

The Copper Axes Hoard in the Early Bronze IIIb Palace of Batrawy, Jordan

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Abstract: *The discovery in 2010 of a cachette with four copper axes in the Palace of Khirbet al-Batrawy (a 3rd Millennium BC city in North-Central Jordan) and, in the following 2011 season, the retrieval of a fifth additional axe from the Palace, increased the number of copper weapons from Early Bronze III urban contexts of the Southern Levant. A group of copper weapons similar to the Batrawy one was found in Tell el-Hesi in 1891, while the latest retrieval is the hoard found in Pella in 1994-1995. The Batrawy axes were found in the Palace Hall which also gave back a great amount of other valuable finds. Their study shed new light on metal procurement, trade and working, as well as on weapons distribution and use during the earliest urban floruit of Jordan.*

Keywords: copper axes; hoard; Khirbet al-Batrawy; Royal Palace; Early Bronze IIIB; Southern Levant

Premise

Recent archaeological investigations carried out by Rome “La Sapienza” University in the Hashemite Kingdom of Jordan under the *aegis* of the Department of Antiquities brought to light a previously unknown fortified town of the 3rd Millennium BC at the site of Khirbet al-Batrawy. The excavations of Batrawy during nine seasons (2005-2013) have shed an unexpected ray of light on early urbanization

of the Southern Levant (NIGRO 2009; 2012a; 2013a; 2013b; NIGRO ED. 2006; 2008; 2012). Impressive city defenses with a multiple line of fortifications, as well as domestic quarters, a temple and a palace are the most noticeable monuments brought to light on the hill of Batrawy (NIGRO 2010a; 2013a; 2013b). Inside the Palace (see below *The Palace of Copper Axes*), the discovery of a hoard of copper axes provided a wide set of data on such metal items, their provenience, manufacture and



Figure 1. General view of the site of Khirbet al-Batrawy with the EB II-III city-walls dominating the Upper Wadi az-Zarqa Valley from the north

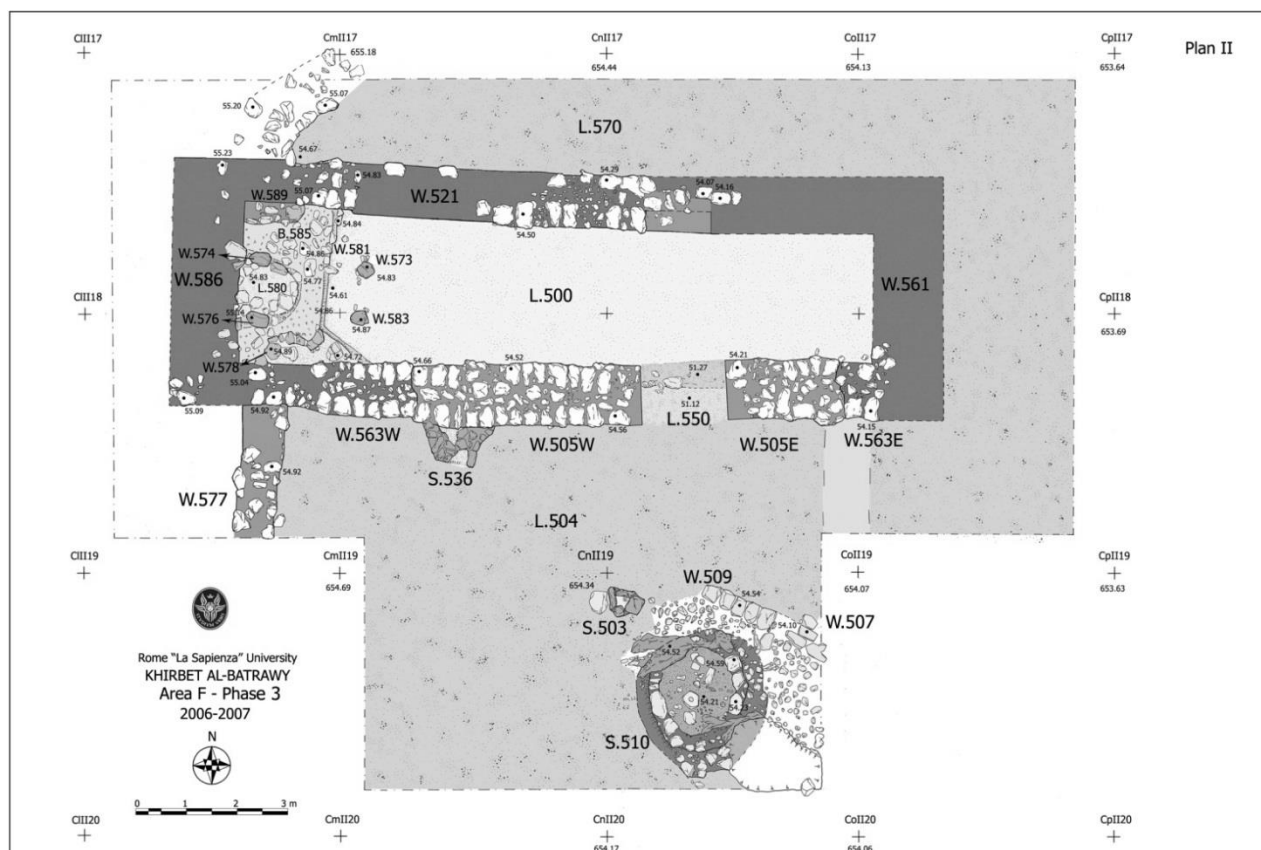


Figure 2. Plan of the EB II-III Broad-Room Temple on the easternmost terrace of the site of Khirbet al-Batraway

significance. These metal weapons attest to the diffusion of metallurgy in an era when a “metal revolution” has been recognized as a factor involved in the establishment and development of the Southern Levantine urban culture (LEVY 2007, 13).

Khirbet al-Batrway: an Early Bronze Age II-III Jordanian City

Batrway was founded on top of a steep rocky hill dominating the Zarqa River towards the beginning of the 3rd Millennium BC as the outcome of a synecistic process. Upper Wadi az-Zarqa offered a relatively wide cultivable land, and thus the protected and well equipped hill of Batrway attracted the population formerly living along the river, and even nomads from the nearby steppe, who settled it and became sedentary agriculturalists (NIGRO 2009, 658-660; 2012a, 610-613).

Defended by an articulated fortification system, comprising a series of walls and bastions supported by massive boulders foundations set directly into the bedrock, Batrway stood as an impressive fortified sentinel at the guard of the pass entering into the Zarqa Valley from the east (Fig. 1). Moreover, it dominated the ford through the river giving access to a shortcut driving straight to Jordan to the west (NIGRO 2009, 661-66). The city was, at the same time, the end of tracks crossing the Syro-Arabic Desert,¹ and the gate to the Jordan Valley and Palestine. Due to its strategic location, it was also a stop-over on long-distance trade routes, and possibly the seat of an

institution exercising some kind of military control over the surrounding territory.

Two major public buildings have been excavated at the site, beside the impressive fortifications: the city-temple (see below *The Broad-Room Temple*), located on the easternmost terrace overlooking the underlying Valley of Upper Wadi az-Zarqa and the tracks entering it from the steppe and the desert; and the Royal Palace (see further in this paper *The Palace of Copper Axes*), erected on the northern sloping flanks of the acropolis, just inside the Main City-Wall. Such examples of public architecture are a further indicator of the establishment of an urban organization at Batrway in the early 3rd Millennium BC.

The Broad-Room Temple

The city-temple consisted of an elongated broad-room, with a niche in the cella and a round altar and other cult installations in the forecourt (Fig. 2) (NIGRO ED. 2008, 276-293; NIGRO 2012a, 613-615; 2013a, 494-496, Fig. 8). The inner layout of the sacred building changed between EB II and EB III, moving the cult focus to the western short side of the cella and adding two betyls in front of it, due to an earthquake which partly destroyed the original structure. Temple distinguishing features such as the broad-room plan, the raised holy of holies and the circular platform in the forecourt were, however, kept in the EB III reconstruction, and can be ascribed to a deeply enrooted tradition of Palestine and Jordan, dating back to the Late Chalcolithic, as attested in the sanctuaries of En Gedi and



Figure 3. General view of the Western Pavilion of the EB III Palace at Khirbet al-Batrawy; from the south



Figure 4. The finding spot of the cachette with the four copper axes at the foot of the second pillar in Hall L.1040 of EB III Palace at Khirbet al-Batrawy; from the west

Teleilat el-Ghassul, and well known from sacred buildings since EB I (SALA 2008), among which is the EB II-III

temple at Bâb edh-Dhrâ' (RAST-SCHAUB 2003, 157-166, 321-335, Figs. 8.2, 10.57). Actually, the utmost comparison for religious architecture exhibited by the Broad-Room Temple in Batrawy is the coeval huge broad temple on the Acropolis of et-Tell/Biblical 'Ai (CALLAWAY 1993, 41-44; SALA 2008, 125-139, 250-261), and possibly the gigantic Temple of stratum J-4 in Tell el-Mutesellim/Megiddo in Palestine (ADAMS 2013, 50-71).²

The Palace of Copper Axes

Since 2009 excavations focused on an area inside the northern city-wall, where a public building was identified dating from EB III (2700-2300 BC) (NIGRO & SALA 2010; 2011; 2012). It consisted of two symmetric pavilions with a central passageway in between (Fig. 3). The Eastern Pavilion included a huge hall, with a staircase leading to the upper storey, and a courtyard. The main room of the Western Pavilion was, instead, a Pillared Hall (L.1040), where a great amount of items were gathered during the final attack, which destroyed the city and the Palace (NIGRO 2010a, 71-110). The Pillared Hall was flanked by an elongated storeroom (L.1120) and by another reception room with a huge pillar in the middle (L.1110). A further space (L.1250) opened to the west of the latter (NIGRO 2013b, 198-206).

A variety of items was retrieved in the Palace, showing the diversified activities headed by this institution, and the exchange network within which the city of Batrawy was included.

Finds in the Palace

Twenty huge *pithoi* filled up with barley (NIGRO 2010b, 563; 2013b, 201) and numerous other vessels were found aligned along the sides of the Pillared Hall, buried under the collapsed ceilings in a 1.2m layer of burnt bricks, charcoal and ashes. Jars and *pithoi* contained basically barley (from an intense cultivation), showing centralization of agricultural products and other goods. The retrieval of three potters' wheels, moreover, witnessed the gathering within the Palace of technologically innovative means of production, too (FIACCAVENTO 2013).

The Palace ceramic inventory included a large number of complete shapes (miniature vessels, pieces of table services, including Red Burnished jugs and juglets, but also vats and small cups, as well as a locally manufactured Egyptian-style lotus vase),³ which provide new insights into EB III pottery production of the Southern Levant (NIGRO & SALA 2011, 91-93, 96-98; NIGRO 2013a, 497-501). A ceremonial vase (a spherical bowl or crater with a high grooved pedestal) and two small jars with the applied figurines of a snake and a scorpion, moreover, point to cult or symbolic meanings possibly related with ritual activities performed in the Palace.

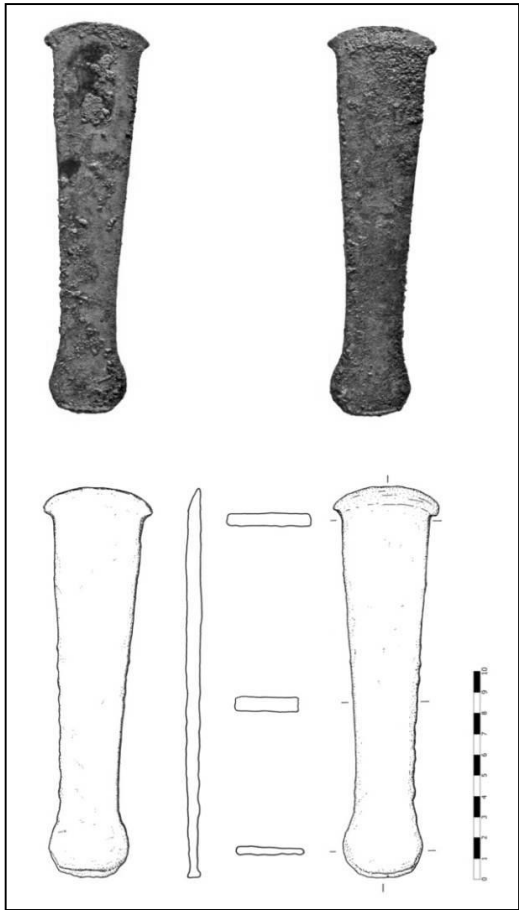


Figure 6. Copper axe (KB.10.B.132) from the cachette in L.1040

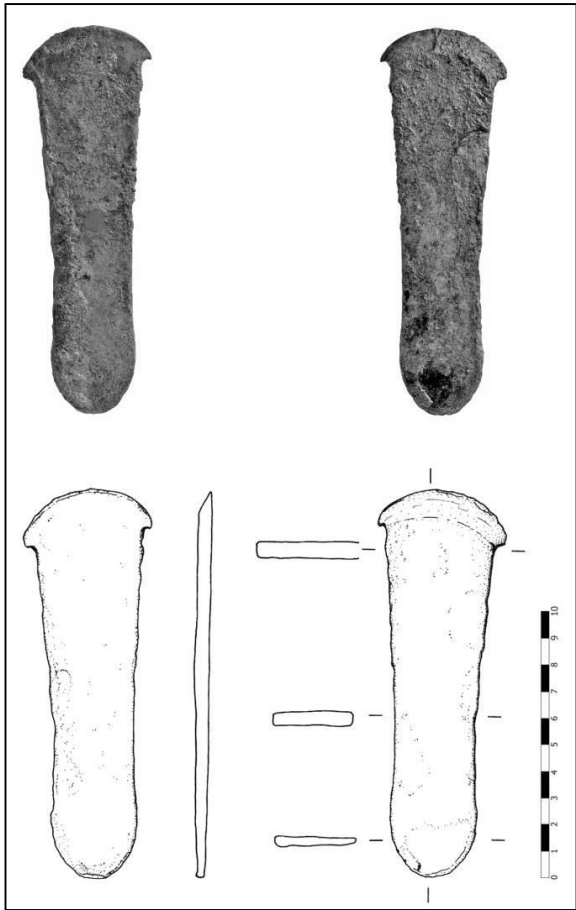


Figure 5. Copper axe (KB.10.B.130) from the cachette in L.1040

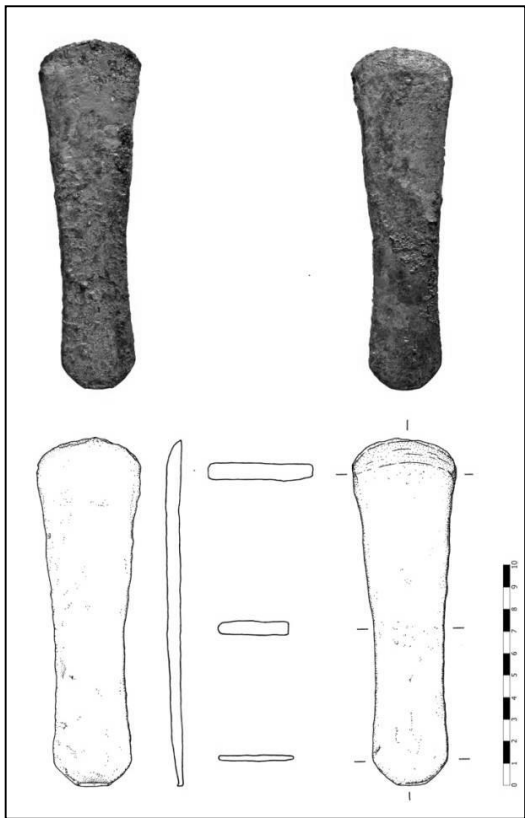


Figure 7. Copper axe (KB.10.B.133) from the cachette in L.1040

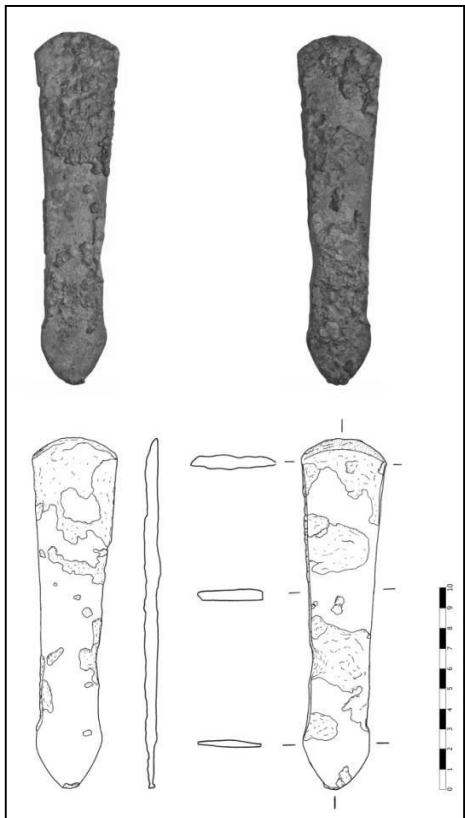


Figure 8. Copper axe (KB.11.B.120) from L.1110

Luxurious objects made of shell and bone were also retrieved, as well as a gemstones necklace,⁴ and the paw of a bear, perhaps belonged to a fur imported as an exotic heirloom or a luxury vest (NIGRO 2013b, 203).

The most noticeable discovery occurred in the Pillared Hall (L.1040), not far away from the spot where the bear paw was collected. Near the basis of the second pillar a *cachette* (NIGRO 2010b, 568-570, Fig. 13; 2013a, 502-503, Fig. 19; NIGRO & SALA 2011, 94-96) was excavated, where four copper axes were found, probably originally deposited into a vanished straw bag (Fig. 4). A fifth axe (NIGRO 2012b, 228; 2013b, 203) was found in the nearby Hall (L.1110), not far away from the steps leading to the door (L.1160), connecting it with the Pillared Hall (L.1040).

The Copper Axes

Five copper axes and the point of a dagger were found in Pillared Hall L.1040 and Hall L.1110 of the Palace of Batrawy. Four axes were grouped in the *cachette* in L.1040. This hoard is, along with those retrieved in Tell el-Hesi in 1891 (BLISS 1894, 34-4), the largest metal discovery from an EB III context of the Southern Levant. Four of the five axes belong to sub-types of the most common simple axe type known from the Chalcolithic and Early Bronze Southern Levant (MIRON 1992, 3-29; MONTANARI 2012, 10-11): the elongated axe with fan-shaped blade; three of them also exhibit the widened tale (KB.10.B.130, KB.10.B.132, KB.11.B.120), another common feature of this type, while the fourth one (KB.10.B.133) is devoid of it. Axe KB.10.B.130 (Fig. 5) is the longest one and weights 267.66g, with a carefully sharpened fan-shaped blade. The second axe, KB.10.B.132 (Fig. 6), is considerably smaller: its weight

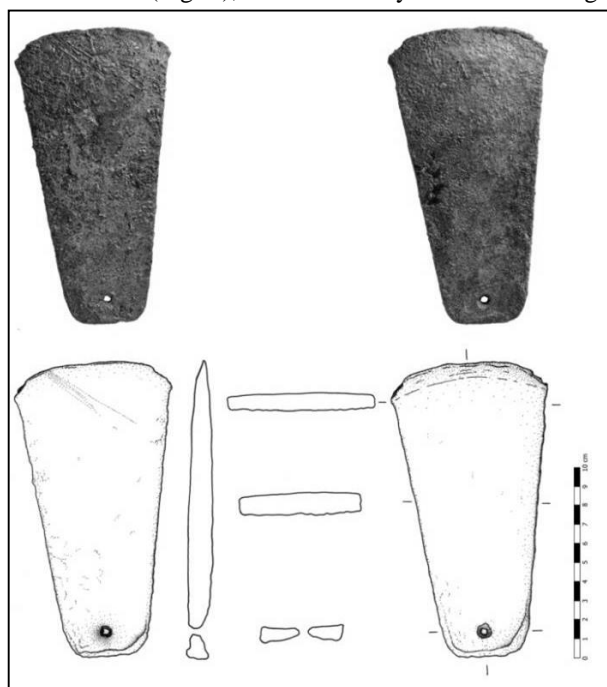


Figure 9. Copper axe (KB.10.131) from the cachette in L.1040

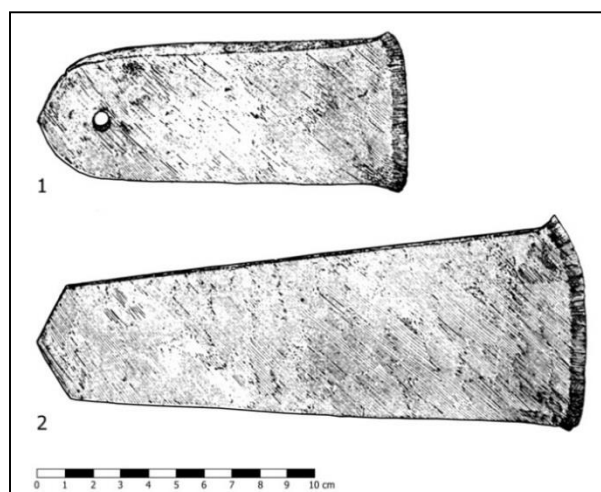


Figure 10. Copper axes found in Tell el-Hesi: 10.1, BLISS 1894, 38, n. 75; 10.2, BLISS 1894, 38, n. 76

is 160.56g; like the latter it does not show traces of use, suggesting a symbolic function. The third specimen, KB.10.B.133 (Fig. 7), is of the elongated sub-type, like the first one, and it weights 210.36g; its fan-blade is carefully sharpened, but its tale is simply rounded and not widened. Also this axe does not show traces of use. The fourth elongated axe, KB.11.B.120, with a weight of 165g (Fig. 8), which was retrieved in 2011 in L.1110, has a slightly widened tale and a fan-shaped blade. On the rear side of the tale traces of hits are visible, possibly to be related with the fixing of the weapon handle (similar traces are present also on KB.10.133).

The typology of axes KB.10.B.130, KB.10.B.132, KB.10.B.133 and KB.11.B.120 is the same recognizable in a series of clay moulds retrieved in the excavations of the University of San Diego - California in Wadi Feinan at the site of Khirbet Hamra Ifdan, where copper ores and pre-working smelting workshops were identified dating from Early Bronze III (i.e. coeval to the Palace of Batrawy) (LEVY ET AL. 2002, Fig. 3; LEVY 2007, 85, Fig. 7:3). What seems noticeable of this group of weapon is the absence of any trace of use on their blades, thus pointing to a symbolic destination, as power *insignia*.

The fifth biggest specimen (KB.10.B.131, Fig. 9), instead, illustrates a somewhat different type, with a wide flag-shape. This big axe weights 713g and has a thickness of 1.1cm; it is characterized by a squared hole for fixing the wooden shaft. Traces of use have been detected on the upper and lower edges of its blade. A comparison for this type is provided by two of the axes found in Tell el-Hesi (Fig. 10) (BLISS 1894, 38, ns. 75 and 76).

Metal Analyses and Copper Provenance

Preliminary analysis of the axes metal were carried out by the *Istituto Superiore per la Conservazione e il Restauro* (ISCR, Rome).⁶ In order to preserve the items through restoration, corrosive products were analysed, with a noticeable presence of paratacamite.

As regards the metal which the axes are made of, except for axe KB.10.B.130, which was uniquely made of pure copper, other specimens show in union with copper (and other metals in negligible quantities, basically Fe and Pb), a very low percentage of arsenic (from 0.5 to 1.7%), which is usually not deemed intentional, and depends on the natural composition of copper ores.

In the light of such analyses, it was not possible to determine with sufficient reliability the provenance of copper, even though a provenience from the ores in Wadi 'Arabah, and more specifically both from Timnah and Wadi Feinan cannot be excluded.⁷ The latter are the sources of this metal nearest to Batrawy, but also Southern Anatolia, and Cyprus might be taken into consideration (PHILIP ET AL. 2003, 92).

The retrieval of the copper axes in the Palace of Batrawy, together with a number of different items pointing to international trade, suggests that the city was included into the Copper Road, a highway crossing Jordan from the far South to the North (Fig. 11). This road was known to the Egyptians already in the 3rd Millennium BC,⁸ on the same track which successively became the Kings' Highway (Numbers 20:17).

Conclusions

The discovery of Batrawy and its Palace set on fire in the second half of the 3rd Millennium BC provided an unexpected set of archaeological material from a centre of ancient Jordan illustrating a further specificity of the general phenomenon called "early urbanism" in the Southern Levant. Arisen at a strategic stop on the tracks crossing the steppe and the desert by a ford connecting them with the road to the Jordan Valley and Palestine,

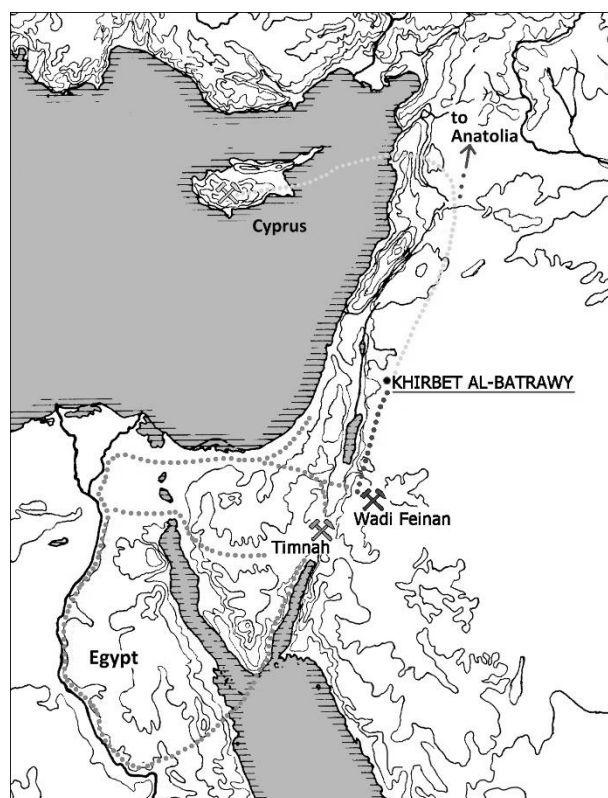


Figure 11. Map of the Levant with the copper road from Egypt to Wadi 'Arabah and from Palestine and Jordan to the north during Early Bronze II-III (3000-2400 BC)

Batrawy was at the meantime a fortress and an agricultural centre controlling an extended cultivable land in the Upper Wadi az-Zarqa. Moreover, its inclusion into long-distance trade network, attested by several finds, among which are the copper axes retrieved in the Palace, points to the copper road as a main active exchange route crossing 3rd Millennium BC Jordan. The weapons hoard found into the Palace, as those found in Tell el-Hesi in the Southern Palestine and Pella in the Jordan Valley (BOURKE ET AL. 1999, 62-64, Fig. 11), suggests that metal trade was a major economic activity promoted by the élites ruling over the early urban centres of the Southern Levant, in order to obtain weapons which basically were symbols of power and tools for other uses of ordinary life.

¹ A series of coeval sites were identified during a survey along these tracks (SALA 2006).

² This building should be dated to Early Bronze II (NIGRO 2010c, 335-337).

³ The nearest comparison is offered by the Egyptianizing vessels found in the *cachette* from the Temple of level J-4 at Megiddo/Tell el-Mutesellim (JOFFE 2000, 170-174, Figs. 8:6, 8:8), which, however, is earlier (EB II). EB IIIB specimens similar to vase KB.11.B.1128/76 from Palace B at

Khirbet al-Batrawy have been found in Palestine in EB IIIB Sanctuary A at 'Ai/et-Tell (MARQUET & KRAUSE 1949, Pls. LII:1534,1536,1541, LXV:1524,1534,1536).

⁴ The necklace consisted of different laces (with thin copper strings), incorporating carnelian, bone, shell, frit, rock-crystal, olive, and amethyst pearls (NIGRO 2012b).

⁵ EB III metal adzes and axes were recovered at Byblos (DUNAND 1937-1939, 270, 310, 317, Fig. 252:4155, Pl. XCVII:3680, 3890-3891, 4371, 4374-4375; 1950-1958, 454, 718, Pl. LXXXI:11538-11539, Fig. 858:14685), Tell el-Qadi (GREENBERG 1996, 150, Fig. 3.44:1-2), Khirbet Kerak (GETZOV 2006, 100, Fig. 3.57:1), Tell el-Mutesellim/Megiddo (FINKELSTEIN ET AL. 2000, 385, Fig. 12.25:1), and at Tell es-Sultan (KENYON 1981, 375, Fig. 15:4).

⁶ Deep thanks are addressed to the members of the equipe which restored and analysed the axes: arch. Gisella Capponi, director; Stefano Ferrari, restorer; Antonella Di Giovanni, restorer; Claudio Guida, chemist of

metals; Maurizio Mariottini, geologist; Giulia Galotta, biologist; Edoardo Loliva, photographer.

⁷ For the minery distric of Feinan see: HAUPTMANN 1989; HAUPTMANN & WEISGERBER 1992; ADAMS & GENZ 1995; for the issue regarding copper districts of Feinan and Timnah see: HAUPTMANN 2007, 68-83. At present state of research, it seems not possible to differentiate between ores from Wadi Feinan and ores from Timnah (KHALIL & RIEDERER 1998).

⁸ Egyptians reached copper ores and turquoise mines through the Sinai Peninsula (KEMPINSKI 1989, 165; OREN 1989, 393-404; BARKER ET AL. 2007, 234; HAUPTMANN 2006, 132; HAIMAN 2009, 38), or seafaring on the Red Sea. Stations on the way to the Timnah and 'Aqaba were unearthed, dating back from the V-VI Dynasties (see the recent discoveries in the south-west of the Sinai peninsula, west of Wadi Nasb and at Seh Nasb: TALLET ET AL. 2011).

ABBREVIATIONS

ÄA	Archäologischer Anzeiger	IAA	The Israel Antiquities Authority
AAAS	Annales archéologiques arabes syriennes	IEJ	Israel Exploration Journal
AAE	Arabian Archaeology and Epigraphy	IRAQ	Iraq, published by the British School of Archaeology in Iraq
ABSA	Annual of the British School at Athens	JEA	The Journal of Egyptian Archaeology
ACER	Australian Centre for Egyptology Studies	MÄS	Münchener Ägyptologische Studien
ADAJ	Annual of the Department of Antiquities of Jordan	MDAIK	Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo
AJA	American Journal of Archaeology	OLA	Orientalia Lovaniensia. Analecta
ARA	Annual Review of Anthropology	PAM	Polish Archaeology in the Mediterranean
ASAE	Annales du Service des antiquités de l'Égypte	PEQ	Palestine Exploration Quarterly
ASOR	American Schools of Oriental Research	UF	Ugarit Forschungen
AVDAIK	Archäologische Veröffentlichungen Deutsches Archäologisches Institut. Abteilung Kairo	SAAC	Studies in Ancient Art and Civilization
BAR	British Archaeological Reports	SAK	Studien zur Altägyptischen Kultur
BASOR	Bulletin of the American Schools of Oriental Research	TA	Journal of the Institute of Archaeology of Tel Aviv University.
FIFAO	Fouilles de l'Institut Français d'Archéologie Orientale	WA	World Archaeology
		ZÄS	Zeitschrift für ägyptische Sprache und Altertumskunde

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STRABO GEO. = STRABO GEOGRAPHIC

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