Window 35

The Indus Civilization Trade with the Oman Peninsula

Dennys Frenez

Cosmopolitan interactions and exchanges played an important role in the Oman Peninsula during the Early Bronze Age, including the so-called Hafit period, ca. 3200-2700 BC, and Umm an-Nar period, ca. 2700-2000 BC. A considerable amount of copper reached Mesopotamia from the Oman Peninsula already during the Middle to Late Uruk period, ca. 3800-3200 BC. Trade with Mesopotamia increased during the Jemdet Nasr and Early Dynastic periods, ca. 3200-2500 BC. Vessels of Mesopotamian origin are found in Oman in Hafit stone cairns and settlements (Carter 2013), while the occurrence of Omani copper increased up to 30% of the analyzed objects (Begemann *et al*. 2010). Exchanges were established also with Southeastern Iran (Potts 2005; Méry *et al*. 2012). Relations with Mesopotamia and Iran, but probably also with Baluchistan, provided also most of the cultivars necessary for the establishment of oasis-farming economy, including wheat, barley and date palms (Boivin and Fuller 2009; Parker 2010).

Intercultural exchanges further increased in the whole Middle Asia during the second half of the 3rd millennium BC (Possehl 2007). In this period, while imports from Mesopotamia and Iran declined, the Indus Civilization emerged as the primary trading partner of the Umm an-Nar communities.

Indus Civilization and the Oman Peninsula

Traders and craftsmen from the greater Indus Valley began exploring possibilities for trading outside their internal networks of exchanges already during the second half of the 4th millennium BC (Cortesi *et al*. 2008; Kenoyer 2008). Overseas links with Mesopotamia and the Gulf region were soon established and the Oman Peninsula, the «Land of Magan» of the Cuneiform texts, immediately became more than just a strategic transit point on this maritime route.

In the Oman Peninsula, archaeologists found large storage jars and painted vessels imported from the Indus Valley, as well as carnelian beads, ivory objects and metal tools of Indus origin. Moreover, trade tools used to normalize exchanges, such as Indus type stamp seals and cubical weights, have also been found. Remarkably, a number of Indus-type artifacts resulted made in Oman by Indus or Indus-trained craftspeople using local raw materials. Exports from the Oman Peninsula to the Indus Valley included mainly copper ingots, seashells, softstone vessels with their still unknown contents, but probably also frankincense and other items of the so-called 'invisible trade' (Tosi 1991, 1993) (Figure 35.1).

Indus pottery types (imports and imitations)

The typology of Indus-type pottery containers found at Umm-an Nar settlements and graveyards is limited to a selected number of forms related to storage, processing and presentation of food.

Black slipped jars

In the Oman Peninsula, the most solid indication for overseas exchanges with the Indus Civilization comes from the thousand fragments of Indus storage jars – the so-called black slipped jars –

Dennys Frenez • University of Bologna • **dennys.frenez@gmail.com**

FIGURE 35.1.

Umm-an Nar type softstone bowl found at Mohenjo-Daro,Pakistan (after Tosi 1991).

FIGURE 35.2.

Indus black slipped jars: (a) entire vessel from Harappa (courtesy Indus Civilization Exhibition, Tokyo/Nagoya); (b) fragment with Indus signs scratched from Building II, Room 18 (Period II) Ras Al-Jinz RJ-2 (photograph by D. Frenez, courtesy Oman National Museum).

tall, large containers with a distinctive curvilinear profile and thick layers of black or dark purplish to brown slip coating their internal and external surfaces, suggesting that they were probably used to ship foodstuffs or liquids. (Dales and Kenoyer 1986: 83-84) (Figure 35.2/a). Fragments of such jars, occasionally with a short sequence of Indus script signs scratched on the rim or upper body, have been found in almost all Umm an-Nar coastal settlements, as well as most of the inland sites (Méry 2000: fig. 136 and tab. 59; updates in Borgi *et al*. 2012; Charpentier *et al*. 2013; Frenez *et al*. 2016; Thornton and Ghazal 2016; Méry *et al*. 2017) (Figure 35.2/b).

According to the result of Instrumental Neutron Activation Analysis (INAA) by S. Méry and J. Blackman (2005), the clay composition of the black slipped jars they tested from several sites in the Oman Peninsula is more similar to pottery from Mohenjo-Daro and the southern Indus River plain, rather than from Nausharo and/or Harappa in the north. However, some of these distinctive jars may have been made in Oman, as shown by the recent identification of a black slipped jar made from what has been petrographical identified as local clay in the Indus-related ceramic assemblage of Salut ST1 (Méry *et al*. 2017) (Figure 35.3).

FIGURE 35.3. Salut ST1. Indus-style jar with black slip made using the so-called ST1 Red Sandy Ware typical of some ceramic productions of interior Oman (left); thin section of the ST1 Red Sandy Ware (a); thin section of the Micaceous Red Ware used in the Indus region for several ceramic productions including the black slipped jars (b) (Méry *et al.* 2017).

Indus fine painted wares

In addition to the large storage jars, different types of Indus jars with black-on-red painted decorations have been found in both domestic and funerary contexts (Méry 2000: 239-243, figs. 144, 148-154) (Figure 35.4/a-c). Small unslipped carinated jars, often described as 'bottles', with Indus-style decorations painted in black on the shoulder have been found inside Umm an-Nar collective graves (Méry and Blackman 2005: 234-235); a few of

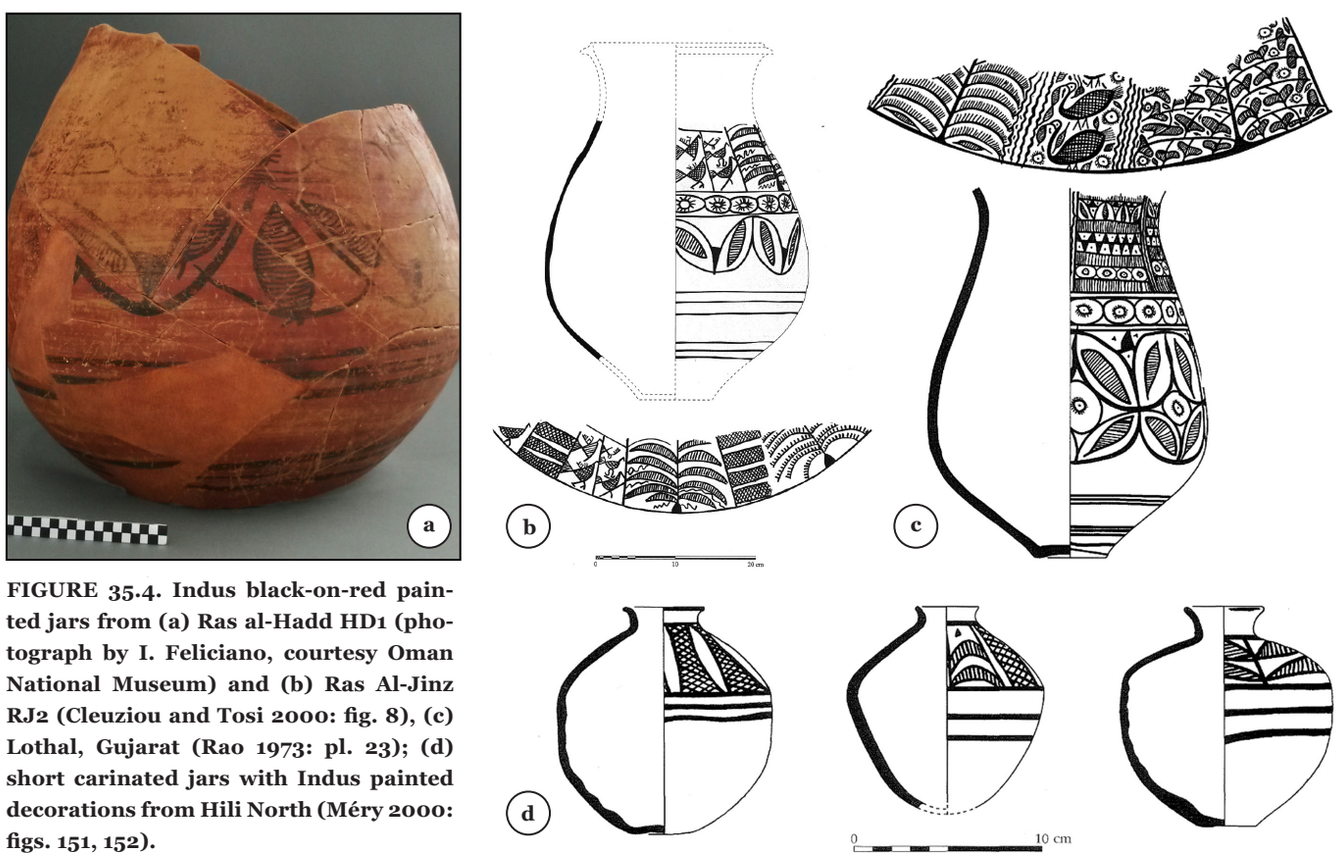

FIGURE 35.4. Indus black-on-red painted jars from (a) Ras al-Hadd HD1 (photograph by I. Feliciano, courtesy Oman National Museum) and (b) Ras Al-Jinz RJ2 (Cleuziou and Tosi 2000: fig. 8), (c) Lothal, Gujarat (Rao 1973: pl. 23); (d) short carinated jars with Indus painted decorations from Hili North (Méry 2000: figs. 151, 152).

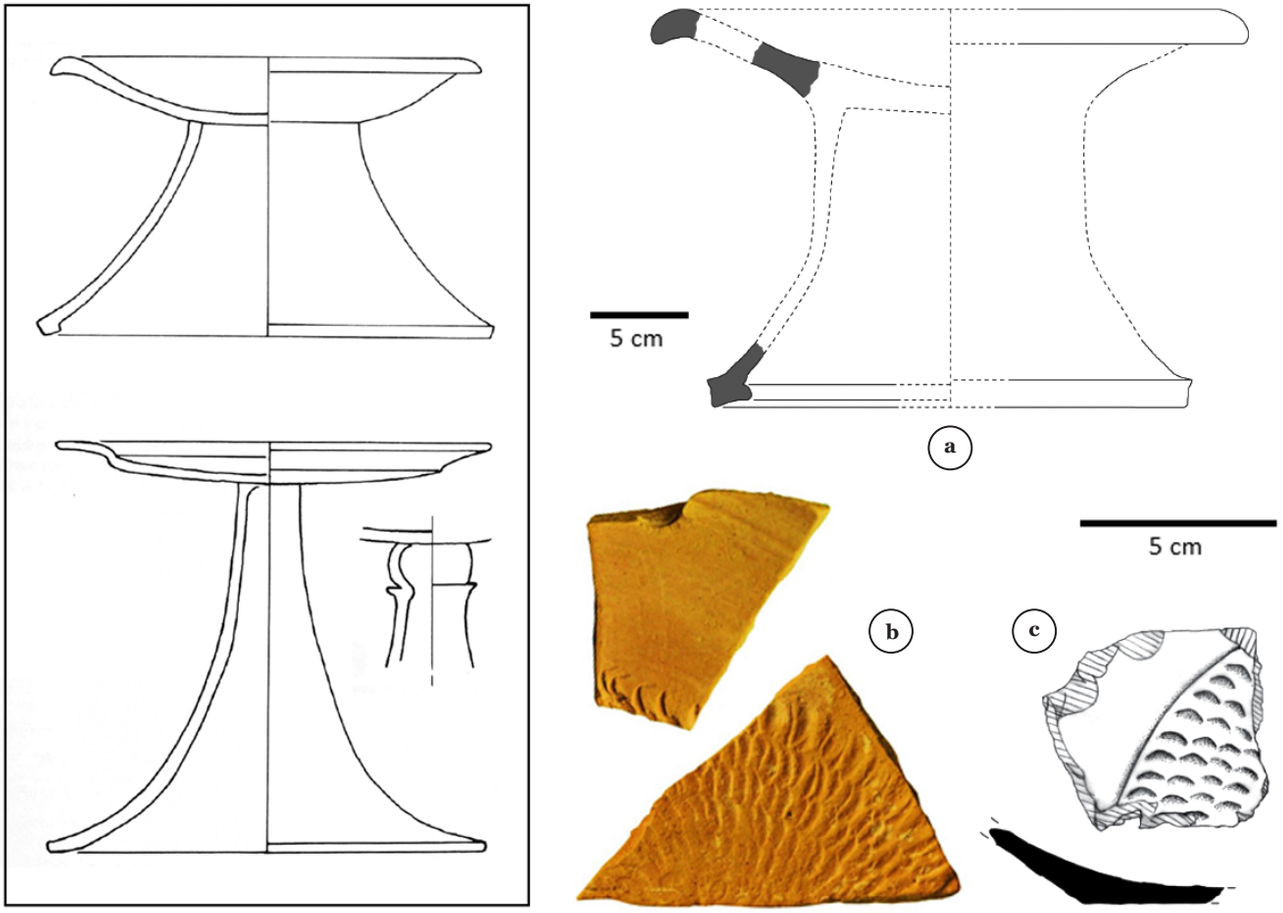

FIGURE 35.5. Indus pedestalled dishes from Mohenjo-Daro (Dales and Kenoyer 1986: 213, 215) and Oman: (a) Jebel Sfaiq MT1 on the Masirah Island (Charpentier *et al.* 2013: fig. 7/6); (b) Salut ST1, and (c) Bat T.1146 (Méry *et al.* 2017: fig. 9).

them resulted being locally made (Méry and Blackman 2005: fig. 7; Thornton and Ghazal 2016: 208) (Figure 35.4/d).

Pedestalled dishes

Pedestalled dishes, called also dish-on-stands, are one of the finest and most distinctive Indus pottery production (Dales and Kenoyer 1986: 212-221). They were probably used for food presentation in special occasions. Both dish and pedestal were covered with a fine red slip and decorated with black painted motifs, but the dish was rarely decorated also with circular patterns of fingernail-like impressions possibly used to grate hard cheese or crushing herbs (Gouin 1990, 1995). In the Oman Peninsula, Indus-type pedestalled dishes have been found at several sites, both in the interior and along the coast (Méry 2000: 236-238; Charpentier *et al*. 2013: fig. 7/4-6; Frenez *et al*. 2016: fig. 4/c) (Figure 35.5/a); at least some of them resulted being local copies (Méry 2000: fig. 145-146; Méry *et al*. 2017: fig. 9/f) (Figure 35.5/b-c).

Perforated jars

Another unique Indus pottery type that was likely used for food processing are the so-called perforated jars, tall straight-sided vessels with the base perforated with a large hole and the entire body pierced with tiny holes (Dales and Kenoyer 1986: 107-112). Indus perforated jars were likely used for preparing or drinking fermented beverages or dairy products (Kenoyer 1998: 154; Gouin 1990). In the Oman peninsula, Indus perforated jars have been found at several sites and always resulted being actual imports (Méry 2000: 126, tab. 3; Thornton and Ghazal 2016: fig. 9.8/d; Frenez *et al*. 2016: fig. 4/d).

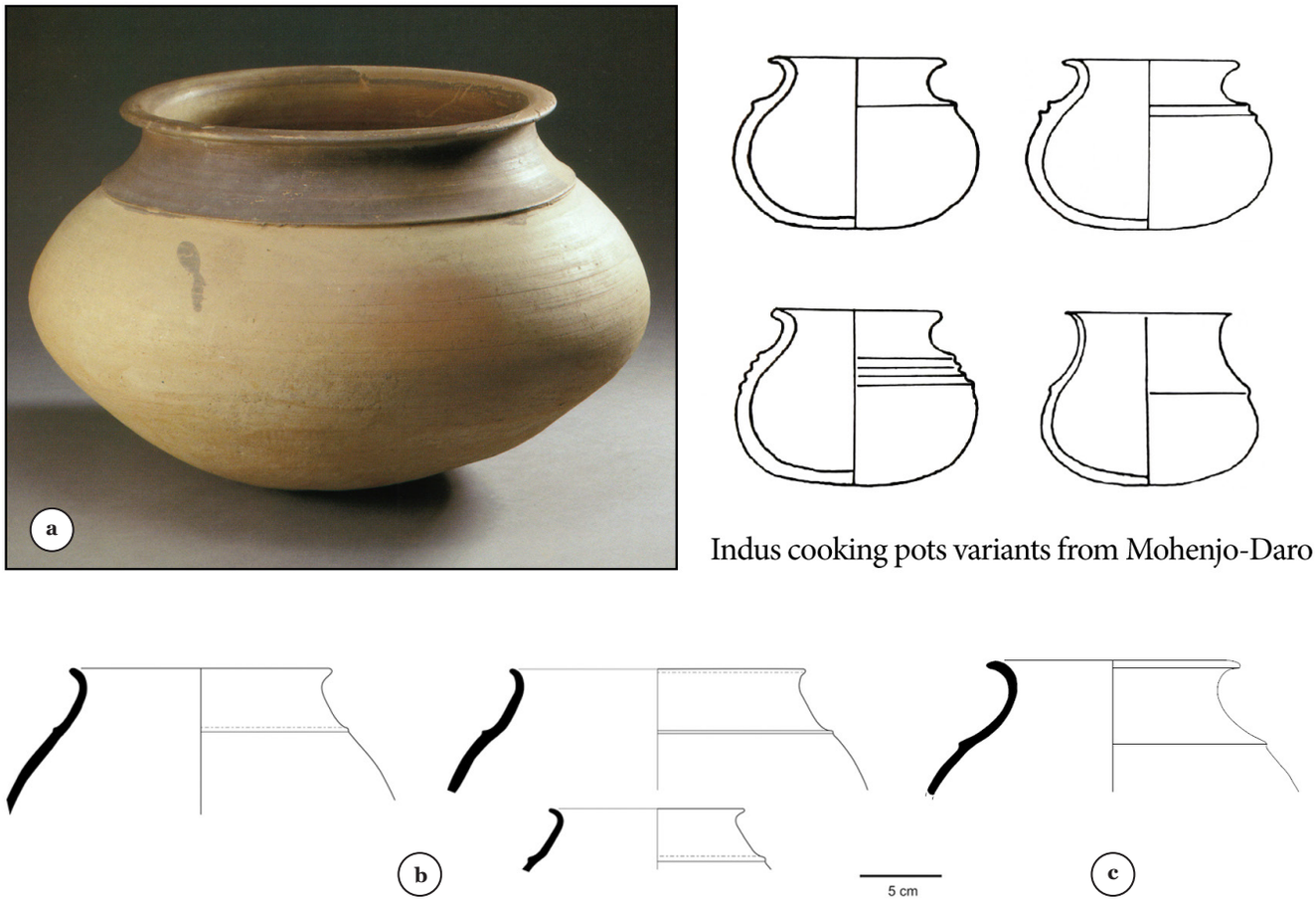

FIGURE 35.6. Indus cooking pots from Mohenjo-Daro (Indus Civilization Exhibition, Tokyo/Nagoya; Kenoyer and Dales 1986: 132 ff.); (b) from Salut ST1, and (c) Bat T.1146 (Frenez *et al.* 2016: fig. 4/b; Thornton and Ghazal 2016: fig. 9.8/A).

Cooking pots

Indus cooking pots are round bottomed vessels with a concave short neck and the neck-body juncture marked by a single or multiple ledges (Dales and Kenoyer 1986: 132-144) (Figure 35.6). Several layers of a fine slip covered the shoulder and the neck, while the lower body and the base were usually covered with a thick, coarse sandy coating to prevent its cracking when the vessel was placed on the fire. The ledge was probably designed to deflect the flames and keep the upper part of the vessel at a lower temperature.

In the Oman Peninsula, fragments of Indus-type cooking pots have been found at Ras Al-Hadd HD-1, along the coast, and at Salut ST1 and Bat in the interior (Méry 2000: fig. 144.6; Frenez *et al*. 2016: fig 4/b; Thornton and Ghazal 2016: tab. 1, fig. 9.8/a) (Figure 35.7/b-c). A number of the Indus cooking pots identified at Bat and Salut ST1 resulted being local imitation produced using local clay (Thornton and Ghazal 2016: 206; Méry *et al*. 2017).

Copper and tin/bronze objects

Ancient cuneiform texts and archaeological data concur to indicate the Oman Peninsula as one of the major sources that supplied ingots of refined copper to Mesopotamia and the Indus Valley (Weisgerber 1984; Kenoyer and Miller 1999; Begemann *et al*. 2010). Recent Pb isotope analysis of copper and tin bronze objects from Harappa and Dholavira seems to confirm that part of the copper used at these sites was imported from Oman (Hoffman and Miller 2009: 705; Bisht *et al*. 2015: 10-16). Conversely, not a single piece of copper from South Asian deposits has been detected at sites in the Oman Peninsula to date (Begemann *et al*. 2010: 162).

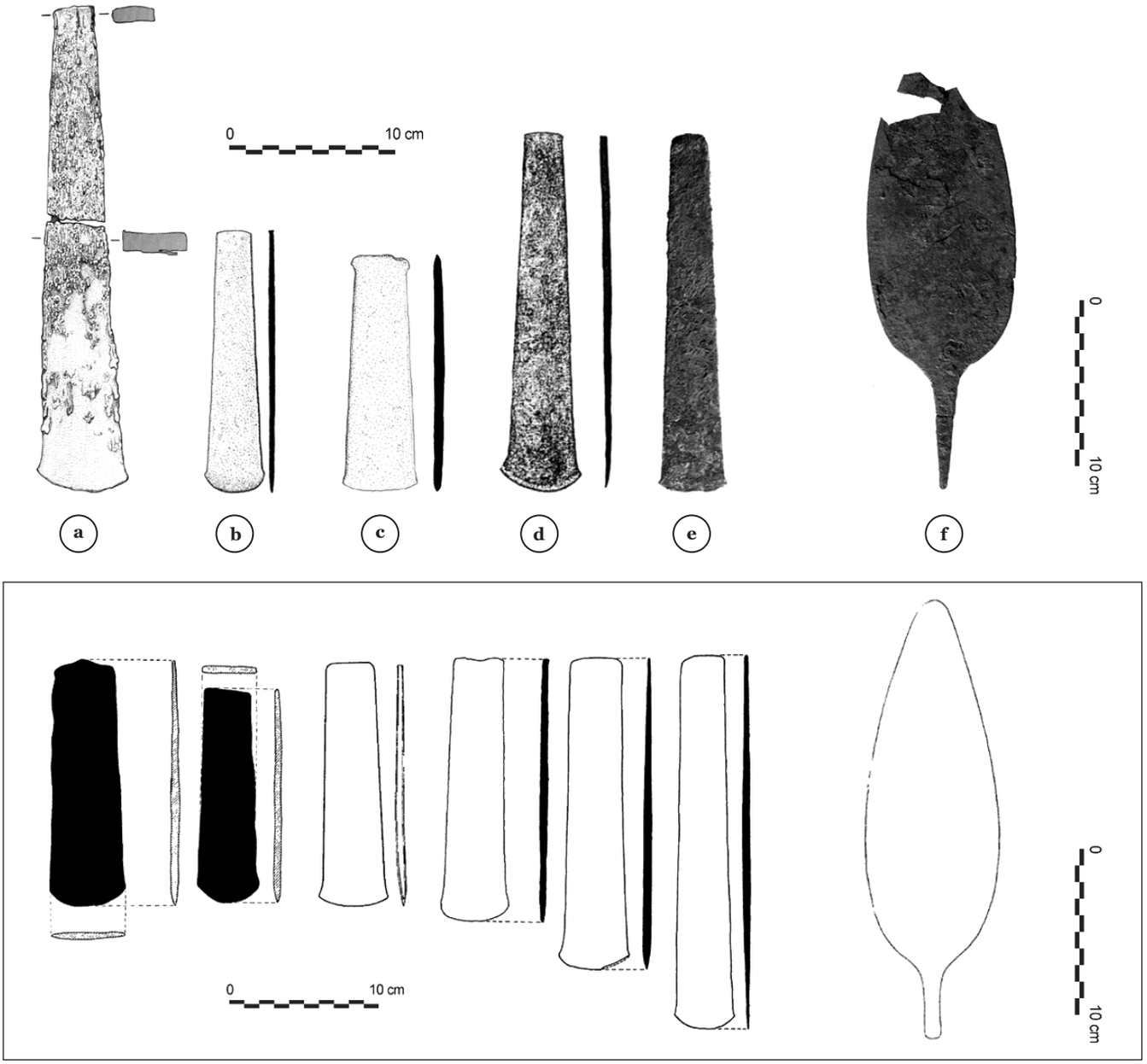

FIGURE 35.7. Indus-style copper axes from (a) Tell Abraq, (b) Umm an-Nar, (c) Ras Al-Jinz RJ2, (d) Jebel Buhais BSH67, and (e) the Al-Moyassar 4 (Potts 1990: fig. 36; Frifelt 1995: fig. 276; Cleuziou and Tosi 2000: fig. 12.7; Jasim 2003: fig. 6; Weisgerber 1980: fig. 5.11), and (f) Indus tanged spearhead from Khor Bani Bu Ali SWY-3 (Méry and Marquis 1998: fig. 7).

However, a few copper objects of likely Indus origin have been found in the Oman Peninsula, including a number of long copper axes and one tanged spearhead (Potts 1990: 38-41, fig. 34-36; Frifelt 1995: 188, fig. 276; Cleuziou and Tosi 2000: 57, fig. 12.7; Jasim 2003: 88, fig. 6; Weisgerber 1980: fig. 78-5.11; Méry and Marquis 1998: 217, fig. 7) (Figure 35.7). A square stamp seal in copper with an Indus unicorn and a series of Indus script signs found at Ras Al-Jinz RJ-2 is discussed afterwards (Figure 35.13/a).

Indus-style carnelian beads

Countless discoveries in both settlements and necropolises across the vast region stretching from the Indus Valley to the eastern Mediterranean and from Central Asia to Southeastern Arabia,

FIGURE 35.8.

Indus drills in *ernestite* from Dholavira, Gujarat (photograph by R.W. Law, courtesy Archaeological Survey of India).

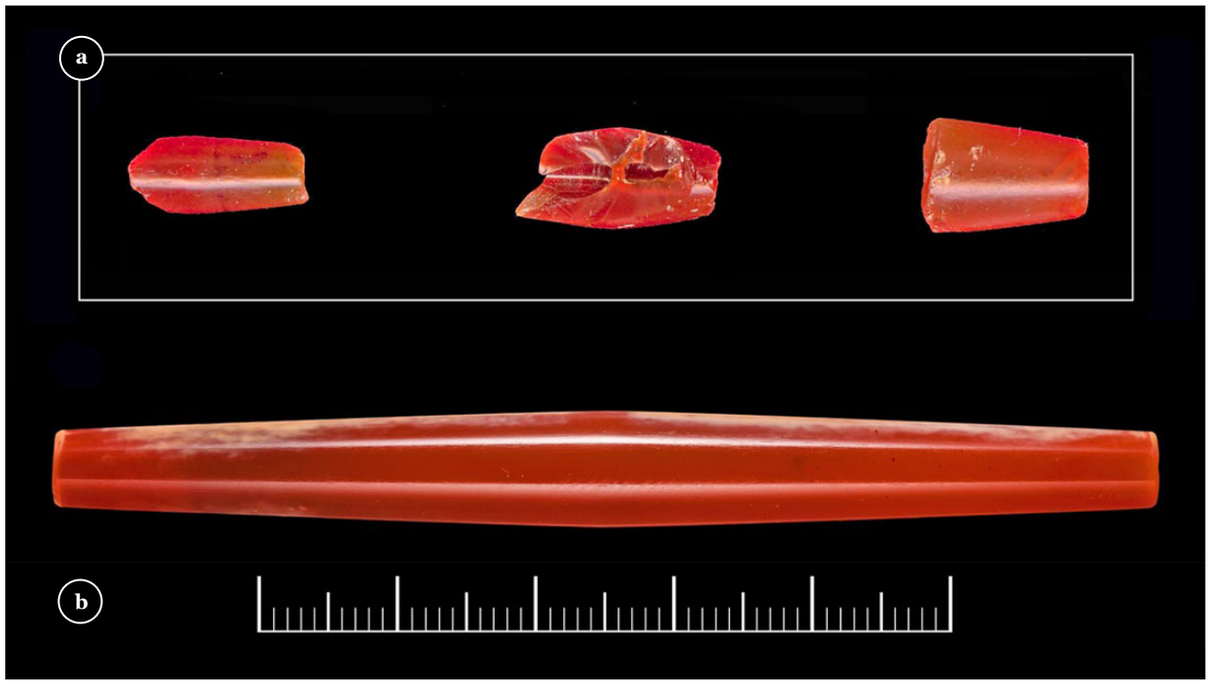

FIGURE 35.9.

Indus long and very long biconical beads in carnelian from (a) Salut ST1 (photograph by D. Frenez, courtesy Italian Mission to Oman), and (b) Bat Tomb 155 (photograph by P. Koch, courtesy Ministry of Heritage and Culture of Oman).

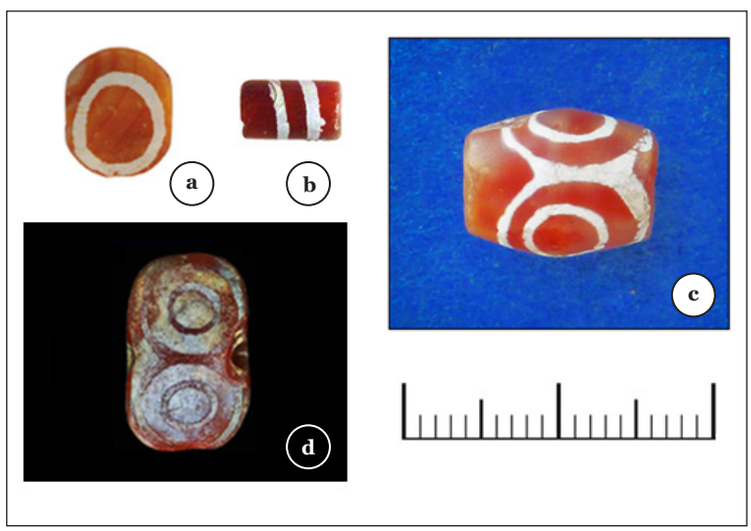

FIGURE 35.10.

Indus bleached carnelian beads from (a) Bat Burial Pit 0025 (after Thornton *et al.* 2016: fig. 1.3, courtesy German Archaeological Mission to Bat), (b) Bat Tomb 401 (courtesy German Archaeological Mission to Bat), (c) Bat Tower 1156 (photograph by A. Mortimer, courtesy Bat Archaeological Project), and (d) Bid Bid (photograph by D. Frenez and J.M Kenoyer).

demonstrated the importance of agate and carnelian ornaments as symbols of the highest social status for the Bronze Age elites. According to M. Vidale (2000: 40), '*carnelian bead making was the first craft to reveal to the archaeological world the impressive standards of Indus technology*'. This was probably true also for the Bronze Age elites of Middle Asia.

The production of such beads required in fact a complex manufacturing process that involved the procurements of specific raw materials and the skillful application of advanced techniques for shaping, polishing and, in some cases, also decorating the beads, while special drills made from a very hard stone called *ernestite* were used to perforate them (Kenoyer and Vidale 1992; Vidale 2000: 40-58; Kenoyer 2017) (Figure 35.8).

Long biconical carnelian beads

In the Oman Peninsula, Indus-style long carnelian beads are very rare and have been reported mainly from Umm-an Nar graves (Cleuziou and Tosi 2007: fig. 128; Potts 2000: 131). Some specimens, sometimes reworked locally after breaking, have been recently identified at Salut ST1 and in graves and burial pits at Bat and Adam (Frenez *et al.* 2016: 114-115, fig. 8; Böhme and Al-Sabri 2011: 149, fig. 22/158; Schmidt and Döpper 2014: 205, fig. 11.f; Kenoyer and Frenez 2014) (Figure 35.9).

Bleached (alkaline-etched) carnelian beads

Another distinctive technology developed by the Indus bead makers was the artificial coloring of carnelian using chemicals and pyrotechnology to decorate beads by bleaching their surface (Vidale 2000: 56-57; Kenoyer 2017: 140-141).

A. De Waele and E. Haerinck (2006: 33-35, fig. 1 and tab. 2) compiled a detailed list of the bleached carnelian beads found at Umm an-Nar sites in the Oman Peninsula, while several Indus-style bleached beads have been recently discovered in the Sultanate of Oman at Bat and Bid Bid (Boehme and Al-Sabri 2011: 149, fig. 22/160; Mortimer 2016: 142, fig. 6.37; Schmidt and Döpper 2014: 205, fig. 11g) (Figure 35.10).

Ivory objects

Objects for embellishment and gambling made from the ivory of Asian elephants have been found at several Bronze Age sites from the Indus Valley to Northern Syria, including the Oman Peninsula.

FIGURE 35.11. Indus-style combs made from elephant ivory from (a) Ras Al-Jinz RJ-2 (photograph by D. Frenez, courtesy Oman National Museum), and (b) Bat Grave pit 0025 (Thornton *et al.* 2016: fig. 1.3).

Such discoveries were traditionally interpreted as evidence for the import of finished objects from the Indus Valley. However, new detailed studies of the ivory artifacts found at Bronze Age sites in Central Asia have portrayed a more complex picture, possibly involving ivory carvers from the Indus Valley itinerating across the region (Frenez 2017). This model is also supported by the discovery at Tell Abraq of several ivory combs decorated in Central Asian styles (Potts 1993, 1994, 2000: 126-127). In the Oman, Indus-style ivory combs decorated with series of dot-in-circles motifs have been found also at Ras Al-Jinz RJ-2 and in Grave Pit 0025 at Bat (Cleuziou and Tosi 2000: 30 and pl. 32; Döpper and Schmidt 2013: 32, fig. 10) (Figure 35.11).

Terracotta toys

An Indus-style hollow terracotta bird figurine, decorated on the exterior with a black paint and with tiny holes through the neck and beak has been found at Salut ST1 (Frenez *et al*. 2016: 113-114, fig. 7). This type of hollow, sometimes wheeled, painted animal figurines is frequent at Indus Civilization sites (Kenoyer 1998: 133).

Indus stone weights

The Indus Civilization developed standardized measurement systems to normalize manufacturing and building techniques and to control trade exchanges and their taxation (Kenoyer 2010; Miller 2013). The most typical Indus weights are cubical made from banded chert, but there are also truncated spheres, barrels, cylinders and cones made from a variety of stones. On the basis of the available data, two alternative weight units and progression systems have been calculated: a first system was based on a unit of 0.86 g, while the second had a unit of 13.7 g.

Indus-type weights have been found at several sites outside the greater Indus Valley (Ratnagar 2004: 246-255, tab. 3.1). In the Oman Peninsula, three Indus weights have been found at Tell Abraq and two inside collective graves at Shimal (Potts 2000: 128-129; Vogt 1996: 118 and notes 9-10).

Seals and inscribed objects

Indicative of the commercial and cultural relations between the Oman Peninsula and the Indus Civilization is the recent discovery at Salut ST1 of two fragments of a local jar, both stamped with the same elongated tablet bearing two wild Indian bison in combat and several Indus script signs (Frenez *et al*. 2016: 117-118, fig. 10; Méry *et al*. 2017) (Figure 35.12).

An Indus-style square stamp seal with a wild Indian bison with the head lowered on a manger, carved below an inscription composed of five Indus script signs, has been also found at Salut ST1 (Frenez *et al*. 2016: 116-117, fig. 9) (Figure 35.13). Wild Indian bison appears on most of the Indus seals found outside the greater Indus Valley and M. Vidale (2005) proposed that this distinctive icon identified a community of Indus traders active in external trade. According to the excavator, the seal was carved from the same greenish-grey chlorite used locally to manufacture softstone vessels (Degli Esposti, personal communication) and technological studies carried out by J.M. Kenoyer using SEM show that tools and carving style are comparable to those used by Indus seal carvers (Frenez *et al*. 2016: fig. 9).

Another Indus-style stamp seal, but made in copper, has been found at Ras Al-Jinz RJ-2 (Cleuziou and Tosi 2000: 59-60, fig. 17) (Figure 35.14/a). This small copper seal has an Indus unicorn engraved below a short inscription of a few Indus signs. Two other Indus-style copper seals have been found respectively at Lothal, in Gujarat, and at Konar Sandal South in the Jiroft province of southeastern Iran (Rao 1985: 306 and Plate CLIV-C; Pittman 2013: 67, fig. 4.1) (Figure 35.14/b).

A small seal found inside an Umm an-Nar type grave at Bisyah, in interior Oman, features a humped bull with large lunate horns depicted in front of a smaller round object and framed between two enigmatic motifs, possibly proto-scriptorial signs or more likely stylized animals or objects (Figure 35.14/c). The main subject of this seal and its iconographic arrangement are clearly inspired to the Indus glyptic, while the engraving

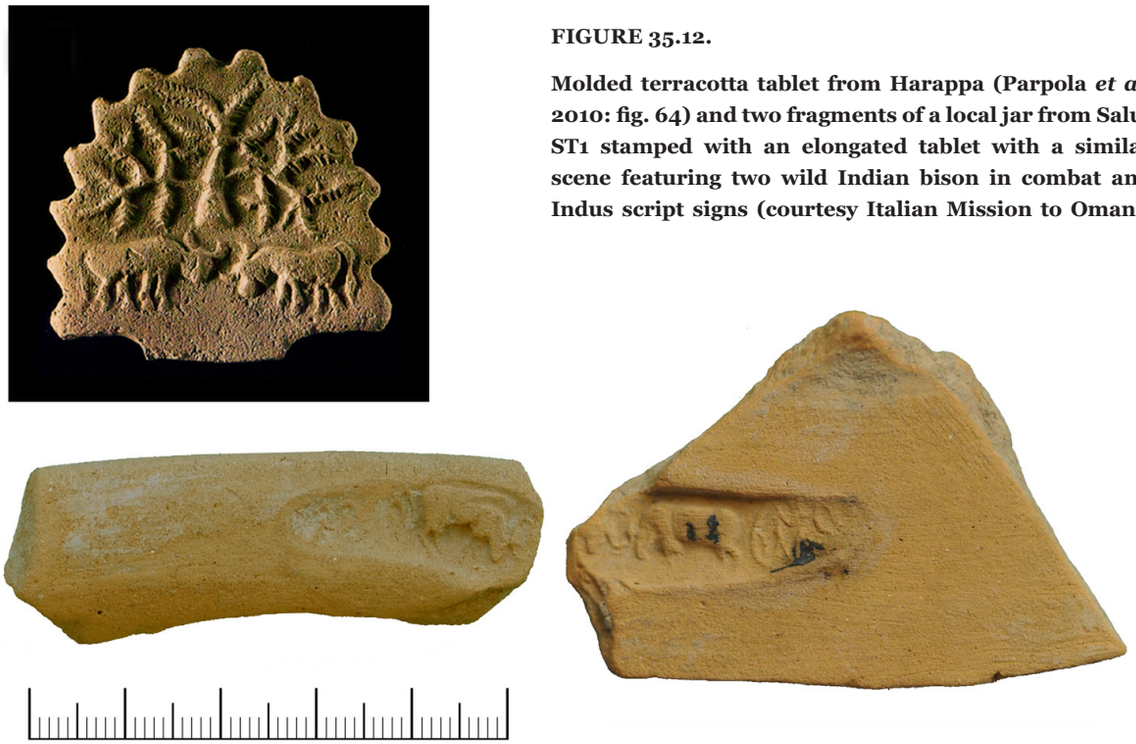

FIGURE 35.12.

Molded terracotta tablet from Harappa (Parpola *et al.* 2010: fig. 64) and two fragments of a local jar from Salut ST1 stamped with an elongated tablet with a similar scene featuring two wild Indian bison in combat and Indus script signs (courtesy Italian Mission to Oman).

FIGURE 35.13. Indus-style stamp seal from Salut ST1 made in local softstone featuring a wild Indian bison carved below a sequence of five Indus script signs (drawing by M. Degli Esposti, photographs by D. Frenez and J.M. Kenoyer, courtesy Italian Mission to Oman); Wild Indian bison (*Bos gaurus* Smith, 1827) with the head lowered in the characteristic attack position (courtesy, Zoological Survey of India); Indus stamp seals from Mohenjo-Daro (Shah and Parpola 1991).

FIGURE 35.14. Copper stamp seal with an Indus unicorn and script signs from Ras Al-Jinz RJ2 (a), copper stamp seal with Indus-style male markhor goat and a gharial from Konar Sandal South in Iran (from Pittman 2013) (b), softstone stamp seal with a humped zebu and enigmatic objects/signs from Bisyah (c) (photographs by H. David-Cuny, courtesy Oman National Museum).

FIGURE 35.15. Three-sided prismatic stamp seal with a canid, goats and a wild Indian bison from Al-Moyassar 1 (left) (photographs by H. David-Cuny, courtesy Oman National Museum), and comparable seal with Indus script signs, goats and a wild Indian bison from Hajjar in Bahrain (right).

technique recalls the seal of the 'alliance' found at Ras Al-Jinz RJ-2 (Cleuziou and Tosi 2000: 60, fig. 16.3, pl. 36.3). The latter has a parallel at the Indus Civilization site of Lothal (Rao 1985: 313, pl. CLXI D; Joshi and Parpola 1987: 261, L-100; Frenez and Tosi 2005: 85-88, pl. 8).

A three-sided prismatic seal, found at the late Umm an-Nar settlement of Al-Moyassar 1, has coarsely carved on the three surfaces a series of animals including a wild Indian bison with lowered head (Weisgerber 1984: 198-199, fig. 24.6) (Figure 35.15, left). This seal can be positively compared to a similar specimen found inside a grave at Hajjar, in Bahrain, which also bears a wild Indian bison and a sequence of four Indus script signs (Weisgerber 1984: 198-199, fig. 24.7) (Figure 35.15, right).

An Indus Civilization trading strategy for the Oman Peninsula?

The significance of mutual exchanges and interaction between the Indus Civilization and the Umm an-Nar communities of the Oman Peninsula has often been discussed in the general context of the local economic and sociotechnical developments (Possehl 1996; Vogt 1996; Cleuziou and Tosi 2000, 2007; Cleuziou and Méry 2002; Thornton 2013).

Before the recent discoveries at sites in interior Oman, most of the data documenting these reciprocal interactions came from coastal sites, such as Tell Abraq, Ras Al-Hadd HD-1 and mainly Ras Al-Jinz RJ-2 (Potts 1990, 2000; Reade 1990; Reade and Méry 1988; Cleuziou and Tosi 2000). The presence of Indus items at inland sites, such as Al-Moyassar, Bat, Hili and Asimah, was mainly interpreted as the result of seasonal connections between the local communities settled in the interior and along the coast (Cleuziou and Tosi 2007: 172-173). There was, accordingly, a general agreement that interactions between the local Umm an-Nar communities and Indus seafaring merchants were limited to a restricted number of coastal sites and that foreign traders did not venture into the interior regions to interact directly with the socioeconomic entities that organized the extraction and first transformation of copper ores and prized metamorphic rocks (Cleuziou and Tosi 2007: 184-185, 235). The numerous fragments of black slipped jars from sites in the interior were interpreted as local reuses, while the local production of Indus-style pedestalled dishes was due to the development by the local communities of new dairy productions inspired by contacts with Indus merchants along the coast (Méry 2000: 236-237, cf. Gouin 1990).

Now, the recent discoveries made at Salut ST1, supported by similar evidence from graves and towers at Bat possibly testify to a more complex model of interaction (Frenez *et al*. 2016; Méry *et al*. 2017). It seems increasingly clear that the Indus objects found at interior sites are not simply the result of segmented trade of goods managed by the local communities, but they probably also testify to direct interactions with Indus traders and craftsmen and possibly even to the stable presence of small Indus groups settled in the Oman Peninsula.

Overall, this evidence, combined with other information about the organization of the Indus Civilization external trade in Middle Asia (Kenoyer 2008; Frenez and Vidale 2015; Vidale and Frenez 2015; Frenez 2017), allows proposing the possible implementation by the Indus merchants of an early prototype of coordinated «global marketing strategy», defined as an entrepreneurial strategy that takes commercial advantage from regional particularities by creating foreign subsidiaries to manufacture and distribute a product according to the local trends and/or to maximize the exploitation of strategic raw materials with high international demand (Kotabe and Helsen 2011) ■

Serge Cleuziou & Maurizio Tosi

IN THE SHADOW OF THE ANCESTORS

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Phone: +968 24 64 13 00
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Front cover: Alignment of Hafit type tombs at Al-Ayn © Roman Garba
Back cover: Hafit type tombs at Shihr Jaylah © Roman Garba

Note: The maps in this book are historical and cannot be modified as they are specifically drawn for that period only and they do not reflect political, geographical and administrative boundaries. The Geographical Place Names (GPN) in these maps are not written by the Arabic Standardized Romanization System applied in the National Survey Authority of Oman (NSA).

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