the communications, especially as access point to the desert routes through the Western Desert, which were used at the time for communications between Lower and southern Upper Egypt, as mentioned above and discussed in the conclusions. The materials from southern Egypt seem to have been shipped as raw material and be worked locally, reaching also Tell el-Dab'a; the communities of Pan-grave culture probably played a role in this. The stones from the Sinai and the stones imported from the Levant were present only at Tell el-Dab'a, probably because the other sites did not have the means to acquire them. Rock crystal seems to be an exception, but, considering its distribution, it is possible that its sources were in the Western Desert at the time. Stones that could be imported into Egypt from further south, such as obsidian, still reached the Memphis-Fayyum area, at the time. Among metals, gold demonstrates connections between Lower and southern Upper Egypt, while copper and silver show a more marked regionalization. Through the objects of copper, Lower Egypt, Middle Egypt, and the Theban area are detected as three separate clusters, while objects of silver appear to be connected to sites with Pan-grave culture or Nubian people. Lastly, shell beads are present in Middle and southern Upper Egypt and show a cluster involving the sites with Pan-grave culture; bone beads are found both in Lower and Middle Egypt up to Abydos, but are still more related to sites with Pan-grave culture.

