

# The Bronze Age of the Little Zab Basin in the Light of the Excavation of Rick Abad Tepe

Ali Binandeh<sup>1</sup> 

## Abstract

Rick Abad Tepe is located north of the Zab River in Northwest of Iran, close to the border with Iraq. The excavation at this archeological site was carried out in the summer of 2019. The materials and evidence obtained from there showed Rick Abad belonged to the Bronze Age, with some monuments not documented yet from any site in the Zab Basin. The Tamarchin passage, west of Piranshahr, connects this region to northern Mesopotamia. This research tries to respond to the following questions: What was the status of Zab Basin settlements in the Bronze Age? How was the regional and extra-regional communication with the surrounding areas? As a matter of fact, seven levels belonging to the Bronze Age were identified in the course of the excavation. In the south of Lake Urmia, Kura-Araxes potteries were less visible; however, typical black-burnished ceramics similar to those of the Kura-Araxes tradition were recovered from some sites. Surprisingly, Painted Orange Ware (POW) and beveled-rim Bowl were seen in the early Bronze Age of the Zab Basin. Furthermore, the impression of the seal from Rick Abad is remarkable as well since this type of object had an administrative function and it is a sign of economic and social activities as well as regional and extra-regional relations. The location of this region between northwest of Iran and the north of Mesopotamia (Iraqi Kurdistan) somehow turned this basin into a meeting place of various cultures. Probably these sites played a key role in trade and commerce, although, they never attained an urban status.

**Keywords:** Northwest Iran; Little Zab Basin; Rick Abad Tepe; Bronze Age.

<sup>1</sup> Assistant Professor of Archaeology, Department of Archaeology, Bu-Ali Sina University, Hamedan, Iran.  A.binandeh@basu.ac.ir

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## Introduction

The water crisis in recent decades has led to the construction of many dams in order to contain and preserve water. As such, several dams have been built in the Little Zab River Basin, with some being still under construction. The Kani Sib Dam in this basin has recently been put into operation. The excavation at Rick Abad Tepe was carried out in the summer of 2018 as part of the salvage excavation programs within the reservoir area. This Tepe contains remains of the Bronze Age, and some monuments obtained there have not been documented from any site in the Zab Basin. There is no exact information about the Later Chalcolithic or the Early Bronze Age since this issue is one of the basic ambiguities in the chronology of the region. In other words, there is little evidence of the formation, expansion, and interaction of cultures related to the Later Chalcolithic and the Early Bronze phases. Nevertheless, different pottery traditions have been reported from sites seemingly to the Bronze Age in the Zab Basin. For example, in Rick Abad, immediately after the Chalcolithic period, a type of painted pottery piece known as Hasan Ali are founded in the Urmia Lake Basin and Nineveh V in northern Mesopotamia. Also, a limited number of Kura Araxes pottery pieces can be seen there. Hassan Ali pottery has also been reported in Barveh (Sharifi, 2020) and Silveh (Ebrahimi *et al.*, 2021), the two rural areas in Iran's West Azerbaijan province. This topic, however, becomes interesting when we find that each of these pottery traditions had been common in the northwest of Iran, and at the same time, in the north of Mesopotamia. The situation of the fourth millennium is not very clear since we find evidence of the Uruk culture in some parts and the Kura–Arax-

es culture in other locations as can be seen in Hassan Ali type ceramics. And in areas such as the north of the Zab Basin, there are evidence of both cultures together.

Based on the excavation at the Rick Abad Tepe, this research tries to answer: Which pottery and cultural tradition is influenced by the regional situation? What was the status of Zab Basin settlements in the Bronze Age? And, how was the regional and extra-regional communication with the surrounding areas?

## Rick Abad Tepe

Rick Abad Tepe is located north of the Zab River, accumulating an area of about 3.5 hectares and 7.5m in height. It is situated 10 km southeast of Piranshahr in Iran's West Azerbaijan province (Fig. 1). In the past, the Tepe was larger in size but its northern area was destroyed during recent development projects by villagers. The Ushnu-Solduz valley is separated from this region by small hills. The Tamarchin passage, west of Piranshahr, connects this region to northern Mesopotamia. The first field excavation was carried out between August and September, 2019. Based on preliminary studies and potsherds from two trenches (Fig. 2), it was ascertained that the site had witnessed Islamic, Iron, Bronze, and Chalcolithic periods.

## Excavation

After studying the topography of the Tepe and the distribution of surface remains, two stratigraphic trenches were dug. The first trench "A" was in the South of the Tepe where constructive activities had revealed ancient layers. It was dug at an elevated part of the hill in the north-south direction where the least volume of material was expected. A three-meter wide trench "B" was dug in the south end

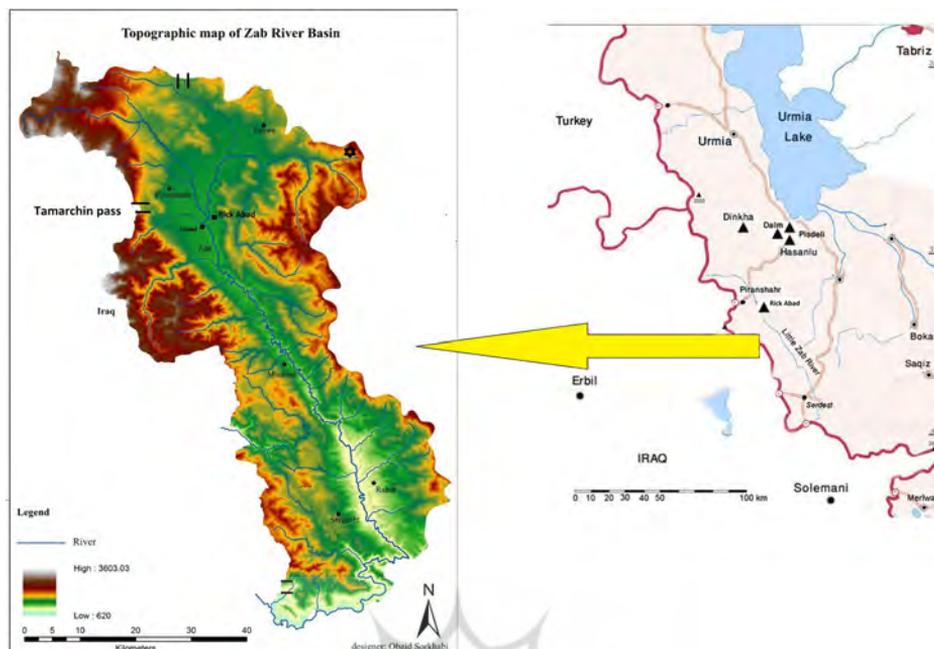


Fig. 1. Location of the Little Zab Basin and Rick Abad Tepe in Northwestern Iran.

of trench A at a location that was expected to produce many finds. The trench was 700cm from the foot of the Tepe with  $2 \times 2$  m dimensions.

### Stratigraphy of Trench A

The upper part of the hill has been completely destroyed due to construction activities and the building of a military base in recent decades. According to pottery sherds from around the hill, probably several periods including Iron Age have been lost. The surface findings of a preliminary survey show that Rick Abad Tepe had been used in the Islamic period, Iron Age, Bronze Age, and Chalcolithic period. Most of the findings from Trench B are related to the Chalcolithic period, which will not be discussed in this paper. The excavation resulted in seven levels identified in Trench A.

#### First Level

Due to the destruction of the upper part

of the Tepe, the remain found there is a foundation wall, which was built using stone rubble and binding material. Pottery and other uncovered items are of mixed periods, and therefore, it is not possible to suggest a specific time for this level.

#### Second Level

Any evidence of architecture or building activity is not seen anywhere at this level. Only a few pieces of pottery fragments were obtained from there. It seems that there is a periodic gap at this level.

#### Third Level

There are signs of two lateral brick walls in the northwest-southeast direction. The wall consists of 4 to 9 rows of mud bricks with  $8.5 \times 26.5 \times 27.5$  cm in size, with the north-south wall being wider. And they are connected with a thin layer of mud mortar. The maximum length and width of the wall in the trench is 3 meters and



Fig. 2. Tepe Rick Abad Viewed from the South (Trench A and B).

2.6 meters, respectively. These remains are probably part of a square mud-brick structure. A number of animal bones, pottery fragments, and a gray flint chip with 2.7 cm in diameter are the most important findings of this level.

#### Fourth Level

At a depth of 3.9 meter, there are remains of rubble with binding material of a single row. It is 20-45 cm long and 12-25cm thick, seemingly a part of the foundation with 2.45 meters long and 70 cm wide. A layer of mud mortar with a thickness of 5 cm was also obtained, and of course, its

extension can be seen outside the trench. On this foundation, the remains of a mud-brick wall with a height of 120 cm from 13 rows of square-shaped with 26.5 x 27.5 x 8 in size can be seen.

A number of animal bones, pottery sherds, and stone blade were also obtained.

#### Fifth Level

There found the remains of 7 rows of mud-brick wall, running in the north-south direction. Since this wall has deviated towards the west at a 30-degree angle, it seems that it is not in its origi-



Fig. 3. The Impression of the Stamp Seal from Rick Abad.

nal place and has been moved there later. The height of this wall is 61 cm and its length in the trench is 1 meter. The width varies from 30 to 35 cm, and due to the looseness of mud-bricks, their dimensions are not determined. In a large part of the trench, signs of ash and burns (probably due to the presence of a thermal structure) can also be seen.

Other finds include pottery fragments, animal bones, and a part of a seal impression with a comb-shaped geometric pattern (Fig. 3).

#### Sixth Level

This level contains the remains of a thermal structure (probably an oven) in the form of a cube with a height of approximately 15 cm; its northern part is located in a place that has not been excavated

yet. Only a triangular part with a length of 35 cm and a width of 25 cm can be seen in the trench. The thickness of the mud wall of the oven varies from 3.5 to 5 cm and inside it is covered with a 15 cm layer of ash.

The most important findings include a part of a decorative bowl, fragments of a broken jar, and some of polisher stones (Fig. 4).

#### Seventh Level

Another thermal structure, which is 28 cm high, was found in the central part of the trench. All the upper parts and the southern edge have been destroyed and only a small part of it has remained intact (Fig. 5). The oven, in the northeast-southwest direction, has 55 cm length and 40 cm diameter. The thickness of the oven



Fig. 4. Some of the Stone Implements from Rick Abad.

wall is 2.5 cm and its interior is covered with a layer of ash and charcoal, especially on the upper area.

In addition, a cartridge-shaped mud-brick with a height of 28 cm and a diameter of 18 cm was located in the southern part of the oven. Of course, it was very loose and worn out. Around the structure, there are irregularly scattered pieces of cartridge-shaped mud-brick. A carbon 14 dating puts the date of this level sometime around 3000 BC. The lower layers in this trench are related to older periods and are out of the current discussion.

#### Archaeology of the Little Zab Basin

There are two large rivers named Zab, one is the Great Zab, which arises from south-eastern Turkey and meets with tributaries along its route, and finally joins the Tigris River in northern Iraq. The other

is the Little Zab, whose main branch arises from the highlands of northwest Iran near Piranshahr and flows in Sardasht in West Azerbaijan and a part of Baneh in Kurdistan province. And after joining many branches and passing through the narrow and steep mountainous pass of Alan in Iran, enters Iraq (Khezri, 2000: 17).

In the last two decades, before the start of salvage excavations, some important archeological activities in this basin were carried out such as the excavations of Tepe Rabat (Kargar and Binandeh, 2009; Haidari, 2007), the survey of prehistoric settlements of this basin (Binandeh et al., 2012) and the excavation of Tepe Lavin (Hezebri Nobari *et al.*, 2012). As mentioned, before the construction of the Sardasht, Silveh, Kani Sib, and Kani Shinke dams, there were not many ar-

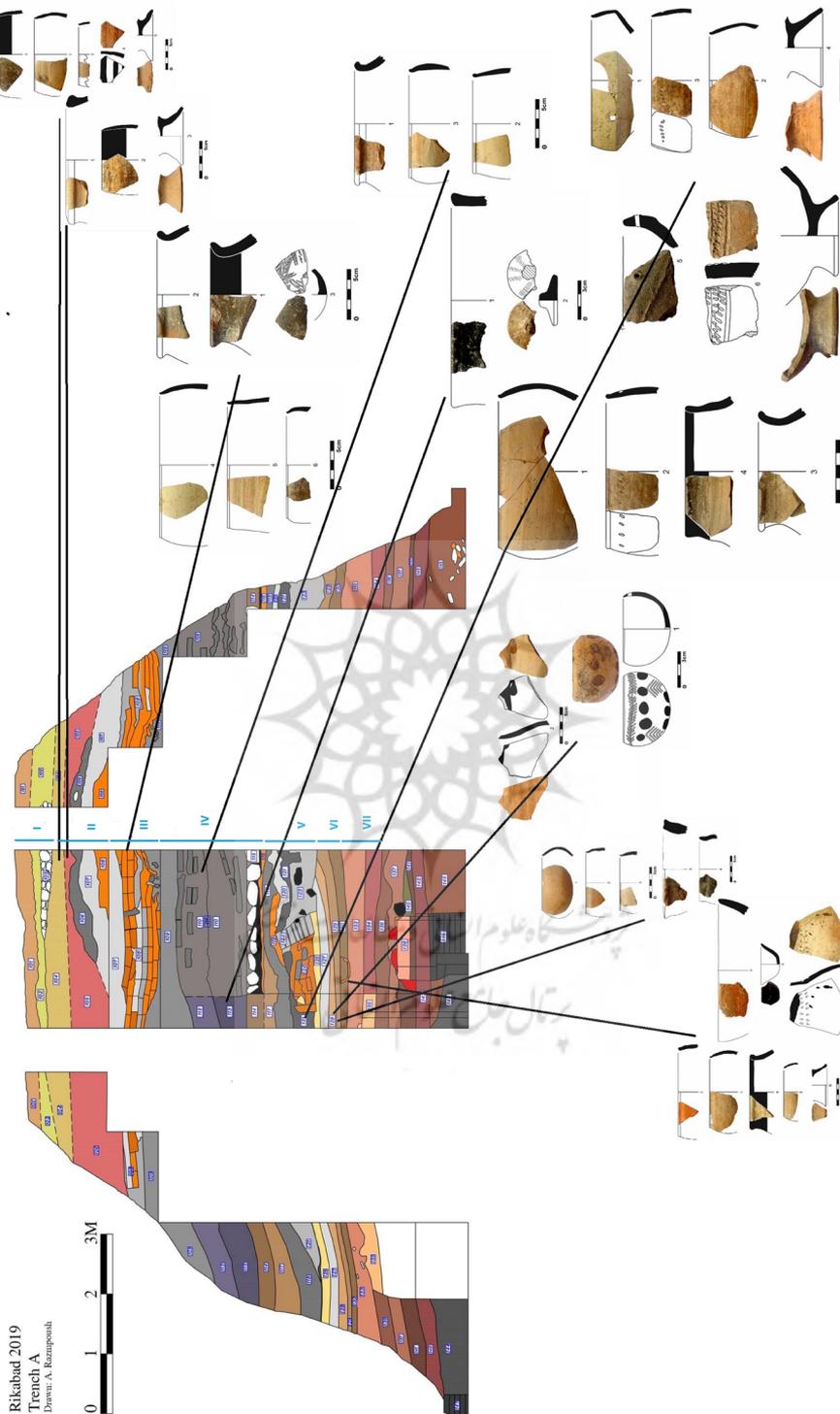


Fig. 5. Tepe Rick Abad, Trench A Stratigraphic Bronze Age Sequence in Cross-section

archaeological activities in the Little Zab Basin. Simultaneously with the beginning of the construction of dams in this area, a large number of salvage excavations were carried out in this archaeological enclosure. It can be said that Tepe Baghi, Baveh, Garde-Goran, Gardashvan, Ubaid, and Rick Abad (Binandeh *et al.*, 2020), Kase Garan and Silveh (Abedi and Ebrahemi, 2018) have the most evidence from the prehistoric period. Meanwhile, a number of short articles related to some sites have been published and the background of archaeological activities has been mentioned in detail (Ebrahemi *et al.*, 2021; Binandeh, 2023)

### Discussion

Based on the surface data and the findings of the two trenches of excavation and survey of the site, which is mostly based on pottery sherds, Rick Abad has evidence of settlement from periods, beginning from the Chalcolithic to the late Islamic era. However, the scale of destruction and construction activities in recent decades has completely destroyed the architectural monuments and evidence after the Bronze Age (at least on the western front of the site). What has been discussed in this paper is mostly related to the stratigraphic excavation at Trench A, and it emphasizes the monuments of the Bronze Age and tries to explain, in general, seven levels belonging to this period (Fig. 5). In the archaeological studies of the Little Zab Basin, which have been conducted in recent decades, Bronze Age sites have also been mentioned (Kroll, 2005: 119, 2017). Also, some sites related to the Bronze Age have been introduced and some have been excavated.

The construction of dams and the subsequent salvage excavations at a significant number of sites created a very good opportunity to know the quantity

and quality of culture and different periods of this basin, which unfortunately was not well exploited and although it sometimes led to good results. But due to a large number of excavated sites, the nature and dimensions of prehistoric cultures of the region were not explained as expected (Binandeh, 2023).

For the late periods of the Chalcolithic and Early Bronze Age, in some areas of the Zab Basin, monuments and evidence have been suggested. And in the southern part of it, several sites with beveled-rim bowls have been reported in the surface survey (Binandeh, 2016; Abedi *et al.*, 2018) in the excavation at Lavin Tepe near the Kani Sib Dam, evidence of the Uruk culture has also been seen (Hezebri Nobari *et al.*, 2012). In recent salvage excavations at Barveh (Sharifi, 2020), Silveh (Abedi and Ebrahemi, 2018; Ebrahimi *et al.*, 2021), and Rick Abad, decorated pottery sherds of the Bronze Age were found. Two radiocarbon samples from Trenches I and IV represent the fine painted and incised ceramic traditions that would have emerged in the wake of the Uruk expansion in these regions. They gradually evolved into Painted Orange Ware (POW) (Ebrahimi *et al.*, 2021). This type of pottery became more common in the Early Bronze Age, which is known as Hasan Ali in the Urmia Lake basin and as Nineveh V in northern Mesopotamia. In Kani Shahi in Iraqi Kurdistan, after the end of the Chalcolithic period and beveled-rim bowl, the POW pottery became common immediately. In Rick Abad, the layers where most of the findings are related to the Early Bronze Age, a few pieces of beveled-rim bowl were observed. In this region, beveled-rim bowl is related to the late Chalcolithic and Uruk periods.

At the Gard Qola site (Vallet, 2018), the Chamchamal region and many other sites such as Tell Begum (Nieuwen-

huysse *et al.*, 2016) in the Shahrizor and Chamchamal Plains (Ess *et al.*, 2015), Gurga Chiya (Carter *et al.*, 2020), Kani Shaie (Tomé *et al.*, 2016) in the Bazian Plain, Sulaimani and sites of the Rania Plain (Skuldbøl and Colantoni, 2018) all of them are in Iraqi Kurdistan, which is easily accessible from the northern corridor of the Zab Basin, and can indicate the cultural and commercial connection between these regions.

Pedestal pottery, which is mostly reported from sites in southeastern Turkey such as Kenan Tepe (Parker *et al.*, 2001) and Hassek Höyük (Helwing, 1999) are from the Early Bronze Age of Mesopotamia (Nineveh V). This group of ceramics was also recovered from Rick Abad. It should not be overlooked that base pottery is also present in the Bronze Age for a long period of time, and of course, they are associated with development, and during this time, it has a very wide distribution in different areas of Mesopotamia and Iran.

A type of painted pottery was obtained from Rick Abad, which is similar in some ways to the pottery from Köhneh Shahar, a Kura-Araxes settlement (Alizadeh *et al.*, 2018) in the Chaldran area that reported with the typical pottery of this period. In the south of Lake Urmia, Kura-Araxes potteries are less visible and their presence is not so widespread (Danti *et al.*, 2004: 588). However, Kroll mentions several ancient Bronze Age sites in Piranshahr and Sardasht regions that have typical black-burnished Kura-Araxes tradition ceramics (Kroll, 2005: 19). Examples of this type have been obtained from Rick Abad as well as some other sites (Binandeh, 2018).

In the Early Bronze Age of the Zab Basin, we also see the presence of the Painted Orange Ware (POW) tradition (Hasan Ali) and Yanik type pottery and

beveled-rim bowl. Based on salvage excavations and surface surveys, it seems that the dominant culture in this period is the POW type and to a lesser extent the Kura-Araxes type, which is of course mostly in the Piranshahr region and is not widespread in the downstream areas (Sardasht) and in some sites, the very faint presence of beveled-rim bowl can be seen in the early levels of the Bronze Age. The special geographical location of this region between northwest Iran and beyond the north of Mesopotamia (Iraqi Kurdistan) has somehow turned this basin into a meeting place of various cultures.

The people of the Early Bronze Age (Kura-Araxes) settled near water resources and communication routes after entering large and vast plains and moved to the Zagros to take control of commercial routes over time. They completely cut off the Uruk's control over the highway and emerge as a new power in the region. Gradually, after the domination of Kura Arax, the sites of Uruk were abandoned and the Kura Arax people emerged as a new power in the region (Bakhtiari *et al.*, 2020). But in the Zab Basin, the distribution of the settlements and the evidence obtained show that this region was an important border region and contact center in some periods. It can be said that Zab Basin was some kind of intercultural interaction, exchange network, and cultural interaction. Of course, despite the importance of this region, it should not be expected that large sites will be formed here, like Mesopotamia or southern Iran. And this is due to geographical and environmental restrictions that did not allow the formation of large settlements (Binandeh, 2015). For example, no seals and seal impressions have been documented at any other Kura-Araxes settlements in northwestern Iran until recent years. A

number of seals were recovered from Kul Hadishahr Tepe, a Kura-Araxes site in the northern Urmia Lake (Abedi, 2017) and Köhne Shahar (Alizadeh, 2018), although the impression of the stamp seal came from Rick Abad is not complete, it has similarities with the seals of this period in size and pattern. This evidence at Zab Basin is remarkable as it shows an administrative function and a sign of economic and social organization, trade and regional and extra-regional relations. Due to the presence of Mesopotamian-style seals in Godin, it is possible that Mesopotamian supporters of Godin's leaders could transferred them as a show of their dominance and influence or to mark goods passing to Mesopotamia (Bakhtiari *et al.*, 2020). Probably some sites of the Zab Basin had a similar role. The effective involvement of political power in specialized craft production and exchange systems requires control and administrative oversight (Pittman, 2018).

The middle and late bronze pottery tradition of Rick Abad is very similar to the examples of northern Iraq and the Shahrizor region (Al Taweel, 2012). Perhaps the main difference between Rick Abad and Shahrizor pottery traditions is the existence of Shamlu pottery ware, which can be seen across the Zagros in Iraqi Kurdistan at the same time, and in Rick Abad, concrete examples have not been found yet. And of course, examples of bowls that have good quality and are relatively fine and include a spectrum from buff (more) to gray (less) have been reported from the Logardan site (Zingarello, 2018: 146), Nineveh, and Assyria. More or less similar pottery has been seen in the Erbil region in northern Iraq in sites such as Kurd Qaburstan (Schwartz *et al.*, 2017). Most of these potteries became common in the Bronze Age. A few

kilometers downstream of Rick Abad, a similar type of Middle Bronze pottery from Barde Zard has also been reported (Sharefi, 2019). Meanwhile, some fragments of the upper layers of Rick Abad are closely similar to the Eastern Anatolian pottery in Erzurum, which have been attributed to the Late Bronze Age (Güneri, 2008). And they have an undeniable similarity with Dinkha, Hasanlu, and Urmia Lake basin sites that Danti has discussed in detail (Danti, 2013) and of course, it is also worthy of consideration. In the last few years, in the Diyala area, pottery fragments have been found in some Late Bronze Age sites (Glatz *et al.*, 2019), whose examples are comparable to Rick Abad and the Zab Basin. Although different types of pottery of this period have differences in terms of quality and technique, they have similarities in a wide area of Mesopotamia and surrounding areas (Broekmans *et al.*, 2008).

### Conclusion

The surface findings of a preliminary survey show the site had been used in the Chalcolithic period, Bronze Age, Iron Age, and Islamic era. The archaeological evidence recovered from the site shows that this area was closely related to northern Mesopotamia and eastern Anatolia in Bronze Age. This connection is more probable with North Mesopotamia and Eastern Anatolia through Haji Imran/Tamrchin and Kelishin passes. The obsidian used in Rick Abad was supplied from the Nemrut Dag source in eastern Anatolia, one of the possible routes for this exchange has been from northern Iraq. The evidence of Kura-Araxes and Hasan Ali pottery and before that the beveled-rim bowl of the late Chalcolithic period show significant cultural interactions and may be the confluence point and the last frontiers of the expansion of the Early

Bronze Age culture of northwestern Iran. In more recent periods, Middle and Late Bronze pottery are more or less the same as that which was common in the Urmia Lake basin. Moreover, the administrative role of the seal and other objects shows that these settlements control the western pass into North Mesopotamia, this site is situated at the end of the roads extending west into Iraqi Kurdistan, and it has also the role of controlling moun-

tainous roads. Probably, these sites are connective points of the trade network, although they never attained an urban status.

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