

## EARLY IRON AGE METAL AXES FROM THE LCG-2 CORRIDOR-SHAPED TOMB IN DIBBĀ AL-BAYAH (SULTANATE OF OMAN)

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*The contribution aims to present a remarkably homogeneous and well-preserved assemblage of metal axes found within the LCG-2 tomb at Dibbā al-Bayah, dating back to the Early Iron Age (1350-300 BC). These weapons formed part of the grave goods of the deceased and were often found in association with the burial. They represent typical local production of metal axes and currently constitute the largest group of axes from an Iron Age funerary context on the Arabian Peninsula.*

Keywords: Early Iron Age; Arabian Peninsula; collective tombs; grave goods; metal axes

### 1. INTRODUCTION

Eighteen copper alloy axes were unearthed inside the corridor-shaped tomb of LCG-2 dating back to the 2<sup>nd</sup> and 1<sup>st</sup> millennium BC in the necropolis of Dibbā al-Bayah.<sup>1</sup> Most are part of the grave goods of the deceased and were in fact found in direct association with the individual. Some axes were found in the hands of the deceased or behind the head. Moreover, four axes were found in the upper levels of the corridor or on the perimeter walls. The axes in association with the burials at the bottom of the corridor show a homogeneity of manufacture and represent a constant among the funerary equipment in this burial phase. Apart from a kind of halberd, these are mainly shaft-hole axes with the characteristic rather wide blade and ribbed shaft. This type seems to be distinctive of the Iron Age of south-eastern Arabia on the basis of comparisons with specimens found in the region, especially from funerary contexts. Comprehensive studies and attempts at classification have been continued and, on several occasions, updated by P. Yule through morphological analysis of most of the finds from the region.<sup>2</sup>

### 2. THE CONTEXT OF DISCOVERY: LCG-2 TOMB AND FUNERARY PRACTICES

The Dibbā al-Bayah burial complex is located on the east coast of Musandam Peninsula (Sultanate of Oman), near the border between Oman Musandam region and United Arab Emirates. The site was discovered in the summer of 2012 during work in a sports center.<sup>3</sup> It consists of numerous large collective graves, containing hundreds of individuals accompanied by thousands of valuable artefacts. Large Collective Grave 2 (LCG-2) is a corridor-shaped structure and is dated from the Middle Iron Age (1000-800 BC) to the PIR (Pré-Islamique Récente) period (250 BC-400 AD).<sup>4</sup>

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<sup>1</sup> All the illustrations of the axes were made by Dr. Simone Severi, whom I thank for this contribution.

<sup>2</sup> The classification of axes and metal weapons in general drawn up by P. Yule has been updated on the basis of discoveries and studies of these artefacts. The first study refers to the Ibri-Selme hoard (Yule - Weisgerber 2001, 41), followed by the one on finds from the tomb of Al-Wasit (Yule - Weisgerber 2015, 30), and the one on metal objects from the metallurgical site of Uqdat al-Bakra (Yule 2018, 75-79). Finally, the most up-to-date study refers to objects from the Al Khawd hoard published in 2021 (Al-Jahwari *et al.* 2021, 41-46).

<sup>3</sup> Genchi 2013; 2014;2015; Genchi *et al.* 2018, 99-117.

<sup>4</sup> Genchi *et al.* 2018, 99-117; Genchi 2020, 463-469.

It has a long rectangular chamber about 24 m long and 4 m wide, consisting of thick perimeter walls composed of rows of wadi boulders in the lower levels and limestones and beachrocks in the upper levels. After a series of interventions to restore the space inside the chamber, a uniform frequentation of the tomb was identified, which involved the construction of small burial chambers resting along the inner face of the eastern wall. These are a series of small sub-rectangular chambers and pits delimited by stones on the inner face and in some cases sealed by vertical slabs leaning against the wall or by a single large slab. Burials lying in a simple pit or on long slabs, originally part of the structure, are also attested.

These burials lying along the bottom of the corridor, sometimes in deep pits, have several features in common including the elements that make up the grave goods. In both, chambers and pits, several burials have often been identified overlapping one another.<sup>5</sup> The funerary equipment appears standardised and usually shows ceramic dishes, chlorite conical vessels, arrowheads, and copper alloy axes.<sup>6</sup> These seem to trace a homogeneous manufacture that finds precise comparisons with a few other specimens found in domestic or funerary contexts in the south-east of the Arabian Peninsula. While these cases are sporadic finds, such as at Rumeilah,<sup>7</sup> al-Qusais tomb 1974/XXIV,<sup>8</sup> Qarn Bint Saud<sup>9</sup> and Hili 8,<sup>10</sup> the corpus found within LCG-2 is distinguished by the number of axes, their typological uniformity and the preservation of the context. As emerged from the analysis of the materials, the burials seem to pertain overall to the transitional phase between the Early and Late Iron Age, based upon the horizon of the Iron Age III and the period known as Samad, equivalent to the Late Iron Age. In addition, this phase is coherent with the two radiocarbon dates from these levels that indicate the late Iron Age III (356-278 BC cal. 2  $\alpha$  96%; 328-198 BC cal. 2  $\alpha$  92%). The existence of hallmarks such as bowls, bronze axes, some stone vessels, and trihedral arrowheads lead us to assign this phase to the so-called Rumeilah II phase, commonly dated to Iron Age III. The presence, on the other hand, of numerous small bottles associated with the iron points and tools harked back to contexts known in central Oman as Samad and ascribable to the early phases of the Late Iron Age.

### 3. THE OCCURRENCE OF AXES AS GRAVE GOODS IN PRIMARY BURIALS

The most attested custom among the axes placed as funerary equipment of the primary burials of the bottom of the corridor is their placement in the hands of the deceased or near the upper limbs. Post-depositional processes probably affected a slight shift of the axes from their original position.

The burial that best describes this custom was found at the centre of the bottom of the corridor (Burial 85) (fig. 1:b). The buried was an archer since the funeral equipment was composed of an axe held in or near hands, two iron daggers, and several bronze arrowheads related to a quiver placed on the basin. Moreover, two whetstones, probably used to sharpen the blades, contribute significantly to the interpretation.

<sup>5</sup> Genchi - Ramazzotti - Larosa 2022, 99-100.

<sup>6</sup> Genchi - Ramazzotti - Larosa 2022, 101-112.

<sup>7</sup> Boucharlat - Lombard 1985, 61, pl. 62:16.

<sup>8</sup> Lombard 1985, 212, fig. 108:380.

<sup>9</sup> Lombard 1985, 212, fig. 109:382.

<sup>10</sup> Lombard 1985, 212, fig. 109:381.

Almost all burials lying at the bottom of the corridor are marked by the presence of shaft-hole axes. Some are accompanied not only by metal objects but also ceramic or stone vases. Among these, the Burial 79 shows a very composite set that contains a shaft-hole axe in the hands (slipped on the face of the deceased) (fig. 1:a), as well as two ceramic vases on the pelvis and legs, one in metal, and one in stone near the feet. Two other burials with axes clearly placed between the hands are the 83 and 81 both arranged inside the foundation wall of the tomb, also accompanied by large bowls and small bronze goblets and ceramic plates arranged on the lower limbs of the individual.

A further custom identified among burials consists in placing bronze bowls upside down on the deposition of shaft-hole axes. It is not clear whether this was an intentional practice or simply the vases being larger were placed on the rest of the equipment. The practice is attested both among the grave goods that accompanied the deceased, such as Burial 86 at the base of the corridor, and in the deposition of objects in specific recesses of the tomb, or even in secondary burials.

According to another kind of the deposition of the funerary equipment, attested in at least two cases,<sup>11</sup> the axes are on or near the head of the deceased (fig. 1:c). When axes have been found not in direct association with the deceased, they are in small crevices of the wall facings of the tomb. It would be the result of the continuous reuse of the corridor that led to the dismantling of previous burials and the relocation of the funerary objects.

#### 4. ANALYSIS OF SHAFT-HOLE AXES ASSEMBLAGE FROM LCG-2 TOMB

Until a few years ago, the only evidence of shaft-hole axes was represented by rare finds in funerary contexts, often not associated with primary burials. Even the conspicuous Ibrī/Selme hoard contains only one shaft-hole axe,<sup>12</sup> while that of Al-Khawd does not contain any of this kind.<sup>13</sup> In recent years, however, a series of discoveries have yielded numerous specimens: the corridor-type tombs of Dibbā al-Bayah LCG-1 and LCG-2;<sup>14</sup> the large production and ceremonial site of Saruq al-Hadid;<sup>15</sup> the ceremonial building of Mudhmar East<sup>16</sup> - all of which have been partially published - and finally the metallurgical site of Uqdat al-Bakra, which is the only one completely published so far.<sup>17</sup>

The new findings complement those known to Yule and Weisgerber<sup>18</sup> who updated their 2001 classification in the light of the new findings and new artefact classes despite the recurrence of already known types.<sup>19</sup> Other new types of shaft-hole axes excavated in the LCG-1 corridor tomb at Dibbā al-Bayah and those at Sārūq al-Ḥadīd are numerous, but do not appear in the updated classification as they are unpublished.

<sup>11</sup> Genchi - Ramazzotti - Larosa 2022, 109, fig. 4:b.

<sup>12</sup> Yule - Weisgerber 2001, 41, pl. 1:1.

<sup>13</sup> Al-Jahwari *et al.* 2021, 41.

<sup>14</sup> Genchi *et al.* 2018, 107-108, fig. 7:a, b, d; Genchi 2020, 467, fig. 39.4.

<sup>15</sup> Weeks *et al.* 2017, 35, fig. 3: SF 30085.

<sup>16</sup> Gernez - Jean - Benoist 2017, 109, fig. 8.

<sup>17</sup> Yule 2018, 68-75, pls. 2-4.

<sup>18</sup> Yule - Weisgerber 2001, 19, fig. 9.

<sup>19</sup> Al-Jahwari *et al.* 2021, 41-46.

Of the eighteen axes found in primary burials at the bottom of LCG-2, fifteen belong to types already well known in the classification of south-eastern Arabia, while two of them constitute new types.

Samples of axes from Dibbā and other metal weapons are being analysed to determine the chemical composition of the metal used in their manufacture. It is assumed that the chemical composition respects that identified through the analyses carried out on the metal objects deriving from the other coeval sites. In the Near East and also in south-eastern Arabia, Early Iron Age weapons are generally made of tin bronze because it is much more resistant to stress than pure copper. One of the marked metallurgical developments in Oman, richly endowed with copper deposit, is the use of tin bronze as a material for objects of daily life, specifically for weapons.<sup>20</sup> Although recent analyses at ‘Uqdat al-Bakrah show that this is not a constant.<sup>21</sup> Moreover, the weapons deposited in the tombs were not necessarily intended for use but may have played a prestigious role during the individual’s lifetime. They might also have been intended exclusively for funerary purposes and thus not need to be durable. The copper-tin alloy is widely used in the south-east Arabia, compared to the Bronze Age there. Even if this alloying improves the resistance and strength its use cannot be associated with certain types of tools such as weapons or work tools.<sup>22</sup>

#### 4.1. *Ribbed shaft-hole axes with long and wide blade (Class A5)*

Despite some formal differences, most axes refer to the A5 type of the 2021 classification by Paul Yule.<sup>23</sup> That kind is a shaft-hole axe already described and classified by Pierre Lombard in 1985 within his work on the Iron Age of Eastern Arabia and which he considers as the typical production of metallurgy in Oman.<sup>24</sup>

This type of shaft-hole axe has a wide blade that in some cases is very high and whose edges are often blunt. The shaft-hole is circular and has the same diameter at the base and head. As it concerns the decoration, both the shaft-hole and a part of the blade show a ribbed feature that continues in some cases along the edge of the blade (figs. 2-4).

In his analysis Lombard emphasizes some aspects related to the use of these axes.<sup>25</sup> Some features such as the extreme thinness of the blades, the narrowness of the blade/shaft connection, as well as the moulding of some cutting edges seem to indicate the use as votive objects, probably intended exclusively for funeral purposes.

Another typical feature of these axes are the casting lugs that have not been cut. In fact, there are thin protuberances arranged along the back of the shaft. Most are attached to the upper portion of the shaft and extend slightly upwards (52766, 53562, 53563, 53564, 53565, 53749, 53567), while others extend along the entire length of the shaft (52846, 53686, 53732, 53566).

As for the decoration on the body of A5 type axes, the ribbed motifs arranged on the shaft and along the edge of the blade should be considered as a trait of regional taste. We

<sup>20</sup> Prange - Hauptmann 2001, 75-76.

<sup>21</sup> Giardino - Paternoster 2018, 149-158; Goy 2018, 159-169.

<sup>22</sup> Goy 2018, 159-169.

<sup>23</sup> Al-Jahwari *et al.* 2021, 44.

<sup>24</sup> Lombard 1985, 212-213.

<sup>25</sup> Lombard 1985, 213.

distinguish axes that have a moulding on the upper edge of the shaft that continues along the edge of the blade and two mouldings at the lower edge of the blade, ending with one at the base of the shaft (52766, 53562, 53563, 53564, 53565, 53567, 53749). A variant also shows a double moulding on the upper edge and a perpendicular joint (42079, 52844, 53685). Finally, there are two examples that despite having the mouldings along the edges of the blade do not have any on the shaft (52846), except one of the two that shows three parallel to the base (53732).

#### 4.2. *Ribbed shaft-hole axe with short and thick blade (Class A6)*

A single specimen refers to the conspicuous assemblage of axes (in publication) found within LCG-1 at Dibbā al-Bayah<sup>26</sup> and the typical type from the metallurgical site of Uqdat al-Bakra.<sup>27</sup> This is type A6 of P. Yule's classification.<sup>28</sup>

This is a shaft-hole axe with a short blade and shaft decorated with horizontal, parallel ribs and is not protruding outwards (fig. 5). It has decorative and morphological characteristics of the shaft, which could be assimilated to those of the A5. In detail, the shaft has three horizontal, parallel ribs, two along the margins and one in the centre. On the back of the shaft a vertical rib runs along its entire length forming a four-quadrant decoration. The blade, on the other hand, is decidedly narrow in length and width, with a more rounded cutting edge that, however, has a pointed termination on the upper edge.

#### 4.3. *Crescentic-blade shaft-hole axes*

Between shaft-hole axes found there, two are different according to shape and size. These are axes with a very short but broad blade. The cutting edges of the blade are curved inwards. The diameter of the shaft is much wider, and its decoration has the pattern of pair of parallel ribs (fig. 6:b, 53566), which in one of the two examples are very prominent (fig. 6:a, 42080).

Although different, they show some shared elements that might suggest a common origin such as the decoration of the shaft and the arched blade edges. The specimen with the wider blade bears a cruciform carving on one side, which is the first and only case among the axes found in the necropolis of Dibbā al-Bayah. This kind of axe has never been found at any site in south-eastern Arabia and therefore has no specific parallels.

#### 4.4. *Crescentic-blade halberd*

The only halberd present among the repertory from tomb LCG-2 shows composite morphological characteristics (fig. 7). The shaft is tripartite with a decoration composed of four pairs of thin horizontal ribs arranged symmetrically along the margins and in the median section. On the back of the shaft, at the height of the upper margin, there is a sort of crescent-shaped ring. The connection between the shaft and the blade is also tripartite. It is made at the edges with two small cylindrical elements and in the centre with a rectangular plate decorated with four thin vertical ribs. The blade has the classic half-moon shape with the ends slightly arched but rather elongated, especially the lower one which tends to taper.

<sup>26</sup> Genchi 2020, 467.

<sup>27</sup> Yule 2018, 71-72, pl. 3:88-91.

<sup>28</sup> Al-Jahwari *et al.* 2021, 44-45.

DA no.	L (cm)	W (cm)	T (cm)	weight (g)	Class (Yule 2021)	preservation	comment
52766	18.4	19.8	1.8	298	A5	good	Upturned rear fin and ribbed decorated shaft
53562	8.7	13.2	1.8	272	A5	bad	Specimen fragmented into three parts. Upturned rear fin and ribbed decorated shaft
53563	18.3	18.8	1.9	298	A5	excellent	Upturned rear fin and ribbed decorated shaft
53564	17.6	18.1	1.7	320	A5	excellent	Upturned rear fin and ribbed decorated shaft. Traces of wear on the blade
53565	13.3	14.2	1.5	314	A5	good	Upturned rear fin and ribbed decorated shaft
53749	14.5	15.2	1.8	302	A5	good	Upturned rear fin and ribbed decorated shaft. Traces of wear on the blade
53567	16.3	17.1	1.7	291	A5	good	Upturned rear fin and ribbed decorated shaft
42079	18.2	14.4	1.2	295	A5	restored	Rear fin, shaft decorated with a rectangular dial, fragmented at the blade end
52844	19.7	19.2	1.4	324	A5	good	Rear fin, shaft decorated with a rectangular dial
52845	16.5	15.7	1.3	282	A5	good	Rear fin, shaft decorated with a rectangular dial
52846	19.8	20.6	1.6	310	A5	good	Elongated rear fin and traces of wear on the blade
53685	17.3	18.4	2.3	334	A5	good	Rear fin, shaft decorated with a rectangular dial
53686	13.9	15.4	1.9	316	A5	good	Elongated rear fin and traces of wear on the blade
53732	18.2	18.8	1.3	312	A5	excellent	Elongated rear fin and three grooves decorate the base of the shaft
42081	26.4	6.8	0.5	348	New class	restored	The decorated shaft is well preserved, except the lower portion of the blade
42080	13.2	12.4	1.9	278	New class	bad	The shaft is not intact, the back part is missing
53566	10.2	11.8	1.2	305	New class	good	The edge of the blade shows traces of wear related to its use
43764	4.8	14.2	1.6	263	A6	restored	The ribbed decoration of the shaft is perfectly preserved

Table 1: Summary report of the morphological characteristics of axes.

## 5. THE LCG-2 TOMB AXES IN THE CONTEXT OF WEAPONS PRODUCTION IN SOUTH-EASTERN ARABIA

Two of the four shaft-hole axe types identified among the grave goods in tomb LCG-2 are well known among the weapons produced during the Iron Age on the Arabian Peninsula. In fact, as already pointed out, Pierre Lombard considers the axe with the very broad, upward-sloping blade (class A5 in the updated typology) to be the typical specimen from the region.<sup>29</sup> All comparisons are in fact found in south-eastern Arabia and are chronologically framed within a narrow time span. The specimens are distributed between the Arab Emirates and north-central Oman and dated to the Early Iron Age (1350-300 BC). Over the past decade, field research has returned numerous specimens, as well as the publication of previous excavations has helped to define the spread of this production.

The first specimen of this type was found in the Al-Qusais necropolis, tomb 1974/XXIV, on the outskirts of present-day Dubai.<sup>30</sup> Close to a grave at Hili 8, near the village of Al-Ain (UAE)<sup>31</sup> and near tomb T3 at Qarn Bint Saud,<sup>32</sup> two other well-preserved specimens were found. Recently the results of the excavation of the tomb I of Qidfa, near Fujairah (UAE), carried out in the second half of the Eighties have been published and from which come many axes among which at least one refers to type A5, although the edge of the blade is slightly slender.<sup>33</sup> Another specimen, also from a surface collection, was found on the island of Masirah (Mas18),<sup>34</sup> which lies off the southwestern Omani coast. It is the most southerly specimen found of those known to date.

The first and so far, only axe of this type from a settlement is from Rumeilah, found in House D/E.<sup>35</sup> A single axe of this type belongs to the conspicuous Ibri/Selme Hoard consisting of dozens of metal objects, mainly vases and bracelets.<sup>36</sup>

More recent research has led to the discovery of several Iron Age sites from which additional specimens have been taken: the one containing the most axes of this type is the metallurgical site of Uqdat al-Bakra located on the Omani side of the Rub al-Khali desert. Among the numerous specimens present, at least eleven can be referred to type A5.<sup>37</sup>

Other contexts, not yet published exhaustively, that have produced axes of this type are the multi-layered site of Saruq al-Hadid, in the desert on the outskirts of Dubai (as can be seen from the specimens on display in the showcases of the Museum of the site), the

<sup>29</sup> Lombard 1985, 213.

<sup>30</sup> Lombard 1985, 212, fig. 108.380; al-Shanfari 1987, fig. 33.4; Weisgerber 1988, 286, fig. 159.4; Yule - Weisgerber 2001, 19, fig. 9.4; Weisgerber - al-Shanfari 2014, 128, fig. 245.7.

<sup>31</sup> Cleuziou 1979, 66, fig. 40; Lombard 1985, 212, fig. 109.38; Weisgerber 1988, 286, fig. 159.8; Yule - Weisgerber 2001, 19, fig. 9.8.

<sup>32</sup> Lombard 1985, 212, fig. 109.382; Weisgerber 1988, 286, fig. 159.7; Yule - Weisgerber 2001, 19, fig. 9.7; Taha 2009, 287, pl. 41.

<sup>33</sup> Al Tikriti 2022, fig. 171, pl. 94/M36.

<sup>34</sup> al-Shanfari 1987, 65, 89, fig. 33.2; Weisgerber 1988, 286, fig. 159.2; Yule - Weisgerber 2001, 19, fig. 9.2; Weisgerber - al-Shanfari 2014, 128, fig. 245.1.

<sup>35</sup> Lombard 1985, 213, fig. 109.384; Boucharlat - Lombard 1985, pl. 62.16; Yule - Weisgerber 2001, 19, fig. 9.5; Yule 2014, 41, fig. 17.6.

<sup>36</sup> Weisgerber 1988, 286, fig. 159.1; Yule - Weisgerber 2001, pl. 1.1.

<sup>37</sup> Yule 2018, pls. 2:75-79, 3:80-85.

ceremonial site of Mudhmar East at Adam,<sup>38</sup> in addition to the two corridor-shaped tombs of Dibbā al-Bayah.<sup>39</sup>

Only one specimen has a narrower and even slightly shorter blade belonging to class A6 of the current classification. It differs from most of the axes from the LCG-2 tomb and is instead very common among the weapons from the neighbouring LCG-1 tomb. It could be considered an heirloom as it was found under the back of a burial lying in a chamber made in the upper levels of the corridor fill and referable to the late phases of use of the tomb.

This axe seems to be quite widespread in south-eastern Arabia and in the chronological framework of the Iron Age. The main contexts of discovery refer to the Early Iron Age.

In addition to the assemblage of weapons of the tomb LCG-1 in Dibba, being published, a reference site for most metal productions is the metallurgical area of Uqdat al-Bakra. From here come at least four axes that can be assimilated to type A6.<sup>40</sup> A second specimen comes from the rich ceremonial complex of Mudhmar east (displayed in the showcases of the National Museum in Muscat); in this case the specimen coming from this site has the grooved stem almost identical to that of the A5.

Another comparison is found at the site of Saruq al Hadid (G-R1, horizon II)<sup>41</sup> which represents a large source of analogies for metal objects. From a surface collection at the site of Al-Akhdar comes another specimen, which however cannot be framed with chronological precision.<sup>42</sup>

The other two axes featuring a wider shaft and a much wider and shorter blade have no specific comparison in the region during the Iron Age. Most likely these are imported objects given the uniqueness of the manufacture and above all by virtue of the engraving on the blade of a specimen which probably refers to a trademark.

The halberd with a highly expanded blade and decorated shaft represents a very original specimen which is not attested in southeast Arabia, apart from the two corridor-shaped tombs of Dibba al-Bayah.<sup>43</sup> However, specimens of halberd with very simple and functional morphological characteristics (class A9)<sup>44</sup> have been found in tomb LCG-1 in Dibba (currently being published), in tomb 1 in Qidfa<sup>45</sup> and at the site of Saruq al-Hadid (exhibited at the Site Museum). It is a halberd with a very short shaft and a crescent-shaped blade. Another type of halberd attested in the region comes from the Nizwa tomb N1985 dated to the Late Bronze Age<sup>46</sup> and is characterized by a longer and ribbed decorated shaft and with a crescent-shaped blade.

<sup>38</sup> Gernez - Jean - Benoist 2017, 109, fig. 8.

<sup>39</sup> Genchi - Ramazzotti - Larosa 2022, fig. 4.b/3.

<sup>40</sup> Yule 2018, 71-72, pl. 3:88-91.

<sup>41</sup> Weeks *et al.* 2017, 35, fig. 3, SF 30085.

<sup>42</sup> Weisgerber 1988, 286, fig. 3; Yule - Weisgerber 2001, 19, fig. 9.3

<sup>43</sup> Genchi *et al.* 2018, 107-108, fig. 7:b.

<sup>44</sup> Al-Jahwari *et al.* 2021, 45, fig. 4.15:A9.

<sup>45</sup> Al Tikriti 2022, 58, fig. 175.

<sup>46</sup> al-Shanfari - Weisgerber 1989, 19, fig. 1.1; Yule - Weisgerber 2015, 58, pl. 2.1.

## 6. ANALOGIES AND POSSIBLE INSPIRATIONS FROM THE CONTEXT OF ANCIENT NEAR EASTERN ARCHAEOLOGY

The axes and in particular the shaft-hole axes at issue are among the most widespread weapons of the ancient Near East, next to the daggers and arrowheads.<sup>47</sup> The manufacture of the axes shows some variations in terms of shape and even decoration of the shaft based on their function, their intended use and perhaps also on the cultural and symbolic choices of the community that produced them. Axes in fact allowed to develop multiple shapes and decorative elements often based on regional styles unlike other types of weapons that were more standardized.

In certain regions of the Near East, such as Western Iran, since the beginning of the 3<sup>rd</sup> millennium BC, there has been a conspicuous production of axes of different types that usually follow the tradition that develops regionally. These regional developments reveal the diversity and complexity of the interrelationships between the Near East, the Mediterranean and the Arabian Peninsula. In general, the spread of weapons and in particular axes took place mostly - but not entirely - in an east-west direction, from Anatolia and the Levant towards Cyprus, the Aegean area and Egypt, and in a north-south direction from Iran to south-eastern Arabia.<sup>48</sup> One of the regions that provided inspiration models on the production of metal objects, and not only, of south-eastern Arabia was Luristan (Iran) known as one of the first producers of metal weapons, including the axes that begin to be made from 2600 BC. In the regions of the Levant instead the axes begin to appear from 2150 BC.

In the south-east of Arabia, if we exclude the production of flat axes used as instruments (Umm an-Nar phase: 2500-2000 BC), copper daggers are produced locally from the Early Bronze Age (Hafit phase: 3200-2600 and Umm an-Nar)<sup>49</sup> and socketed spearheads from the Middle Bronze Age (Wadi Suq phase: 2000-1500 BC).<sup>50</sup> While the production of shaft-hole axes begins a millennium and a half after that attested in the Near East (Caucasus, Anatolia, Mesopotamia). In fact, the first was an Iranian-inspired halberd that was found in the tomb of the warrior of Nizwa N1985 dated to the Late Bronze Age.<sup>51</sup>

As has already been pointed out,<sup>52</sup> most of the metal objects found in the two corridor tombs of Dibba reflect the manufacturing tradition of Luristan (Western Iran) which developed prematurely with respect to Arabia around the middle of the third millennium BC. In truth the greater similarities are recognized in the rich assembly of weapons of the tomb LCG-1, being published, which may have been built and used since the end of the first half of the second millennium BC. From this tradition comes the development that took place during the Early Iron Age in south-eastern Arabia.

The shaft-hole axes found among the grave goods of LCG-2 burials have a very precise parallel in both stylistic and chronological terms with two shaft fragments of axes found in the shrine of Surkh Dum-i-Luri in Luristan.<sup>53</sup> The context is dated to Iranian Iron Age I/II. The Iron Age in western Iran is a period in which bronze-work of exceptional quality and

<sup>47</sup> Gernez 2017, 12-36; 2018, 39-76.

<sup>48</sup> Gernez 2011, 337; Yule 2018, 71-72.

<sup>49</sup> Potts 1998, 182-208.

<sup>50</sup> Weisgerber 1991, 321-330, fig. 4.

<sup>51</sup> al-Shanfari - Weisgerber 1989, 19, fig. 1.1; Yule - Weisgerber 2015, 58, pl. 2.1.

<sup>52</sup> Genchi - Ramazzotti - Larosa 2022, 101; Frenez *et al.* 2020, 10, 17.

<sup>53</sup> Schmidt - van Loon - Curvers 1989, 255, pls. 155b, c = Sor 976 and 1606.

quantity was produced. These are two fragments of shaft-hole (Sor 976, Sor 1606) with a ribbed decoration that forms a sort of rectangular dial, referring to that of the axes of Dibba.

This similarity seems to be an isolated case during the Iron Age of Luristan because the axes typical of this phase are the so-called spiked axes, sometimes with a lion-head junction. However, the inspiration for Dibba's axes may have come from the earliest Luristan productions of the Bronze Age (second half of the third millennium), as it is already attested in the nearby tomb LCG-1. The most common model is the axe with shaft-hole cylindrical and rectangular or trapezoidal blade with flared edges. Often this axe has decorations on the cylinder, either plastic (representations of animals, rows of nails) or engraved (parallel segments, mesh pattern or points).<sup>54</sup>

Shaft-hole axe with trapezoidal blade with divergent edges and with a simple collar whose insertion hole is circular are commonly attested also in the Iranian plateau and precisely in the southern area of the Dasht-i Lut region. It is a type with a simple shape, often without decorations and with a wide blade, attested in contexts dated to the second half of the third millennium as Tepe Yahya, Damin and Shahdad<sup>55</sup> (cemetery B).

Axes with a very simple morphology (short shaft-hole, trapezoidal blade with slightly curved edges) that could represent a model of origin are attested in Mesopotamia in the Akkadian area (Tell Ahmad al-Hattu<sup>56</sup> and Tell Asmar<sup>57</sup>), although the thickness of the blade is different. The evolution of this type will then lead in the Sumerian area to the diffusion of the typical shaft-hole axe with a flat-convex blade<sup>58</sup> between 2600 and 2300 BC.

M. Taha,<sup>59</sup> who discovered at the site of Al-Qusais the first axe of the type widespread in LCG-2, proposed a parallel in the Elamite area with some axes found in Susa,<sup>60</sup> which based on morphology (blades with rather asymmetrical edges) might resemble those produced in south-eastern Arabia.

In any case, these are much older comparisons to the typical Iron Age productions of Arabia and therefore could be considered solely as possible inspiration for later productions, but they cannot be considered convincing parallels.

On the other hand, with regard to Iran's Iron Age proper, some similarities could be derived from both funerary contexts and settlements. The graves in the Pusht-i Kuh region dating to the Iron Age present mainly the typical spiked axes but simple shaft-hole axes with short blades made of iron occurred in the Iron Age III cemeteries.<sup>61</sup> A possible comparison for the crescentic-blade halberd comes from the recently discovered and investigated settlement of Sangtarashan.<sup>62</sup> It is an archaeological site located in the heart of the Zagros Mountains, in the southern part of Pish Kuh (Luristan province in western Iran). Several hundred objects now known as Luristan Bronzes from the Iron Age (late 2<sup>nd</sup> millennium - first half of the 1<sup>st</sup> millennium BC) were recovered, including weapons, containers and

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<sup>54</sup> Gernez 2017, 72.

<sup>55</sup> Hakemi 1997.

<sup>56</sup> Sürenhagen 1979.

<sup>57</sup> Evans 2007.

<sup>58</sup> Müller-Karpe 2004.

<sup>59</sup> Taha 1981.

<sup>60</sup> Deshayes 1960, pl. XXI:10-12; Mecquenem 1905, 81, fig. 184.

<sup>61</sup> Haerinck - Overlaet 2004, 131, fig. 6:22.

<sup>62</sup> Malekzadeh - Hasanpour - Hashemi 2018, 587, fig. 3:119, 124.

personal ornaments. Of these, the closest to the axes presented here is the shaft-hole halberd with the crescentic-blade.

## 7. CONCLUSION

What emerges from this picture is that the Arabian development of shaft-hole axes is a local phenomenon, probably coming from the adoption of Iranian or Mesopotamian prototypes.

It seems likely that the earliest productions of southeastern Arabia are strongly influenced by patterns coming from the northern areas as part of a well-structured system of exchanges and contacts that starts as early as the 3<sup>rd</sup> millennium BCE.

The adoption of a certain type of weaponry, among which daggers and axes stand out, is evidenced by the finds from Uqdat al-Bakra, Qidfa 1, Ibri-Selme, and Al-Kwhad among those widely published, and by those from the LCG-1 tomb at Dibba, Saruq al-Hadid, and Mudhmar East, which are currently being studied and published. This is probably the adoption of a technology that takes place around the middle of the second millennium BCE and continues throughout the Early Iron Age.

In the case of shaft-hole axes, the impression is that their development at some point takes on distinctly local characteristics, as shown by the axes we present in this paper. In addition to the morphological features, which are original and find no specific comparisons in neighbouring regions, the size and manufacture of the blades provide us with evidence about their functionality.

First P. Lombard and later G. Weisgerber pointed out that this type of axe seems to be of a fragile design.<sup>63</sup> In detail, they refer to the width and thinness of the blades and the point of attachment between the blade and the shaft that would make it complex to use as a weapon or tool. Moreover, most of them have been found in graves and bear no obvious traces of blade use. In fact, they all appear to be in good condition. These characteristics have led Lombard to assert that they are votive objects and funerary purposes. They could be considered objects testifying to the pre-eminence or power of the owner and used ceremonially. A mould seal from Rumeilah<sup>64</sup> bears the image of a person holding up in his left hand a shaft-hole axe with a broad blade and thin point of attachment. According to Lombard, the symbolic character of the axe lies in the fact that it is turned towards the person holding it.

As we have pointed out, most of the shaft-hole axes from south-eastern Arabia come from Early Iron Age contexts. This backwardness is also demonstrated by the fact that so-called battle-axes are no longer used at this stage in the rest of the Near East except for Luristan. Cultural or combat strategy-related choices perhaps explain the decision to continue producing this type of axe. According to Gernez's analysis<sup>65</sup> there could be another technical factor conditioning this choice: iron was used in Mesopotamia and Anatolia at this stage, which did not allow the manufacture of shaft-hole axes since blacksmiths were not yet able to use iron-smelting. In contrast, the long tradition of copper-smelting continued during the

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<sup>63</sup> Lombard 1985, 213; Weisgerber 1988, 287.

<sup>64</sup> Lombard 1984, 227; 1985, 223, fig. 115.

<sup>65</sup> Gernez 2018, 39-76.

first millennium BC. in Arabia and Iran allowed the manufacture of this type of axe throughout the Iron Age.

From the middle of the third millennium, the land of Magan became an important commercial hub for the export of copper, which is extracted from the mines located on the Al-Hajar mountain range.<sup>66</sup> By means of navigation in the Gulf and the Arabian Sea, trade relations were established with Mesopotamia, Iran, Baluchistan, and the Indus Valley, and probably also with the Levant via internal routes in Central Arabia. During the Early Bronze Age, copper was produced intensively through ore mining and smelting sites (Al-Moyassar,<sup>67</sup> Al-Khashbah<sup>68</sup>) and began to be exported to Mesopotamia, as recounted in cuneiform texts.<sup>69</sup> However, artefacts are rare in the Umm an-Nar period and include small working tools and a few weapons such as flat axes and tanged spearheads. The later Wadi Suq phase seems to show a reduction in the spread of Omani copper towards the northern regions although there continues to be an apparent influence from Mesopotamia and the Levant as shown by the spread of socketed spearheads between the Wadi Suq phase and the Late Bronze Age.

A marked change in terms of influence in manufacturing can be seen towards the end of the Bronze Age and the beginning of the Iron Age. There seems to be a strong connection with the productions of Western Iran. As the imported or traditional Iranian objects found in Tomb LCG-1 in Dibba<sup>70</sup> demonstrate, there is a proliferation of metal artefacts that refer to prototypes widespread in Luristan, Elam and northwestern Iran. Although the interaction between the two areas does not appear clear and we are therefore unable to delineate the trajectories of knowledge transmission, it is evident how local weaponry, especially halberds, shaft-hole axes and daggers, was influenced by the Iranian tradition. However, this production, attested since the end of the second millennium B.C. between the Arab Emirates and Oman, seems to represent a regional tradition, often with specific characteristics not found elsewhere, and few direct imports.

This is the case with the shaft-hole axes presented in this work, which can even be dated to an advanced phase of the Early Iron Age (1350-300 BC). In this case, we can agree with the definition coined by P. Lombard in the mid-1980s, who considered this shaft-hole axe as the typical element of Omani metallurgy.<sup>71</sup> The homogeneity of the specimen and the frequency of its discovery in a restricted context such as that of the LCG-2 tomb leads us to believe that this weapon had taken on a symbolic value as a mark of belonging to the tribal groups of south-eastern Arabia.

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<sup>66</sup> Hauptmann - Weisgerber - Bachmann 1988; Weisgerber 2007.

<sup>67</sup> Weisgerber 2007, 192; Magee 2014, 114.

<sup>68</sup> Schmidt - Döpfer 2017.

<sup>69</sup> Hauptmann - Weisgerber - Bachmann 1988.

<sup>70</sup> Frenez *et al.* 2020, 10, 17.

<sup>71</sup> Lombard 1985, 213.

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Fig. 1 - Shaft-hole axes in association with burials: a. Burial 79; b. Burial 85; c. Burial 73.

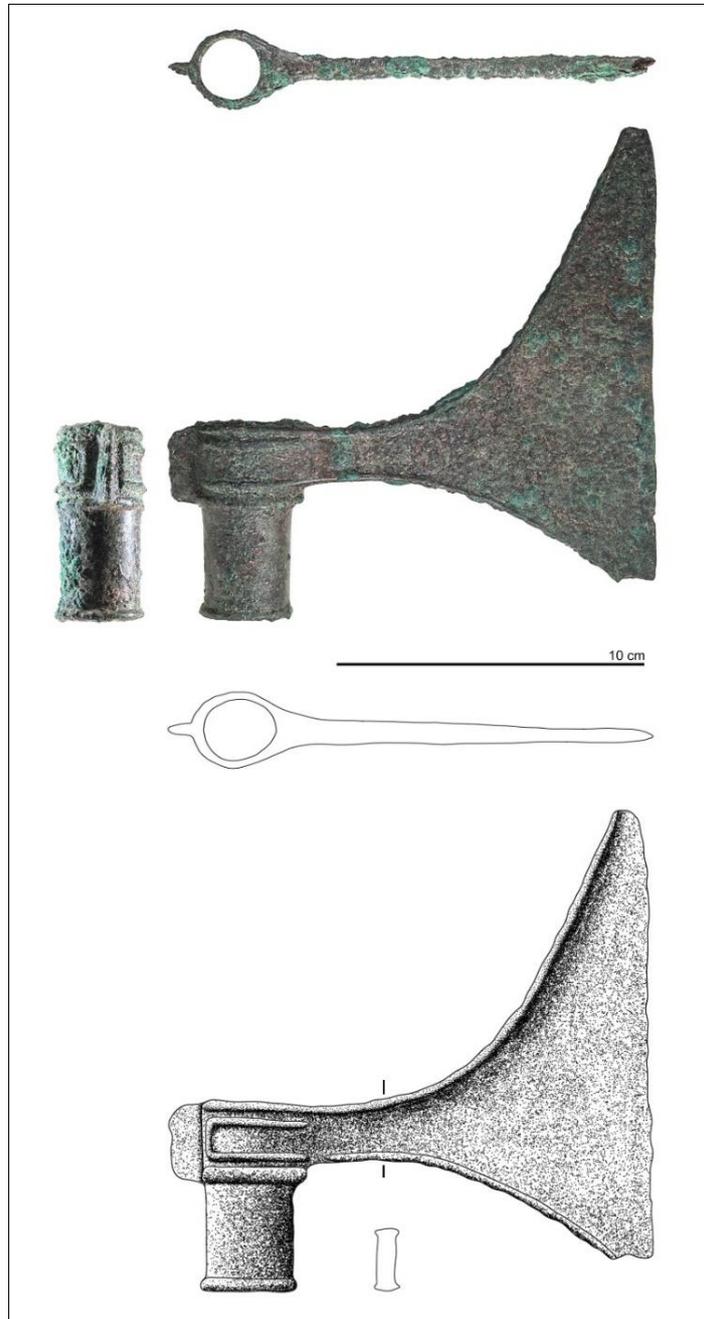


Fig. 2 - An example of shaft-hole axe (Class A5) after restoration.



Fig. 3 - Ribbed shaft-hole axes with long and wide blade (Class A5).

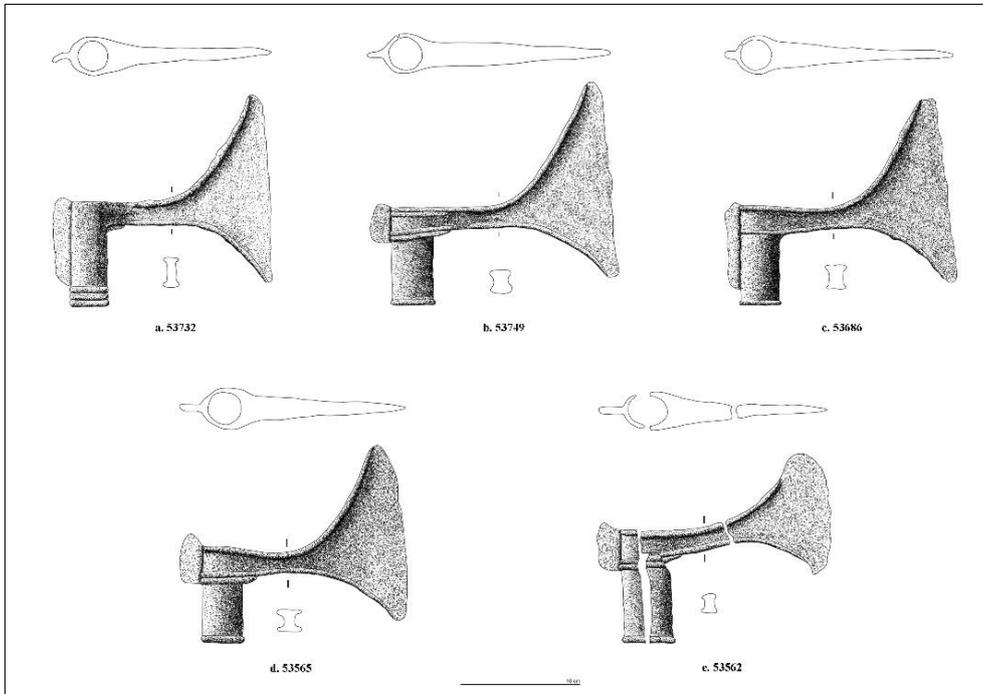


Fig. 4 - Further examples of the broad-bladed axes.



Fig. 5 - Ribbed shaft-hole axe with short and thick blade.

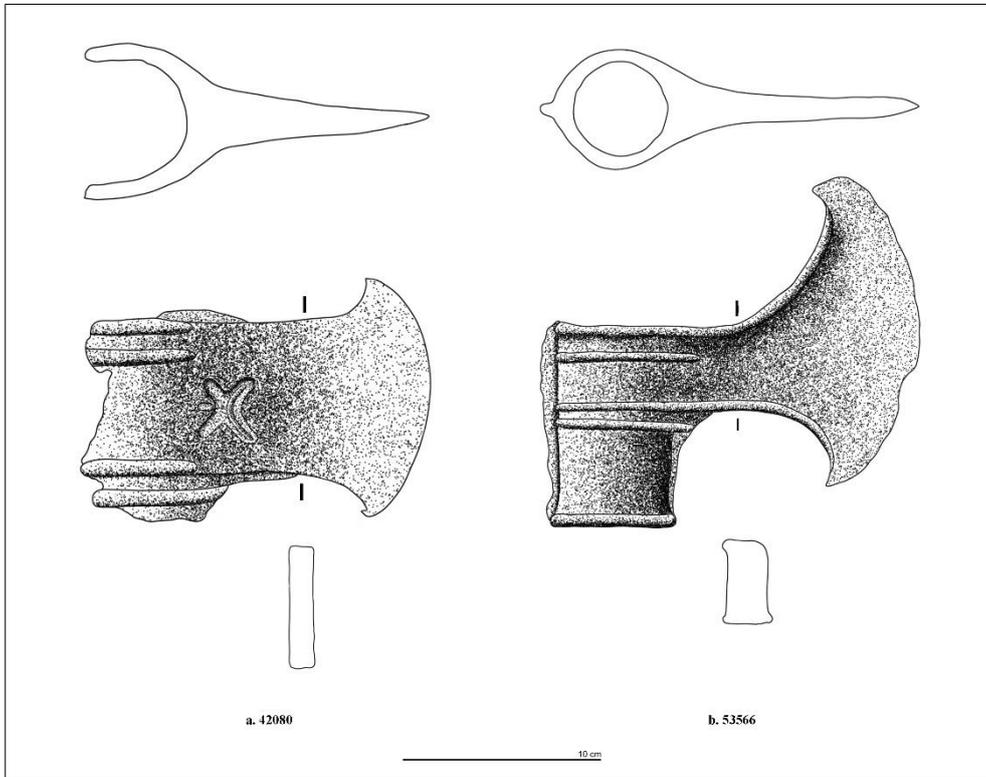


Fig. 6 - Crescentic-blade shaft-hole axes.



Fig. 7 - Crescentic-blade halberd.