THE BEAD TRADE DURING THE LATE THIRD AND SECOND MILLENNIA BC AT THE ISLAND OF FAILAKA, KUWAIT, UPPER PERSIAN GULF

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The island of Failaka (Kuwait) is favorably situated in the Persian Gulf at the inlet of the Mesopotamian harbor cities of the 3rd to 2nd millennia BC. The island was investigated between 1958 and 2017 by several different archaeological projects focusing on the remains from the Bronze Age. Two settlements (Al-Khidr and Tell F3) and two large monumental buildings (Tell F6) were uncovered. A substantial number of beads made from semiprecious stones (carnelian, agate, jasper, turquoise, and lapis lazuli) were found. Lesser numbers were made of glass, faience, and paste, as well as bone, shell, ostrich eggshell, and clay. The majority of the beads must have been brought to the island as finished goods since raw materials for their production were not locally available and little evidence of bead production has been identified on the island. The beads found at Failaka suggest that the island was tied into extensive trading networks reaching from the Indus region to the Mediterranean.

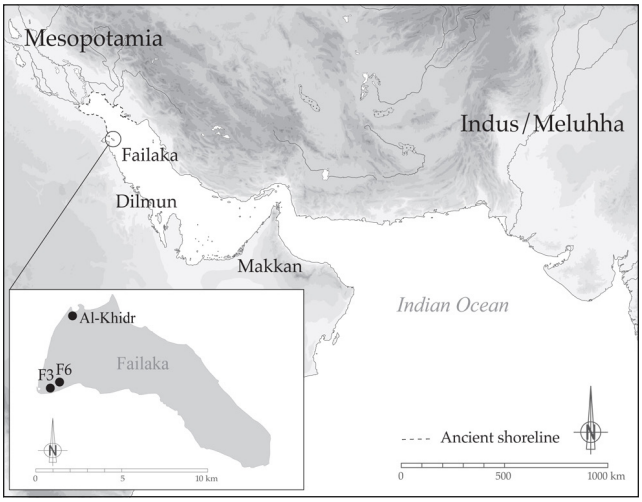


Figure 1. The situation of Failaka Island in the ancient world (image: Ann Andersson, after Hélène David-Cuny; ancient coastline after Steinkeller 2013).

INTRODUCTION

During the late 3rd millennium BC, the kingdom of Dilmun was centered on Bahrain and excavations have uncovered the capital city of Qala'at al-Bahrain, the Barbar temples, and the burial mounds of Dilmun royalty (Andersen and Højlund 2003; Højlund and Andersen 1994, 1997; Laursen 2017). In the early 2nd millennium BC, Dilmun took control of Failaka, an island in the Persian Gulf, which is favorably situated at the inlet to the harbor cities of Mesopotamia, such as Ur and Gu'abba (Figure 1). Archaeological evidence from ca. 2200-2000 BC suggests that prior to annexation by Dilmun, the island was inhabited by a population with a Mesopotamian material culture characteristic of the UR III period (Højlund and Abu-Laban 2016). Perfectly situated along the trade route between southern Mesopotamia and the Indus region, Failaka island was a valuable way station with fresh water and safe anchorage, which could be used on the route to and from the Mesopotamian markets. A large variety of goods were traded to the southern Mesopotamian cities, including perishable goods such as barley and sesame oil, as well as luxury goods such as ivory, copper, gold, exotic animals, different varieties of exotic wood, and semiprecious stones (Laursen and Steinkeller 2017). It is likely that beads, made of many different materials, were also traded and moved regularly along this network. Such trade is demonstrated by the large number of beads (922 to date) found at Tell F3 and Tell F6 in levels of the late 3rd and 2nd millennia. While the bead assemblages from the Danish excavations at Tell F3 and Tell F6 have been published by the author (Andersson 2014, 2016, 2021, 2022), this article provides a complete overview of the Bronze Age beads from the island. Therefore, beads from the American (Johns Hopkins University), French (Maison de l'Orient, Lyon), and Slovak (Institute of Archaeology of the Slovak Academy of Sciences) Bronze Age excavations at Failaka are also be treated herein.

ARCHAEOLOGICAL RESEARCH AT FAILAKA

The 1958-1963 Moesgaard Museum excavations at Failaka uncovered a monumental building, the so-called "Palace," which is now interpreted as a building with storage functions (Tell F6) and a settlement (Tell F3) (Figures 2-4). The Bronze Age tells were heavily disturbed by stone robbers, complicating the assignment of small finds to specific stratigraphical phases. Immediately west, Johns Hopkins University excavated smaller areas (trenches FH-1, FH-3 to FH-5, and FH-9) in 1973-1974 that uncovered small storage structures. Johns Hopkins University also excavated a small trench at Tell F3 (FH-2) east of the Danish excavations. No architecture was uncovered, only debris from mixed Early Bronze Age contexts, probably indicating a refuse area (Howard-Carter 1984). In 1984-1985, another area east of the Tell F6 "Palace" was excavated by the French Archaeological Mission to Failaka (Calvet and Pic 1986). The excavation revealed another large monumental building, identified as a temple. Excavations by Moesgaard Museum resumed at Tell F6 in 2008 and continued until 2012. They investigated the east corner of the "Palace," an outdoor area between the "Palace" and the temple, and an area south of the temple. Moesgaard Museum resumed excavation of Tell F3 from 2013 to 2017, uncovering an occupation sequence from ca. 1750-1350 BC, i.e., phases 1-5, which corresponds with periods 2, 3B, and 4A (Højlund 2021:162-166). In 2019, the Moesgaard Museum team returned to Tell F6 where a small temple platform was discovered east of the main temple (Højlund and Hagelquist 2019). Lastly, a small Bronze Age settlement named Al-Khidr was excavated from 2004 to 2009 by the Kuwaiti-Slovak Archaeological Mission (Benediková 2010). This site is situated some distance from the rest of the Bronze Age tells on the northwestern coast of Failaka Island (Figure 1) and was interpreted as a seasonal settlement or a small redistribution center (Benediková 2010:320-321).

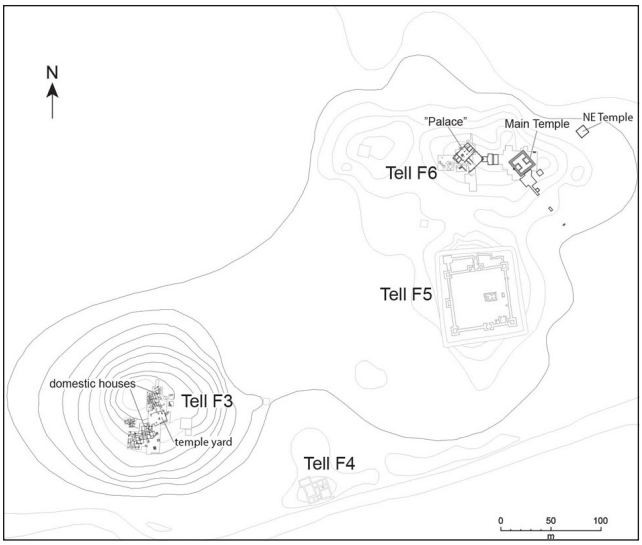


Figure 2. The archaeological area on the southwest portion of Failaka Island. Tell F3 and Tell F6 are Bronze Age settlements, while Tell F4 (workshop) and Tell F5 (fortress) are Hellenistic (Højlund Abu-Laban 2016:Figure 3).

Figure 3. The many small row houses and the square temple at Tell F3. At the top of the mound is the house of Sheikh Ahmad, the 10th Emir of Kuwait, 1921-1950 (photo: Thomas Sagory).

Figure 4. Tell F6 with the "Palace" and temple in the foreground. The Hellenistic fort (F5) is in the background (photo: Thomas Sagory).

THE BRONZE AGE BEAD ASSEMBLAGE

In total, 922 beads, pendants, and semi-finished products (i.e., roughouts, blanks, and semi-drilled beads) have been recovered from Tell F3 and Tell F6. The majority of the beads (92%) were found in the Danish excavations. Of these, 348 beads were found in the "Palace" at Tell F6, while 167 came from Tell F3. The assemblage from the two sites originally

included 114 additional beads, but these were unfortunately lost during the Iraqi invasion of Kuwait in 1991 (Andersson 2022:7). The recent excavations at Tell F6 recovered 200 beads, while the latest excavations at Tell F3 added 27 beads to the assemblage (Andersson 2016, 2021).[1] The Tell F3 excavation by Johns Hopkins University recovered four beads (Howard-Carter 1984). The excavations of the temple and the storage structures outside the "Palace" uncovered an additional 51 and 11 beads, respectively (Calvet and Pic 1986:66-71; Howard-Carter 1984). Including the smaller Bronze Age Tell of Al-Khidr, with 13 items (seven beads made from carnelian, quartz, copper, bitumen, and bone; one stone pendant; and three stone semi-finished products), the Bronze Age bead assemblage consists of 935 beads (Benédikova 2010).[2] This is a high number, in contrast to the numbers found at other Dilmun sites in Bahrain, e.g., Qala'at al Bahrain (30 beads), the Barbar temples (10 beads and a shell disc) and the Saar settlement (104 beads) (Andersen and Højlund 1994:391-392, Figures 1941-1966, 2003:316-317; Højlund and Andersen 1997:36, 73, Figures 95, 96, and 301; Killick and Moon 2005:181-186). Thus, the only assemblage that is somewhat comparable in terms of quantity comes from the Saar settlement, but this assemblage is quite different in nature, as it contains a large number of clay beads (n = 47, ca. 45%). In that Saar is an inland settlement, the difference between the two assemblages likely derives from differentiated access to high-prestige materials. The clay beads from Saar are interpreted as local imitations of semiprecious stones and contrast with the beads from Failaka that consist mainly of high-prestige materials such as carnelian, agate, lapis lazuli, glass, and faience which were acquired through maritime trade (Andersson 2022:48-54; Killick and Moon 2005:181).

Sadly, due to extensive stone plundering at the two tells, it is not possible to firmly assign the beads from the 1958-1963 Danish excavations to the different settlement periods that were identified. Similarly, the Bronze Age levels of the Tell F6 temple were severely disturbed and damaged, complicating the dating of the beads found there (Calvet and Pic 1986:14). Fortunately, the beads found during the recent Danish excavations at Tell F3 (2013-2017) and Tell F6 (2008-2012) could be much more precisely dated.

Ur III Beads (Late 3rd Millennium) at Tell F6

A major discovery of the 2008-2012 Danish excavations was the existence of a settlement phase dated to the Ur III period (2112-2004 BC) with distinct Mesopotamian material culture (Højlund and Abu-Laban 2016:15-30). Until this finding, a 2nd-millennium occupation was thought to be the first on the island. The recovery of 62 beads from this occupation phase (Phase 1) at Tell F6 (Trench C) testifies to beads arriving at the island ca. 2200-2000 BC. These beads may have been part of the early systematic bead trade coming via the island. Their raw materials (such as carnelian, rock crystal, lapis lazuli, and ostrich eggshell) confirm that the beads must have been imported from distant places because these materials were not locally available. Other finds of this phase document connections with Makkan (UAE-Oman) and Meluhha (Pakistan-India) (Højlund 2016:251-252; Højlund and Abu-Laban 2016:16-20).

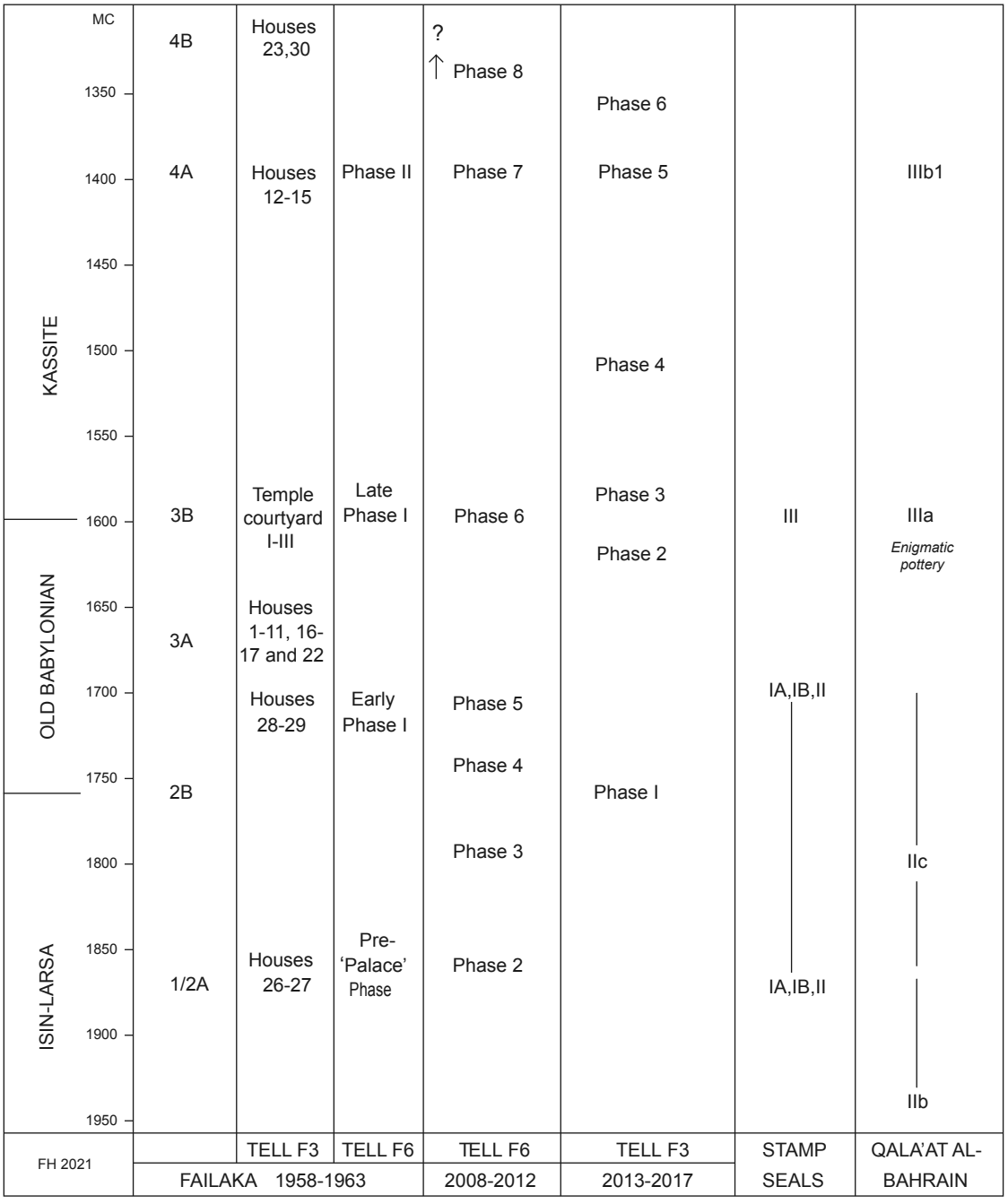
2nd-Millennium Beads at Tell F3, Tell F6, and Al-Khidr

The majority of the beads found in the Danish excavations at Tell F3 and Tell F6 belong to a period of occupation spanning the early and late 2nd millennium. The settlement periods identified during the 1958-1963 excavations are periods 1, 2, 3A, 3B, 4A, and 4B, while the architectural phases uncovered during the 2008-2017 excavations were labeled phases 1-6 at Tell F6 and phases 1-8 at Tell F3. Generally, the duration of the 2nd-millennium occupation at Failaka covers the Isin-Larsa period, the Old Babylonian period, and the Kassite period (Table 1).

Tell F3 Settlement

The excavations at Tell F3 yielded 198 beads, which is approximately 21.1% of the entire Bronze Age bead assemblage. The excavations uncovered a sequence of domestic occupation spanning periods 2-4B, as well as a small temple belonging to Period 3B (Kjærum and Højlund 2010). Due to the disturbed stratigraphy, 99 (59.2%) of the beads are from unknown contexts (Andersson 2022:35, Figure 70). Thus only 47 beads could be ascribed to individual excavation layers on the basis of the accompanying pottery. Two beads (1.2%) were found in contexts dating to Period 2, 12 (7.2%) to Period 3A, 2 (1.2%) to Period 3B, 9 (5.4%) to Period 4A, and 22 (13.2%) to Period 4B. A number of beads (n = 21, 10.6%) were found in contexts that could not be assigned to individual periods and may belong to one or the other of two periods represented at the tell. Of these, a small number come from successive periods, for instance, from periods 3A/3B (n = 1, 0.5%) and periods 4A/4B (n = 9, 4.5%). A similarly small number come from layers in which pottery dating to non-successive periods was present, e.g., periods 3A/4A (n = 1, 0.5%) and 3B/4B (n = 10, 5%) (Andersson 2022:35, Figure 70). Since only 28.2% (n = 47) of the beads could be dated to a specific period, it is not possible to establish if beads were more prominent in one period or another. Generally, a dating to

Table 1. Chronological Sequence at Tell F3 and Tell F6 Compared to Qala'at al-Bahrain (Højlund and Hilton 2021:Fig. 50).



the first three quarters of the 2nd millennium is proposed. The Johns Hopkins University excavations (1973-1974) at Tell F3 excavated a trench (FH-2) which revealed a stratified rubbish dump dated to the early 2nd millennium. Only four beads (0.4% of the entire Bronze Age assemblage) were found in these contexts (Howard-Carter 1984).

Moesgaard Museum excavations at Tell F3 from 2013 to 2017 uncovered an occupation sequence from ca. 1750-1350 BC (phases 1-5) that corresponds with periods 2, 3B, and 4A. Phase 6 includes a mix of material dating from Period 4A, as well as post-4A material (20th-century contamination, likely related to the construction and

maintenance of Sheikh Ahmad's house) (Figure 3; Table 1) (Højlund 2021:164; Højlund and Hilton 2021:63). Twenty-seven beads were recovered and relate to Phase 2 (n = 3, 1.5%), Phase 3 (n = 1, 0.5%), Phase 5 (n = 6, 3%), and Phase 6 (n = 17, 8.5%).[3]

Tell F6 "Palace", Temple, and Intermediate Area

Excavations at Tell F6 uncovered 610 beads which is approximately 65.5% of the entire Bronze Age bead assemblage. Most of the beads from the 1958-1963 Danish excavations were recovered from inside the "Palace." These could only be tentatively assigned to settlement periods 2-4A (n = 142, 23.3%) which span approximately 550 years between ca. 1900-1350 BC (Højlund 2021:7). Due to the extensive disturbance from robber's pits and the stratigraphic implications, it is not possible to date the beads more precisely (Andersson 2022:36). A few beads (n = 24, 3.9%) may date to an earlier settlement that predates the "Palace" (i.e., Period 1, the pre-"Palace" phase, which has not been further dated), having been found below the earliest floor of the structure. It is, however, possible that they may have come from disturbed "Palace" contexts and may be intrusive into earlier layers.

A sizeable quantity (n = 182, 29.8%) of beads was found in contexts of unknown date (Andersson 2022:36-38, Figures 70 and 72). Fifty-one beads (8.3%) were recovered by the French 1973-1974 excavations from different stratigraphic levels of the temple (Calvet and Pic 1986:66-72). They only comprise 5.5% of the entire Bronze Age bead assemblage. The beads were mainly found in Level Va (n = 17) and Level III (n = 23) or other levels dated to the 2nd millennium. Very few beads were found in levels dated to other periods.[4] Level Va is dated to the early centuries of the 2nd millennium and represents the first period of temple use. Level III is dated to the second half of the 2nd millennium and consists of poorly preserved (looted) walls and thick abandonment layers (Calvet and Pic 1986:19).

Johns Hopkins University excavated two trenches (FH3-5 and FH9) that encompassed part of the "Palace" structure and an area outside its walls where auxiliary structures were located. Several levels contained remains of kilns, vats, and small rooms used for industrial purposes. Generally, the structures date to the 2nd millennium (Howard-Carter 1984). Few beads (n = 11, 1.2%) were found in the trenches.[5] The recent Danish excavations recovered 200 beads from an area between the "Palace" and the temple, but as these beads were found outside the building, they cannot be used to date the beads found within the structure.

Above the Ur III occupation, excavators uncovered architecture in trenches A, E, and H that belonged to a pre-"Palace" period (phases 2 and 3) beginning ca. 1900 BC (Højlund 2016:252). The initial function (Phase 2) of this area remains undetermined, but it may have had ritual functions in Phase 3. Phase 2 (the thick-wall phase in periods 1-2) had no beads in association and only four beads relate to Phase 3, the thin-walled building of periods 1-2 which is represented by small rooms, a pavement, and a sacrificial fire installation (Andersson 2016:Figures 823, 893-896; Højlund and Abu-Laban 2016:31-42).

The "Palace" was built during periods 1-2 (phases 4-5) and the investigated area is located east of this building. The area is paved with a heavy floor, above which is a ca. 2-m-thick series of mainly thin layers of floors and refuse which dates to periods 1-2 (phases 4-5), 3B (Phase 6), and 4A (Phase 7). After Phase 5 (ending in the late 18th century BC), the "Palace" was abandoned throughout the 3A period (ca. 1700-1500 BC) due to the collapse of Dilmun trade and the Dilmun stately level of control over Failaka Island (Højlund 2016:255-256; Højlund and Abu-Laban 2016:48-58). The "Palace" was reoccupied in Period 3B (Phase 6). but no beads are associated with it. The occupation of the "Palace" continued in Period 4A (Phase 7), and is represented by 15 beads found in the area between the temple and "Palace." The associated material culture has many Kassite parallels, hinting at a situation where Dilmun (i.e., both Failaka and Bahrain) had become a Babylonian province (Højlund 2016:260, 2021:165). Phase 8 represents a post-"Palace" period dated somewhere between period 4A and the Hellenistic period; 18 beads belong to this phase (Andersson 2016:Figure 823; Højlund and Abu-Laban 2016:59-69).

Al-Khidr

The occupation at Al-Khidr consisted of either two or three subsequent Early Dilmun settlements occupied during the first half of the 2nd millennium BC or one large settlement compound encompassing three low hills (KH-1, KH-2, and KH-3) and perhaps the area in between them (Benediková 2010:320-322). In the first scenario, the settlement is proposed as developing from a seasonal settlement in its earliest phase to a small redistribution center connected to the maritime trade in its latest phase (Benediková 2010:320-321). Regardless of the scale of the occupation, Al-Khidr was likely contemporary with parts of the early 2nd-millennium occupation at tells F3 and F6, but in contrast to the tells, only 13 beads were found at the settlement.[6]

BEAD DISTRIBUTION AT TELL F3, TELL F6, AND AL-KHIDR

At Tell F6, large quantities of beads were excavated from the interior of the "Palace." More specifically, there was a large concentration of beads in the area around rooms 2 and 3 (Andersson 2022:36-38). Due to the difficulties involved in interpreting the stratigraphy, it is not clear if the concentration represents a single hoard lost when the building was abandoned and later scattered during stone plundering, or is an accumulation of beads lost over time, but the likelihood is that these rooms were a preferred place to store beads. No other such concentrations have been found on the island.

Since the beads were found in a building with evidence of storage and production functions, they are interpreted as part of the different trade goods that passed through Failaka. The presence of beads at a monumental building implies a local authority with close ties to trade. This authority was probably under the control of Dilmun. The area between the "Palace" and the temple did not yield many beads. While those found in this area cannot be related to any of the large buildings (i.e., the "Palace" or the temple), their presence in the outdoor area between them does indicate a general consumption of beads. The beads were individual finds, suggesting that they were lost during transport or usage.

It has not been possible to examine the distribution of beads within the temple in detail, as they were mostly associated with abandonment layers (Level III) (Calvet and Pic 1986:19, Figures 27-28, nos. 106-107, 109-113, 115-116, 119, 121, 123-130, 135, 142). In the earlier Level Va, a group of 15 blue and white faience beads, a faience (Egyptian blue?) bead, and a carnelian bead were found associated with Floor 312 or related loci (Calvet and Pic 1986:24, Figures 121, 131, 140). Unfortunately, considering the poor stratigraphic evidence, it is uncertain if the beads were part of temple paraphernalia, such as adornment for cult statues, or trade goods.

The bead distribution at Tell F3 is very different from Tell F6 with only very small concentrations of beads scattered across the excavated area. These might represent small caches of personal belongings of the people who lived here, whether they were permanent residents or travelers and merchants staying temporarily in the small houses at Tell F3. The remarkable number of beads found at Tell F3 and Tell F6 suggest that large volumes of beads were transhipped at the sites. This may have been how trade between Dilmun and Mesopotamia was normally organized, as it seems that beads were stored at the Tell F6 "Palace." Alternatively, beads could have been traded as part of less formalized exchange system that took place during encounters on Failaka in connection with the service, maintenance, and repair of the cargo ships.

A different scenario of bead consumption seems to have taken place at Al-Khidr, where very few beads were found. The beads were scattered across the settlement and there is no clear pattern in their distribution. It appears that the residents of this small settlement and minor redistribution center may not have had access to beads and may have mainly dealt with other types of trade goods.

BEAD MATERIALS

Most of the beads from Failaka are made of semiprecious stones such as carnelian, agate, jasper, and different varieties of quartz. Less numerous are beads made of lapis lazuli, turquoise, and porphyry. Metal (gold, copper, and bronze) beads are very rare. There are also a few beads made of organic materials, such as different varieties of seashells, ostrich eggshell, bone, and ivory (Table 2). Beads made of artificial materials such as glass, faience, and paste occur in small numbers. The majority of all these materials were brought to the island since the raw lithic materials do not occur there naturally. Neither is there any evidence for local production of the man-made products.

The various materials present on the island reveal the role of Failaka as a node in a vast trading network operating in the Persian Gulf during the late 3rd and the 2nd millennium BC. Part of the raw materials may be attributed to specific geographical regions, suggesting the possible extent of the contacts and trading networks that Failaka was tied into.

Stone

Many of the beads found at Failaka are made of carnelian (Figures 5e-f, h; 6d, f-h; 7g). Much of the carnelian occurring in the Middle East is traditionally ascribed to the Indus Valley Civilization (ca. 3300-1300 BC) that produced carnelian beads in large numbers from abundant local stone (Kenoyer 2005; Lankton 2003:35; Moorey 1994:97). Carnelian, however, is also found in many other regions, such as the central, southern (at Bandar Bushire), and eastern parts of Iran, the UAE (at Jebel al-Ma'taradh in Ras al-Khaimah), Afghanistan, Saudi Arabia (near Tayma), Yemen, Egypt, and Anatolia (Brunet 2009:90; Hausleiter 2011:109; Kenoyer and Frenez 2018:399; Law 2011:282; Moorey 1994:97; Vogt 1996:98).

Like carnelian, different forms of agate, quartz, and jasper are also found across the Near East and the Indus region. Agate (Figures 5b-d, j; 6i-j; 7h-i, n-o) has been reported in the Gulf

Table 2. Bead Materials at Failaka.*

Materials \ Tell and Excavation		Danish excavations (1958-1963) Tell F3	Danish excavations (2013-2017) Tell F3	American excavations (1973-1974) Tell F3	Tell F3 total	Danish excavations (1958-1963) Tell F6 "Palace"	Danish excavations (2008-2012) Tell F6	American excavations (1973-1974) Tell F6	French excavations (1984-1986/1988) Tell F6 Temple	Tell F6 total	Slovak excavations (2004-2009) Al-khidr	Total
Stone	***Chalcedony***											
	Agate	36	1	-	37	40	15	2	10	67	-	104
	Carnelian	60	6	2	68	171	94	6	8	279	1	348
	Chrysoprase	1	-	-	1	-	1	-	-	1	-	2
	Jasper	19	1	-	20	23	4	-	-	27	-	47
	Moss agate	-	-	-	-	1	-	-	-	1	-	1
	Unid. chalcedony	-	-	-	-	-	4	-	-	4	-	4
	Quartz											
	Amethyst	1	-	-	1	-	-	-	-	-	-	1
	Milky quartz	6	-	-	6	3	2	-	-	5	-	11
	Rock crystal	2	-	-	2	2	5	-	-	7	-	9
	Rose quartz	1	-	-	1	-	-	-	-	-	-	1
	Smoky quartz	-	-	-	-	1	1	-	-	2	-	2
	Unid. quartz	3	1	-	4	1	1	-	-	2	2	8
	Other stone											
	Calcite	4	-	-	4	1	-	-	-	1	-	5
	Chlorite	2	-	2	3	2	1	1	-	4	4	11
	Hematite	1	1	-	2	1	-	-	-	1	-	3
	Limestone	5	-	-	5	5	2	-	-	7	-	12
	Lapis lazuli	4	1	2	6	8	2	-	2	12	-	18
	Porphyry	-	-	-	-	2	1	-	-	3	-	3
	Turquoise	1	-	-	1	4	2	-	-	6	-	7
	Unid. stone	1	-	-	1	4	11	-	6	21	3	25
Metal	Bronze/Copper	-	-	-	-	-	-	1	-	1	1	2
	Clay	1	-	-	1	-	-	-	-	-	-	1
	Gold	-	-	-	-	1	1	-	-	2	-	2
Artificial	Faience	9	-	-	9	14	22	-	19	55	-	64
	Glass	5	3	-	8	53	9	1	5	68	-	76
	Paste	-	-	-	-	5	1	-	-	6	-	6
	Unid. art. mat.	-	-	-	-	-	1	-	-	1	-	1
Organic	Bone	2	-	-	2	-	1	-	1	2	1	5
	Bitumen	-	-	-	-	-	1	-	-	1	1	2
	Fossilized coral	-	-	-	-	1	-	-	-	1	-	1
	Ivory	1	-	-	1	-	-	-	-	-	-	1
	Pearl	-	-	-	-	2	-	-	-	2	-	2
	Ostrich eggshell	-	-	-	-	-	9	-	-	9	-	9
	Shell	3	13	-	16	2	9	-	-	11	-	27
	Unid. org. mat.	-	-	-	-	1	-	-	-	1	-	1
Total		167	27	4	198	348	200	11	51	610	13	821
%		17.8	2.9	0.4	21.1	37.2	21.4	1.2	5.5	65.5	1.4	88

*excluding 114 missing beads from the Danish Bronze Age excavations at Tell F3 and Tell F6.

Figure 5. Failaka beads: (a, k) lapis lazuli, (b) jasper, (c-d, j) banded agate, (e-f, h) carnelian, (g) turquoise, (i) rock crystal, (l-m) ostrich eggshell (photo: Lisa Yeomans).

at al-Ghail (Jebel al-Ma'taradh), in Ras al-Khaimah (UAE), and in neighboring countries such as Iran, Pakistan, India, and more-distant Anatolia. These regions are all potential sources for the agate found at Failaka (Charpentier et al. 2017; Law 2011; Moorey 1994:99). Likewise, jasper (Figure 5b) is relatively frequent in the Near East as large outcrops or as washed sediments (Moorey 1994:98). Jasper sources are reported in the mountainous zones of the southern Elburz and the central Zagros, the Makran coast of Baluchistan, and in northern Oman (Moorey 1994:98). It is likewise widely available in the greater Indus region (Law 2011).

Nine beads are made of rock crystal (Figure 5i) (Andersson 2016:Figures 835-837, 891,1020, 2022:Figures 93, 134, 140, 542). The stone may have arrived on Failaka from many different regions, such as India, Iraq (near Eridu), Iran, Anatolia, and Cyprus (Moorey 1994:95).

Lapis lazuli beads (Figures 5a, k and 7b) are quite rare at Failaka and have so far only been found at Tell F3 and Tell F6 (n = 18) (Andersson 2016:Figures 863 and 1001, 2021:Figure 428, 2022: Figures 80, 105, 253, 275, 426, 460, 530, 545, 551, 554, 560, 569; Calvet and Pic 1986:Figure 110 and 116; Howard-Carter 1984). This material was highly valued in the ancient Near East for personal ornaments, amulets, and seals (Moorey 1994:85). There has been much discussion about the place of origin for lapis lazuli, but sulfur-isotope analysis by Law (2014) suggests that deposits of the Sar-I-Sang in the Badakhshan region of Afghanistan were the only exploited source. Lapis lazuli was circulated widely along the trade networks to Mesopotamia and Egypt, either by land or sea routes. In 3rd-millennium textual sources, Dilmun is described as one of the transit regions for lapis lazuli arriving in Mesopotamia (Moorey 1994:85).

Only three hematite beads were found on the island (Andersson 2021:Figure 422, 2022:Figures 286 and 528). The exact source of the hematite is unknown. It may have come from Syria (the limestone plateau bordering the Euphrates near Tell Bazi) or the mountainous regions in Anatolia (Taurus) and Iran (Zagros and Elburz). The material is also reported to occur in Israel, Jordan, and

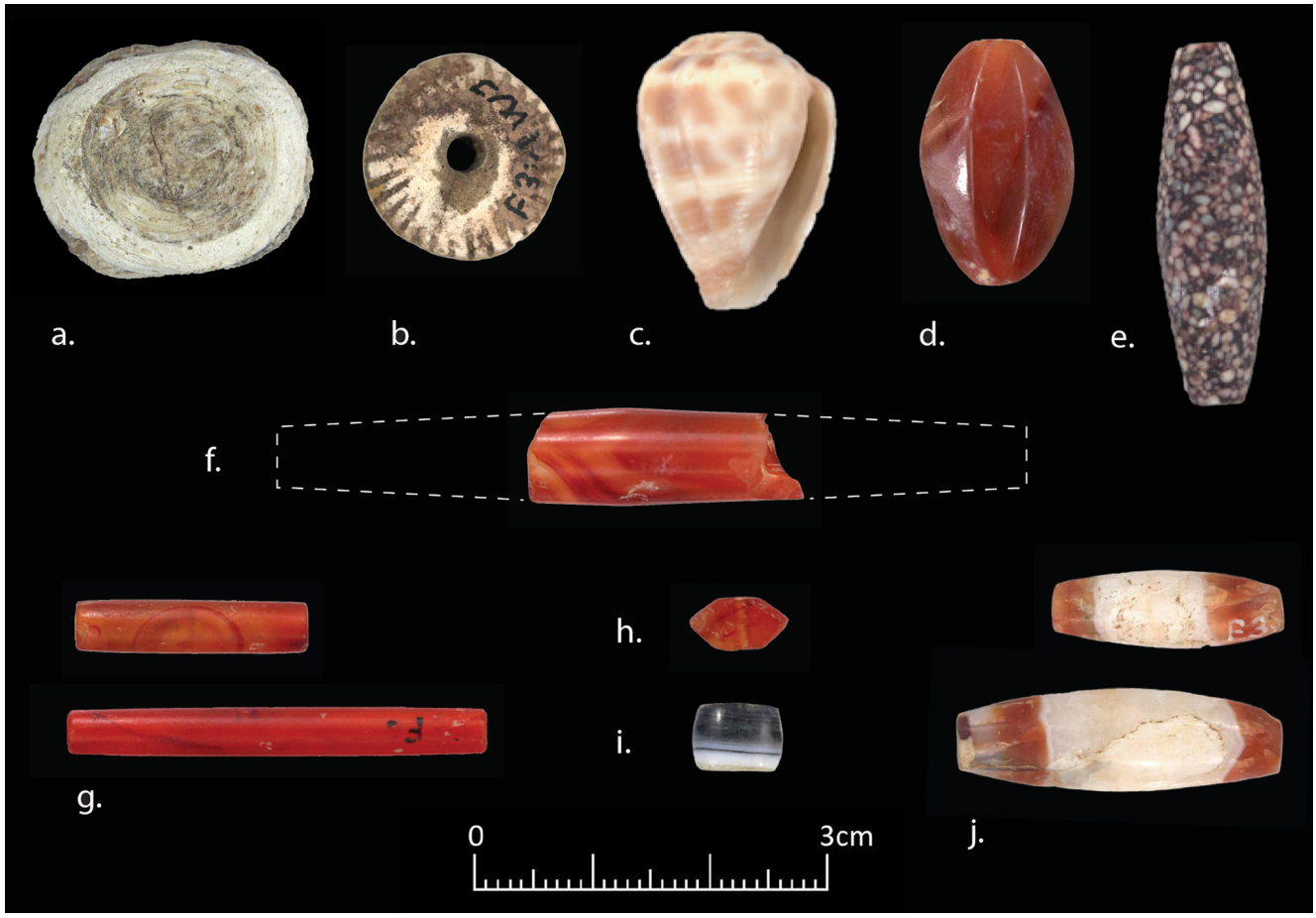


Figure 6. Failaka beads: (a) glass, (b) faience, (c) *Conus ebraeus* shell, (d, f-h) carnelian, (e) porphyry, (i-j) banded agate (photo: Ann Andersson).

Greece (Melein 2018:19; Moorey 1994:84). Southeast of Failaka, hematite can be found on Hormuz Island, but it is unclear if this source was exploited during the late 3rd and the 2nd millennium. Mesopotamian weights made of hematite have been recorded at Tell F3 and Al-Khidr, suggesting a northern provenience for at least some of the hematite objects at Failaka (Benediková 2008:Figure 105; Højlund n.d.). Hematite weights of Mesopotamian style have also been found at several sites in Bahrain (Andersson 2022:30-31).

Four beads from Tell F6 are made of turquoise (Figure 5g) (Andersson 2022:Figures 118, 162, 216, 461). It has not been identified from other Bronze Age excavations on Failaka and is generally reported to only occur rarely in Mesopotamia, while being more common in Iran and Central Asia (Aruz 2008:243). Present-day turquoise sources are the Sinai Peninsula, northeastern Iran (the Nishapur and Damgham mines), Afghanistan, and the Kyzul Kum Desert in Uzbekistan. It is, however, uncertain if these sources were exploited in antiquity (Law 2011:90; Moorey 1994:101-103).

Three beads in the Failaka assemblage are made of porphyry (Figure 6e) (Andersson 2016:Figure 926, 2022:Figures 326, 377), a hard stone with a purplish hue and beige inclusions (also called Imperial Porphyry). Purple porphyry is assumed to have originated only in Egypt, at the Mons Porphyrites/Gebel Dokhan in the Eastern Desert, but the mining of the material is usually related to the Roman period since the only two quarries discovered so far are attributed to this period. The use of this stone is attested in Egypt in the earlier Predynastic and Early Dynastic periods, but the quarries supplying this material remain unknown (Aston, Harrell, and Shaw 2000:48). In Mesopotamia, the presence of porphyry is attested by two beads in burial contexts at Kish (Mackay 1925:188), but this stone has not been identified in other Dilmun bead assemblages. While Egyptian contacts with Mesopotamia have been attested since the 4th millennium, contacts between Egypt and the southern Persian Gulf are much later, around the Ptolemaic period (Frenez 2021:3; Shaw and Nicholson 1995:109; Stevenson 2013).[7]

Metal

The Failaka bead assemblage contains a few copper (Benediková 2010:Figure 67f.; Howard-Carter 1984) and gold beads (Figure 7c-d), as well as stone beads with gold caps (Andersson 2016:Figure 991, 2022:Figure 554 and 578), all of which were probably imported. There is evidence of copper metalworking at Tell F3 involving the reuse of scrap metal (Højlund 2021:130-136), and a single piece of gold foil was found in disturbed layers at Tell F6 (Højlund 2021:Figure 1135), but there is no evidence for the manufacture of metal jewelry. The finely shaped lapis lazuli cylinder bead with one gold cap (Figure 6b) might originally have been fitted with gold caps at both ends (Andersson 2022:Figure 554). Gold- capped beads were in fashion from the Ur III period into the Kassite period (Maxwell-Hyslop 1971:68).

Artificial Materials

The Failaka excavations yielded beads of artificial materials such as faience (Figures 6b, 7f), glass, and paste. The glass beads (Figures 6a, 7j-m) may date to the 2nd half of the 2nd millennium when glass became widespread and was adopted as a new prestige material, perhaps first imitating banded-agate beads (Lankton 2003:39-40, 45). A few blue paste beads (Figure 7e) have been identified as Egyptian blue (Andersson 2022:47, Figures 141, 146, 239, 215), which was produced in both Egypt and Mesopotamia during the second half of the 2nd millennium BC (Hatton, Shortland, and Tite 2008:1591-1592, 1603; Moorey 1994:187). Given Failaka's geographical proximity to Mesopotamia, it may be the most likely place of origin for the Egyptian blue beads. A bead similar to the Egyptian blue bead from the "Palace" (Figure 7e) was found in the temple (Calvet and Pic 1986:Figure

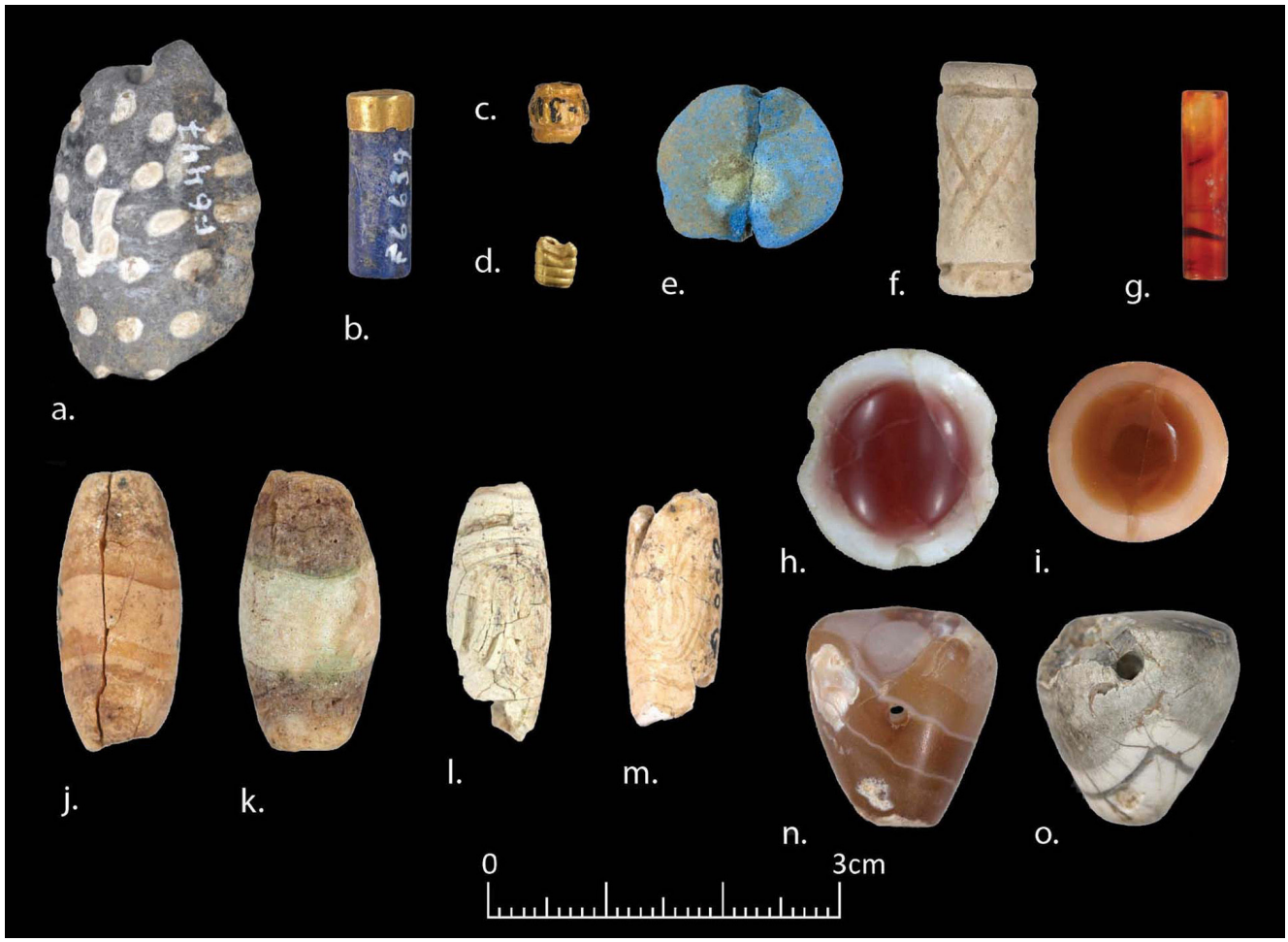


Figure 7. Failaka beads: (a) fossilized coral (*Waagenophillum* ?), (b) gold and lapis lazuli, (c-d) gold, (e) paste/Egyptian blue, (f) faience with incised lattice design, (g) carnelian bead drilled with a constricted cylindrical stone drill, (h-i) agate eye beads, (j-k) glass with band decoration, (l-m) glass with trailed decoration, (n-o) agate cone pendants (photo: Ann Andersson).

140). The glass, paste, and faience beads are also thought to be imports, as there is no evidence for their production at Failaka (Andersson 2022:52-53)

Organic Materials

While some of the organic materials may be found naturally near the island (bone, pearls, and some species of mollusks), those such as bitumen, *Conus ebraeus* shells, ivory, and ostrich eggshell must have been imported. One bitumen bead was found at Tell F6 (Andersson 2016:Figure 1007) and another one is known from Al-Khidr (Benediková 2010:127, Table 2). Bitumen is a material that was widely traded and used for a wide array of practical purposes, but it does not appear to have been a desired material for ornaments at Failaka. Some bitumen objects at Saar have been identified as large "bitumen beads" (ca. 2-2.5 cm in diameter), but these have also alternatively been suggested as net floats or spindle whorls (Crawford, Killick, and Moon 1997:63, Figure 5; Killick and Moon 2005:181, 193-195, Figure a-h; Moon 2000:65). These share little similarity with the Failaka bead. Bitumen beads covered with gold foil have been reported at sites in Mesopotamia, such as Ur and Abu Salabikh (Killick and Moon 2005:193; Postgate and Moon 1982:134, Plate Vc), but plain bitumen beads do not appear to have been favored, and there is no trace of gold foil on the Failaka bitumen bead. While the bead was not chemically analyzed, much bitumen from the Danish Tell F6 excavations comes from seepages in the Deh Luran plain (Iran) and possibly from a yet unidentified seepage (Velde 2016:220).

A single worked *Conus ebraeus* shell bead (Figure 6c) is another strong indicator of southeastern contacts. At the Saar settlement in Bahrain, such shells are considered clear evidence of imported goods (from Oman) (Killick and Moon 2005:177, Figure 5.7, q), as the species does not occur north of the Musandam Peninsula (Killick and Moon 2005:180). Additional parallels come from grave contexts in Bahrain and these shells are also considered evidence of transit trade (Lombard 1999:71, Figure 64; Mughal 1983:Plate LIV). The example from Failaka is an indicator of contacts with regions beyond the Musandam Peninsula.

A bead tentatively identified as ivory was recovered from Tell F3. This material may have been imported from several regions, depending on whether it is from an elephant, hippopotamus, boar, or dugong (Andersson 2022:34, Figure 534). Mesopotamian cuneiform sources report Dilmun as an intermediary in the ivory trade through the Persian Gulf from the Indus region (Laursen and Steinkeller 2017:68). Merchants returning from Dilmun with ivory and ivory objects are mentioned in Ur texts dated to around 2000-1800 BC (Moorey 1994:118-119). Ivory trade may be reflected in finds at Failaka, where several elephant tusks, identified by Schreger lines, were found in the "Palace" at Tell F6 in a probable Period 4A context (ca. 1400 BC) (Højlund n.d.; Moorey 1994:119).

Nine disc beads are made of ostrich eggshell (Figure 5l-m) (Andersson 2016:Figures 844-846, 850-851, 865, 868, 973-974). It is unlikely that ostriches (and ostrich eggshell) were present at Failaka, unless imported. It is far more likely that the eggshell was brought there either as raw material, as an object later recycled into beads, or as finished beads (Andersson 2016:182). Ostrich eggshell beads are generally rare outside Africa (Cluzan 2008:326), but a few have been found with two burials at Qarn al-Harf, Ras al-Khaimah, U.A.E., dated to the late 3rd millennium or the early 2nd millennium (Hilton 2013:15, Figures 30-31, 2015: pers. comm.).

One bead is cautiously identified as fossilized coral (Figure 7a) (Andersson 2022:32, Figure 370). This material has not been recognized in other Dilmun bead assemblages. It appears similar to a white-in-black fossiliferous limestone, discussed by Frenez and tentatively identified as *Waagenophillum* (Frenez 2021:Figure 4). Originating at Jabal Al-Akhdar in Oman, this material is described as having had some appeal from the Late Neolithic to the Iron Age (Frenez 2021:4).

STYLISTIC PARALLELS

While most of the beads found at Failaka occur in generic forms, a small number are stylistically characteristic products known to have been produced in distinct geographic regions during the Bronze Age. Between 2450-1900 BC, very long carnelian bicone beads of exceptional quality were produced in the Indus region (Kenoyer 2017:154; Lankton 2003:35). These were likely sold to merchants and entered the trade bound for the Persian Gulf and Mesopotamia. Production of the long bicone beads required time, exceptional skill, and the use of constricted cylindrical drills (Kenoyer 2016:200-201; Kenoyer and Vidale 1992; Lankton 2003:35). Long bicone beads are not only found in Mesopotamia (Ur, Kish, Girsu, Mari, Tell Brak, and Ebla) and Iran (Susa, Jalalabad, and Marlik), but also in Anatolia and the Aegean region (Hattusa-Bogazköy and Troy) (Chakrabarti and Moghadam 1977; Ludvik, Pieniążek, and Kenoyer 2014; Ludvik et al. 2015; Peyronel 2015).

After 1900 BC, there was a significant decline in the quality of stone workmanship in the Indus region and the production of long bicone beads ceased, though large

quantities of medium to small carnelian beads were still made.[8] Two fragments of these very long bicone beads were found at Tell F3 and may demonstrate the earliest bead trade coming through the island ca. 2200-2000 BC (Figure 6f) (Andersson 2022:Figures 501, 506). Alternatively, the beads may be heirloom items that came to be deposited on the island after a long period of use. A very long and slim carnelian cylinder from Tell F6 is noteworthy (Figure 6g bottom) because of the time and expertise that would have been needed to drill the perforation (Andersson 2022:22-23, Figure 562). Furthermore, the bead was worked and polished into a cylinder with very thin walls, adding to the impression of a bead of exceptional quality. Such beads have been found at the royal cemetery at Ur in Akkadian or Ur III contexts (ca. 2350-2000 BC) and at Susa. Shorter slim cylinders (Figure 6g upper), comparable to several Failaka examples (Andersson 2022:Figures 539, 547, 552, 555, 563), were found at Ur and Susa (these examples are dated between ca. 2100-1750 BC).[9] Beads of this form are also known in the Indus repertoire, but are not very common (Kenoyer 2016:206).

Another part of the carnelian bead assemblage has clear stylistic parallels in the Aegean (Figure 6d). These are called amygdaloid beads (Ludvik et al. 2015:10-11, Figures 5d-e) and described by Lankton (2003:40) as typical of the Late Bronze Age (ca. 1600-1200 BC). Such beads are present in the entire Aegean region, but were especially popular in the southeastern part (Pieniążek 2012:505-506). There are parallels on Cyprus (Maroni and Enkomi), at Rhodes (Ialysus) and Anatolia (Troy and Bersik-Tepe), as well as northern (Ugarit, Minet el-Beida and Emar) and central (Mari) Syria.[10] A single carnelian bead (Figure 6h) has parallels in southern Mesopotamia, where this bead form occurs in grave contexts at Ur dated to the Early Dynastic III (ca. 2600-2350 BC) and Akkadian (ca. 2350-2150 BC) periods (cf. Pollock 1985:139; Woolley 1934:32). In the Gulf, two similar beads have been discovered at Ras al-Khaimah in an early 2nd-millennium tomb context at Qarn-al-Harf (Hilton 2021: pers. comm.).

Banded-agate beads from Failaka also have stylistic parallels in Mesopotamia. A small banded-agate bead (Figure 6i) (Andersson 2022:Figure 357) has parallels in graves P.G. 1932/51 and P.G. 1422 at Ur dating to the Akkadian period (ca. 2350-2150 BC) and the early Ur III period (ca. 2100 BC) (Maxwell-Hyslop 1971:65-68, Plate 48a-b). Comparable beads are also present at Susa (LM no. SB 24038). Grave P.G. 1422 also contained a parallel for a large agate bead (Figure 5c) (Maxwell-Hyslop 1971:68, Plate 48c). An additional parallel for the same bead comes from grave P.G. 1847, Burial R (PM no. 32-40-227). Two red-and-white banded-agate beads (Figure 6j) also have parallels at Ur, most prominently in the grave (P.G. 800) of queen Pu-abi dated to the Early Dynastic III period (ca. 2650-2550 BC).[11] Two agate cone pendants found at both Tel F3 and Tell F6 have quite distinct forms (Figure 7n-o). A possible parallel from Susa has largely the same form. The banding and colors of the stone bead from Susa (LM no. SB 21853) are very similar to the white and grey-colored cone pendant (Figure 7o). The Susa bead dates to the Middle Elamite period (ca. 1500-1100 BC) (Andersson 2022:25-26, Figures 587-588).

Two agate beads (Figure 7h-i) are so-called eye beads which are characteristic of the Kassite period (late 2nd millennium) in Babylonia (Campbell et al. 2017:38). The bead type may also testify to the far reach of the trade networks in question, with a widespread distribution from Cyprus to Anatolia, across Mesopotamia to different regions in Iran and through the Gulf with the examples found at Failaka and in Oman (Clayden 2009:41; Frenez 2021). There are also eye beads made of glass at Failaka (Figure 6a) (Andersson 2022:Figure 380 and 382). These have good parallels in Mesopotamia, e.g., at Tell Khaiber and Nuzi (Campbell et al. 2017:38, Figure 18; Vandiver 1983:242, Figure 3 lower right), and first appear in the middle of the 2nd millennium (Clayden 2009:44).

Although most of the Failaka glass beads are poorly preserved, it has been possible to determine some of their designs which have parallels at 2nd-millennium Nuzi (Vandiver 1983:Figures 1, 3). Decoration on the glass beads includes trailed designs (Figure 7l-m), zig-zags, and bands (Figure 7j-k) (cf. Andersson 2022:Figures 126, 130, 295, 299, 304 327, 335). Some of the spherical wound beads have good parallels in the material from the 14th-century-BC Uluburun shipwreck and at Nuzi, which would also point to a mid-2nd-millennium date for this part of the bead material (Andersson 2022:46; Ingram 2005). Generally, the glass at Failaka is unlikely to have been imported from the Indus region, as glass production did not become common until ca. 1450-1200 BC. Glass seems to have appeared about 500-1000 years later in the Indus Valley than in Mesopotamia and Egypt (Kanungo 2008:1024-1025, 1031).

A distinctive group of faience beads (Figure 6b) compares well with late 2nd-millennium examples at Uruk with parallels found in a wide region stretching between Hattusa-Bogazköy (Anatolia) and Choga Zanbil (Iran) (Andersson 2022:Figures 446-447, 449, 451-453, 455-457; Limper 1988:20, 125-126, cat. nos. F222-F224). A faience cylinder with an incised lattice pattern is the only one in the Bronze Age assemblage (Figure 7f) (Andersson 2022:Figure 557). Parallels can be found at Uruk (Limper 1988: cat. no. F217-221). Here similar beads are described as reproductions of Jemdet Nasr cylinder seals. These beads

came into fashion in the middle of the 2nd millennium and continued in use until the second half of the 1st millennium. The best parallels for the Failaka bead are at Uruk (from a Neo-Babylonian context) and 13th-century-BC (Middle Elamite period) Choga Zanbil (Limper 1988:19, Figure 218). A similar bead made of bone was found at Al-Khidr and looks to be an imitation of finer examples (Benediková 2010:Figure 111d).

A small, collared, gold melon bead (Figure 7c) originally had a core made of another material (perhaps clay or bitumen), which has since disappeared so that only the gold foil remains (Andersson 2022:Figure 578). Parallels for this bead can be found in Mesopotamia, more specifically in the Dilbat (Tell al-Deylam) gold hoard that was deposited no later than the early Kassite period (ca. 1600 BC) (Maxwell-Hyslop 1971:88-91, Plates 61, 63a-64b).

LOCAL MANUFACTURE OR IMPORTS?

It is conceivable that all of the bead raw materials could have been brought to Failaka for local bead production. There is, however, little evidence for this. No drills have been uncovered at Tell F3 or Tell F6, nor at the Al-Khidr settlement. Only a small selection of rough outs, blanks, and semi-drilled beads have been recovered from the Bronze Age excavations. Five blanks made of calcite, carnelian, agate, and jasper were found at Tell F3 and Tell F6. One agate bead from Tell F6 is partially drilled (Andersson 2021:125, Figure 418, 2022:Figures 211, 252, 315, 434, 438). Three possible bead rough outs have been identified at Al-Khidr (Benediková 2010:Figure 104c-d, f).

There is some evidence of stone-working activity on the island where discarded soft-stone vessels were reworked into objects like pendants and spindle whorls (Hilton 2014:163). The majority of the vessels were fashioned from chlorite and the Failaka bead assemblage contains a few chlorite beads that could have been made from vessels. Three of these come from Tell F3, four from Tell F6), and another four from Al-Khidr (Andersson 2022:Figure 336, 342, 408, 439; Benedikova 2010:Figure 90a; Howard-Carter 1984).[12] The 2012-2017 excavations did identify a lapidary workshop at Tell F3 relating to periods 2-4A (ca. 1800-1400 BC) where stone debitage and chunks of raw material (flint, carnelian, and jasper) testify to some kind of production, perhaps Dilmun stamp seals (Hilton 2021:123-129). A single jasper blank was also found here (Andersson 2021:117, Figure 418).

While the few rough outs, blanks, and semi-drilled beads may be explained as accidental imports arriving along with the finished beads, it is also possible that they represent a local production. Yet, if there was bead production on the island, it must have been on a minor scale (Andersson 2022:41). A study by Kenoyer (2016) of the techniques used to drill 19 carnelian beads recovered from Tell F6 revealed that three types of drills were used: stone drills (tapered cylindrical and constricted cylindrical), solid-copper drills, and tubular copper drills. Tapered cylindrical drills were used across a wide region from Egypt to China (Kenoyer 2016:200). It is, therefore, impossible to pinpoint a specific geographic region as the place of origin for these beads. At least eight of the Failaka beads were drilled with tapered cylindrical stone drills (Kenoyer 2016:Figure 1049).

Constricted cylindrical drills, on the other hand, are "a very specialized form of drill developed by bead makers of the Indus Civilization using a unique stone raw material that is called Ernestite" (Kenoyer 2016:200-201). Only one bead (E200-X1035) in the sample was perforated with such a drill (Kenoyer 2016:200-201, Figure 1049, 2016:Figure 901). It is a slim cylinder (Figure 7g), several examples of which are in the Failaka bead assemblage. The rest of the sample beads were drilled with solid-copper or tubular copper drills using emery abrasive, a technology more related to bead material from Troy, Anatolia, and the Eastern Mediterranean, rather than the Indus region (Kenoyer 2016:201). Use-wear analysis of the bead assemblage suggests that a portion of the beads are fresh products, while others show extensive wear and must have been in use for quite some time before being deposited (Andersson 2022:41-47; Kenoyer 2016:200).

CONCLUSION

The Bronze Age assemblage from the settlements at Failaka suggests that beads were imported to the island over a long period of time spanning the late 3rd millennium and through the 2nd millennium. The uneven distribution of beads between Tell F6, Tell F3, and Al-Khidr implies that a central authority dealt with the storage of beads, probably due to the valuable nature of these goods.

The materials and stylistic parallels present in the assemblage suggest that the beads may have originated in the Mediterranean region, the Middle East, North Africa, and southern Asia. The stylistic parallels also indicate that the beads may date between the mid-3rd millennium through the 2nd millennium. While some beads, which are distinctly "older" in style, may be evidence of an early bead trade on the island, they could also be heirloom beads imported along with brand new ones. The glass and faience material especially points to close contacts with Mesopotamia, which was doubtless due to the proximity of Failaka to the southern Mesopotamian harbor cities. The drill technology noted in the Failaka beads points to their coming from both

the Mediterranean and the Indus region. Taken together, the Failaka beads add to the impression of a vast and dynamic trade network that operated across long distances. This trade not only comprised perishable goods and metals, but also a wide array of luxury products, including beads.

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ENDNOTES

1. The Danish excavations are still in progress on the island and the number of beads from the Bronze Age settlements that might be added to the total assemblage of 935 beads is at present unknown.

2. A larger number of items (n = 56) classified as "Bead/Ornament" were found at Al-Khidr (Benediková 2010:136, Table 6). This category includes shell and stone semi-finished products along with soft-stone pendants. These have been excluded from this study; only finished beads and pendants are included here.

3. The bead assemblage from Tell F3 also includes a number of semi-finished products which mainly relate to Phase 6. This likely indicates the production of shell products, most likely shell rings, which may have been exported from the island, very few finished shell rings or beads having been found on the island (Andersson 2022:46).

4. The rest of the beads from the temple are undatable surface finds (n = 4), as well as two beads from 1st-millennium levels and five beads from other 2nd-millennium levels: IIa (n = 2), IV (n = 3), IV-V (n = 1), and Vb (n = 1) (Calvet and Pic 1986).

5. Trenches FH3-5: eight beads made of bronze, carnelian, agate, and unidentified stone. Trench FH9: three beads made from carnelian, glass, and chlorite.

6. As at Tell F3, the high number of shell semi-finished products at Al-Khidr may be indicative of local shell ring production, rather than imported trade goods.

7. Frenez (2021) has discussed the identification of Egyptian porphyry at Ras Al-Jinz RJ-2 in Oman (ca. 2500-2000 BC), reconsidering the Egyptian origin of a stone vessel. Instead, the Indus Valley region is suggested as the source.

8. Archaeological evidence indicates that bead production at the larger Indus centers varied and that there was also variation within the different subregions of the Indus region (Uesugi 2018:32). Beadmaking at Lothal, Mohenjo-Daro, Harappa, Dholavira, and Nagwada focused on the production of small and medium beads, while preforms for classic long Indus bicones have only been found at Chanhu-Daro (Roux and Matarasso 2000).

9. Ur: BM no. 122435 (long cylinder beads, dated to Akkadian or Ur III contexts, ca. 2350-2000 BC), BM no. 122448 (short cylinders dated to the Ur III period, ca. 2100-2000 BC), BM no. 123158 (short cylinders dated ca. 2000-1750 BC). Susa: LM no. SB 23975. Abbreviations: British Museum (BM), Louvre Museum (LM), Metropolitan (MM), and Penn Museum (PM).

10. Maroni: BM no. 1898,1201.52. Enkomi: BM nos. 1897,0401.605, 1897,0401.692, 1897,0401.738.3. Ialysus: BM nos. 1872,0315.7, 1872,0315.8. Ugarit: LM no. AO 24009 (a hoard of jewelry found in a Mycenaean vessel), LM no. AO 30799 (ca. 1200-1150 BC), LM no. AO 17401. Minet el Beida: LM no. AO 14846 (ca. 1550-1150 BC). Emar: LM no. AO 27835 (ca. 1200-1150 BC). Mari: LM no. AO 30030 (tomb 208), LM no. AO 19038 (Tomb 119) (ca. 1392-911 BC).

11. There are several parallels in the Penn Museum (PM) online collections from Grave P.G. 800: PM 83-7-1.4, PM 83-7-1.8, PM 83-7-1.19, PM 83-7-1.22, PM 83-7-1.27, PM 83-7-1.31, PM 83-7-1.35, PM 83-7-1.45, PM 83-7-1.52, PM 83-7-1.54.

12. The chlorite beads from the Danish 1958-1963 excavations at Tell F3 and Tell F6 were compared to the typology created for the stone vessels at Failaka by Hilton (2014: pers. comm.). The four beads correspond to Hilton's stone type 2 (Figure 342) and type 3 (Figures 336, 408, 439), both of which are common in the stone vessel assemblage from Tell F3 and Tell F6 (Hilton 2014:Figure 15). The chlorite found at Failaka could have come from several different sources in Iran, the Oman Peninsula, Saudi Arabia, and Yemen (Hilton 2014:14).

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