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THE TRANSITION FROM THE BRONZE TO THE IRON AGE AT THE SOUTHWESTERN SHORES OF THE CASPIAN SEA: EVIDENCE FROM ARCHAEOLOGICAL SITES

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This article is dedicated to the memory of Massoud Azarnoush (1945–2008).

Abstract
This paper examines the transition from the Bronze Age to the Iron Age at the southwestern shores of the Caspian Sea, with particular focus on the *Gīlān* region. Drawing on data from archaeological surveys and excavations, the study analyses the distribution and characteristics of graveyards, settlement sites, and complex sites across three defined areas (A, B, and C). The results demonstrate that Bronze and Iron Age sites are present not only in mountainous zones but also in lowland areas. That settlement activity increased during the Early Iron Age. Special attention is given to sites showing combined features of both periods, which are interpreted as evidence of transitional processes. The paper also addresses the problem of chronology in the region, arguing for a revision of traditional dating frameworks in light of recent reassessments of radiocarbon data and comparative studies from the Iranian plateau. It is suggested that part of what was previously classified as Iron Age I should instead be attributed to the Late Bronze Age. The study highlights the importance of the southwestern Caspian region for understanding cultural continuity and change between the second and first millennia BC. It emphasises the need for further systematic excavations and multidisciplinary analyses.

Keywords: *Bronze Age*, *Iron Age*, *Transitional period*, *Caspian Sea*, *Gīlān*, *Tāleš*, *Dīlamān*, *Amlaš*

RESEARCH BACKGROUND AND STATUS

Alexander Chodźko made the first visit and conducted digging in the ancient sites of *Gīlān* in 1839. He was a Polish/Russian diplomat at the Russian embassy in Tehran, and he travelled through *Gīlān* several times on his road from Moscow to Tehran. He visited and excavated some sites in the western high valleys of the *Rūdbār* region, which he described in his published report as rich in ancient burials and significant Sassanian objects (Chodźko, 1969).

However, the first archaeological excavations in the cultural region at the southern/southwestern shore of the Caspian Sea were carried out more than 100 years ago. For the first time, Jacques de Morgans excavations in the *Tāleš* area at the end of the 19th century (Morgan, 1896; Morgan, 1905) demonstrated considerable traces of the second as well as the first millennium BC, although there was no certain chronological study in archeology of this area and nowadays classification of chronology such as "Iron Age" based on absolute chronology had not existed in Iranian archaeology yet. Even though Morgan named finding objects from the graves in *Tāleš* as *"l'âge de bronze"* and *"l'âge de fer"* and divided some graves from each other chronologically, like in *Āq Evlar* (Morgan, 1905, p. 325), his justification for this simple chronology was only the material of the metal objects and the majority of the bronze and Iron objects. He identified several types of LBA/EIA graves in *Tāleš* Mountain.

Morgan's excavations in the *Tāleš* Mountains soon spurred the emergence of commercial excavations in some regions of Iran, including

Gīlān province. Habib O-llah Samadi, Ali Hakemi and Mohsen Moghaddam were among the first people in the first generation of Iranian archaeologists to begin excavating in this region around the middle of the 20th century. Many sites have been dug through commercial excavation, but no scientific reports have been provided to support the results (Samadi, 1959; Hakemi, 1964; Moghaddam, 1972; Kambakhsh Fard, 1991). A clear consequence was the prevalence of illegal digging, especially in the mountainous parts of *Gīlān* with the thick forests.

A new phase of archaeological expeditions, already underway in the last decades of the first half of the 20th century in many parts of the Iranian Plateau, was developed into systematic, methodical excavations at several key sites in the second half of the 20th century (e.g., sites such as *Gūdīn* (Young, 1969) and *Ḥasanlū* (Dyson, 1965, 1989) as well as *Dīnxāh* Tepe (Muscarella, 1968). They became newly determined chronological studies, showing a particular style and chronological pattern. Although the Japanese expedition's excavations at *Dīlamān* in the 1960s (Egami & Fukai, 1965) uncovered Bronze Age remains, the notion of a Bronze Age in *Gīlān* remains unacceptable to many scholars. Excavations at *Mārlik Tepe* and the discovery of its treasure trove of valuable objects made it another focus of *Gīlān* archaeology (Negahban, 1964).

The next phase of archaeological research in this region began in the 1990s, about one decade after the 1979 revolution. M.R. Khalatbari excavated in several LBA/IA graveyards in different areas such as *Rudbār* and *Tālīš* (Khalatbari, 2004a; Khalatbari, 2004b; Khalatbari, 2013). At the beginning of the present century, a five-year Iranian-Japanese joint project identified several Iron Age settlements and graveyard sites on the western bank of the *Sepidrūd* (Fahimi, 2005). Before the fieldwork conducted by this archaeological mission, the existence of Iron Age settlement sites in *Gīlān* was not accepted. After this, new horizons in archaeological research in *Gīlān* emerged, and young Iranian archaeologists conducted many national projects and are still ongoing in many parts of this province, such as *Dīlamān*, *Amlaš* and *Tāleš* (Jahani, 2015). This new research identifies numerous LBA/EIA sites that can address many research questions about these periods along the southwestern shores of the Caspian Sea.

LBA/EIA Graveyards, Settlements and Complex Sites in Gīlān

For this study, *Gīlān* has been divided into three areas: Area A, B and C (Fig. 1). **Area A** consists of the northern part of *Gīlān* province, the area between *Āstārāčāy* in the north, Caspian Sea in the east, the western edges of the *Tāleš* foothills in the west and *Kargān Rūd* in the south. Between these two basins, there is another river basin, which is called *Ābšār Rūd* in *Landvīl* city district. There are several sites along the northern and southern banks of the *Āstārāčāy* basin, most of which were already known from J. de Morgan's first archaeological fieldwork in this region at the end of the 19th century.

Fig. 1. Archaeological sites in three areas of Gīlān (A, B and C).

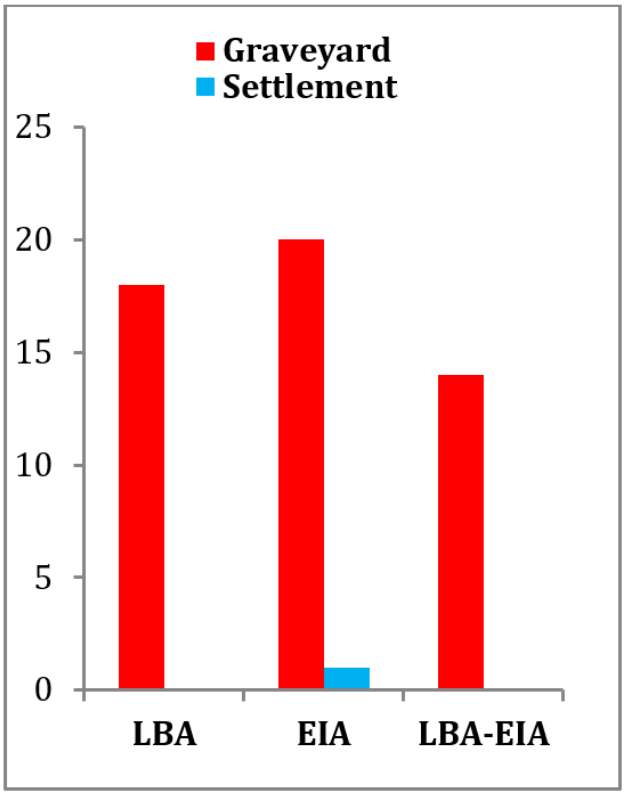

Fig. 2. Area A: Amount of settlement and Graveyard sites in LBA/EIA and transitional period.

Telmānkand, *Āspā Hīz*, *Tūlū*, *Čāy Rūd*, *Hamārāt*, *Djonū* (Morgan, 1896; Morgan, 1905), *Monīdīgāh* (Casanova et al., 2016)[1] *Čūčū Tūk* and *Telmānkend* are examples of these sites located on the northern bank of *Čāy Rūd* in the Republic of Azerbaijan, which mostly date to the middle of the second to the middle of the first Millennium BC. In the middle part of area A (in *Ābšār Rūd* basin), only two sites are known to have been excavated by de Morgan: *Ḥasan Zamīnī* and *Vājālīk* (both graveyards). These two sites date back to the late Bronze Age. Actually, *Vājālīk* is the oldest known site in this area, dating to the beginning of the second Millennium BC (Schaeffer, 1948, Table 8). Most of the LBA/EIA sites in area A are located in the southern part of this area (*Kargān Rūd* basin). At least 14 sites have been registered as BA/IA sites in this area since de Morgan's excavation. These are mostly graveyards. Only settlement site in area A reported by Sadr-e Kabir in *Tūl* (Sadr-e Kabir, 2004).

This site is one of the best examples of a complex site. The first archaeological activities in *Tūl* were carried out by M. Reza Khalatbari in 1997. He could find and excavate some graves, and, according to his report, they cannot be earlier than the beginning of the first millennium BC (Khalatbari, 2004a, p. 67). In 2004, Reza Sadr-e Kabir found evidence of settlement (stone walls with clay mortar and an oven) near the graves in *Tūl* (Sadr-e Kabir, 2004). The report on this excavation has not yet been published, but it seems that the objects from the architectural remains at this site belong to EIA. The dating of the graves by Khatatbari needs to be revised. Other sites in the southern part of area A consist of graveyards. *Āq Evlar* is one of the most important and famous sites in this group, known since the Morgans' excavation in *Tāleš* Mountain. According to his report, the graves in *Āq Evlar* date to the Bronze and Iron Ages (Morgan, 1905, p. 325). A new archaeological survey in the *Kargān Rūd* basin, under the direction of Behruz Hamrang, showed the importance of this area during the LBA and EIA. Hamrang (n.d.) reported six additional Bronze Age graveyards (*Tandovīn*, *Mīn Āxordāš*, *Pošteh Sar*, *Qal'eh Bīn*, *Tepe Sard Xūnī*, and *Hedeh*), two of which also yielded evidence of architectural remains. Furthermore, he found several Iron Age graveyards, including *Kafteh Dey*, *Kārbālaġ*, *Torbeye Šīx Morād*, *Šīle Sar*, and *Āxūr Dāš*. One of the most important discussions in this case is the dating of the identified sites in *Gīlān*. Actually, most of the sites presented as "Iron Age" can be dated to the LBA based on new chronological studies and a reanalysis of carbon dating at *Ḥasanlū* and *Dīnxāh Tepe* (Danti, 2013). These new studies could change the chronological table of the Bronze and Iron Ages in the Iranian plateau. Most of the identified sites in Area A are graveyards. However, thanks to new archaeological fieldwork in *Gīlān*, it has become clear that the southwestern coasts of the Caspian Sea were also settled from the middle of the second millennium to the middle of the first millennium BC[2].

Overall, area A has the largest number of LBA graves in *Gīlān*. The LBA grave types in this area consist of Megalithic rectangular stone structures, double dolmens, and circular/oval stone structures (Morgan, 1905, p. 299; Morgan, 1905, p. 265; Khalatbari, 2004a, p. 36).

EIA graves are mostly small to large rectangular stone structures, and the known settlement belonging to this period consists of stone walls with clay mortar (Fig. 3). *Tūl* is the only complex site in Area A that has been excavated.

[1]This site was identified by the French-Azerbaijani Joint Project in the Lenkoran region (NABIALLA) in 2014 and was excavated in 2015.

[2]It can be clearer after publishing of the reports of news studies.

Fig. 3. Toul: LBA graveyard and EIA settlement (Sadr-e Kabir, 2004, *unpublished*).

Area B consists of the middle part of *Gīlān*, the area between *Kargān Rūd* in the north and *Sepīd Rūd* in the south. *Nāv Rūd* and *Šafā Rūd* are two basins in the middle part of this area. The most important known sites in this area are *Ma'āf Male pa*, *Mīān Rūd*, *Ardeh*, *Veske*, *Sīāhe-Bīl*, *Kāšī-Sarā*, *Oskolak*, *Jamšīd Ābād*, *Šomām*, *Ganj Par*, *Sendes*, *Čure*, *Nesfī*, *Mārlīk*, *Pīlā Qal'eh*, *Šahrān*, ***Šahr*** *Jān* and *Stalx Jān* (Fig. 1).

Geographically, the middle part of this area, compared with area A, is flatter than the mountains. Nevertheless, even in the plain areas, the type of graves is the same as in the mountainous areas. LBA graves in area B are simple pit-graves, mostly with some stone on the top of the grave, and rectangular structures, such as in *Šahrān* (Fukai & Matsutani, 1977). In area B (western bank of *Sepīd Rūd*), remains of the LBA and EIA settlement were found by Negahban in a stratigraphical test-trench of *Pīlā Qale* (Fig. 4). These architectural remains consist of large stonewalls (filled by clay-mortar), mud brick walls with wooden columns and a roof (Negahban, 2006, p. 242). *Čure* is another site in this part of area B, which also has remains of a settlement from the LBA/EIA (Jahani, 2025).

EIA graves in this area are mostly simple pit graves, rectangular stone structures, and crypt graves (Khalatbari, 2004a, p. 44). This type of grave (crypt shape) is not reported in area A. Settlement sites of this period in area B consist of stone walls, mostly with mortar and stone foundations. Stratigraphical digging in *Mo'āf Mahalle* showed this type of settlement in the middle part of area B. The number of graveyards in area B exceeds that of settlement sites, not only in the LBA but also in the EIA. However, the increase in settlement sites during the EIA is clear in comparison with the previous period (Fig. 5).

The number of these two types of sites (graveyard and settlement) is not very noticeable at sites with evidence of both periods. So, it may be significant that this area was more residential during the transitional and EIA periods than during the LBA.

Area C covered the eastern part of *Gīlān* province (Fig. 1). This area consists of the *Pol-e Rūd* basin, the *Dīlamān* area, the *Amlaš* area and the *Čāk Rūd*. Most of this area consists of low-lying plains, and some southern parts include the high mountains of *Dīlamān*. After the discovery of the

royal graves of *Mārlīk* in 1961 and the appearance of the golden-bronze cups under the name *Amlaš* on the antiquities market, the importance of this area has increased. Japanese expeditions at several sites in *Dīlamān* (for example, *Qalʿeh Kūtī*, *Laslūkān*, *Xorram Rūd*, *Lame Zamīn*, *Omām*) revealed another face of archaeology in *Gīlān*, from the Bronze Age to the Sasanian period (Egami et al., 1965). However, for a long time, almost all archaeological studies in this area focused on graveyards. In the last 10 years, many national archaeological projects have been carried out in this area. These new fieldworks showed several settlement sites belonging to the second half of the second millennium BC. The most important recently identified sites in area C are *Šemšād Sarā* (Ramin, 2012), *Salmāl*, *Sīāh Sū* (Ramin, 2013), *Oskolak*, *Būyeh* (Jahani, 2014; Aslani, 2008), *Moṭlā-kūhe*, *Kāfarestān*, *Čapalak* and *Naskūhe Čāl* (Jahani, 2015). General description of archaeological sites in LBA/EIA in this area is: LBA graves are mostly pit-graves, rectangular stone structures, and circular structures with rectangular structures inside. Settlements during this period are rectangular stone walls (mostly with clay mortar). Graves of EIA are mostly four-walled stone structures, and a few examples of small circular stone structures without a rectangular structure inside. EIA settlements, including rectangular stone walls, mostly with clay-mortar and wooden roofs.

The identified settlement sites in area C mostly belong to EIA (Fig.6). *Naskūe Čāl* is one example of an EIA settlement site in this area. Stone walls with clay mortar are a characteristic feature of the architectural remains at this site (Jahani, 2014, 2015). One of the most important results of the new excavations in area C is the identification of megalithic and circular stone-structure graves in the plain area, only 12 km from the Caspian Sea. In *Šemšād Sarā*, located on the western bank of the *Pol-e Rūd* river, some megalithic/circle structure graves have been excavated. Not only the typology of the graves but also the objects found from the graves (especially a spouted jar with a small open spout at the rim) have proved that *Šemšād Sarā* is an LBA graveyard in this area (Ramin, 2012, Fig. 7a). *Sīāh Sū* is another important recently identified site in the southwestern part of *Rūdsar*, where the LBA graveyard and EIA settlement have been found close to each other (Ramin, 2013).

The excavated settlement at this site is a part of a long stone wall with clay mortar. The identified graves are all stone-walled (rectangular), and the objects from these graves can be classified within the LBA pottery vessel typology (Ramin, 2013, p. 44; Jahani, 2015, pp. 146–147, Fig. 7b).

Fortunately, the idea that *Gīlān* lacked settlement sites during the Bronze and Iron Ages is no longer proposed. Results of the Iran-Japan joint archaeological survey on the western bank of *Sepīd Rūd*, which led to the identification of many Iron Age settlement sites, and excavations at *Tepe Kalūraz* (*Jalālīye*), *Sīāh Sū*, and *Kāfarestān* could prove the existence of Iron Age sites along the southwestern coasts of the Caspian Sea.

Identified sites with evidence of settlement and graveyard of both LBA and EIA (complex sites like *Tūl*, *Sīyāh Šū*, *Tepe Sard-e Khūnī*, *Hedeh*, *Qal-e Kūtī*, *Oskolak* and *Čoreh*) are indicative of transitional sites in *Gīlān*. This kind of site, with two different features (both with LBA graves and EIA settlements), is also known in the northern part of the *Tāleš* Mountain. New excavations in the *Lerīk* area of the Republic of Azerbaijan, *Monīdīgāh*, revealed a good example of the transitional period between the LBA and the EIA (Casanova et al., 2016). The statistical study of site functions (Fig. 8) showed that settlement sites increased at the beginning of the EIA in this region.

Fig. 4. *Pīlā Qalʿeh* (Negahban, 2006, pp. 239-240).

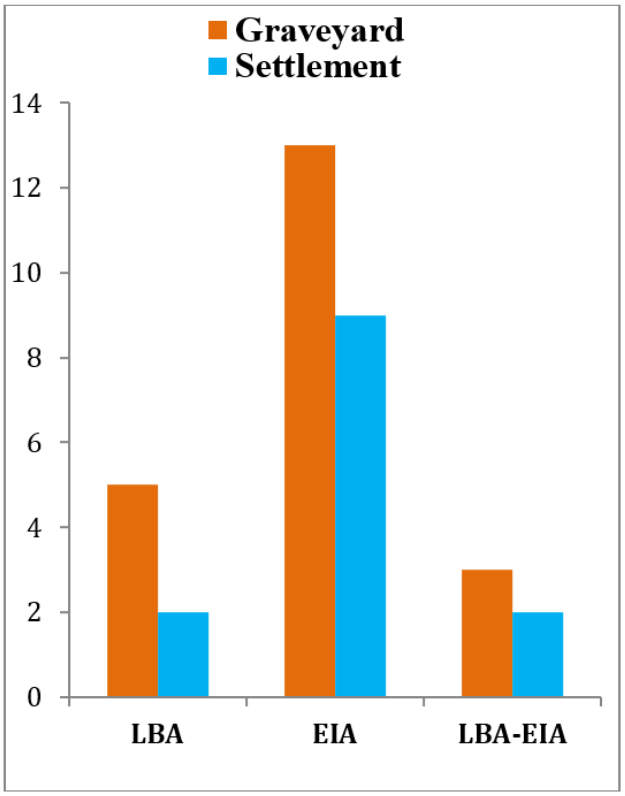

Fig. 5. Area B: Amount of settlement and Graveyard sites in LBA/EIA and transitional period.

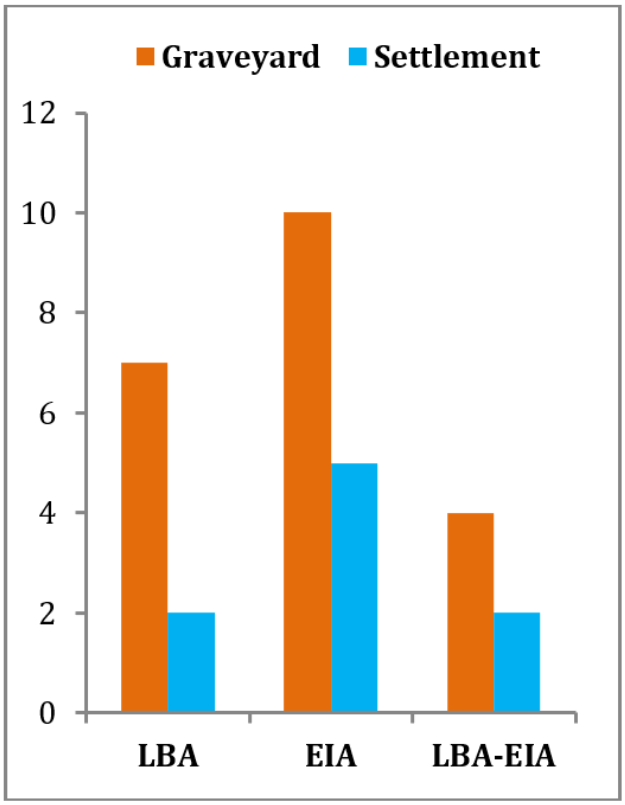

Fig. 6. Area C: Amount of settlement and Graveyard sites in LBA/EIA and transitional period.

Fig. 7a. *Šemšād* Sarā: A circular stone grave (after Ramin, 2012, p. 17).

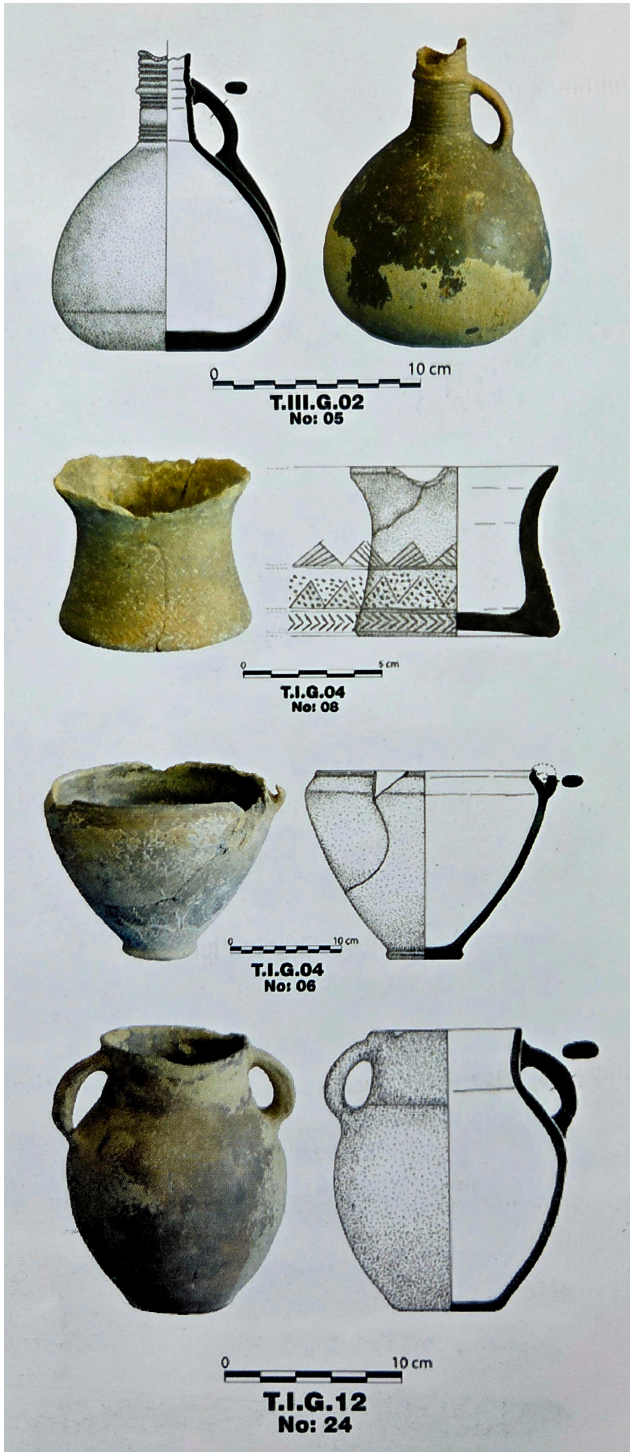

Fig. 7b. *Sīyāh Sū*: objects from the graves (adapted from Jahani, 2015, Fig. k).

DISCUSSION

Chronology is the most important problem in the archaeology of *Gīlān*. The general chronology of the Iranian plateau has always influenced the chronology of prehistoric sites in this region. This general chronology is an old legacy of historical and archaeological activities in the 19th and early 20th centuries.

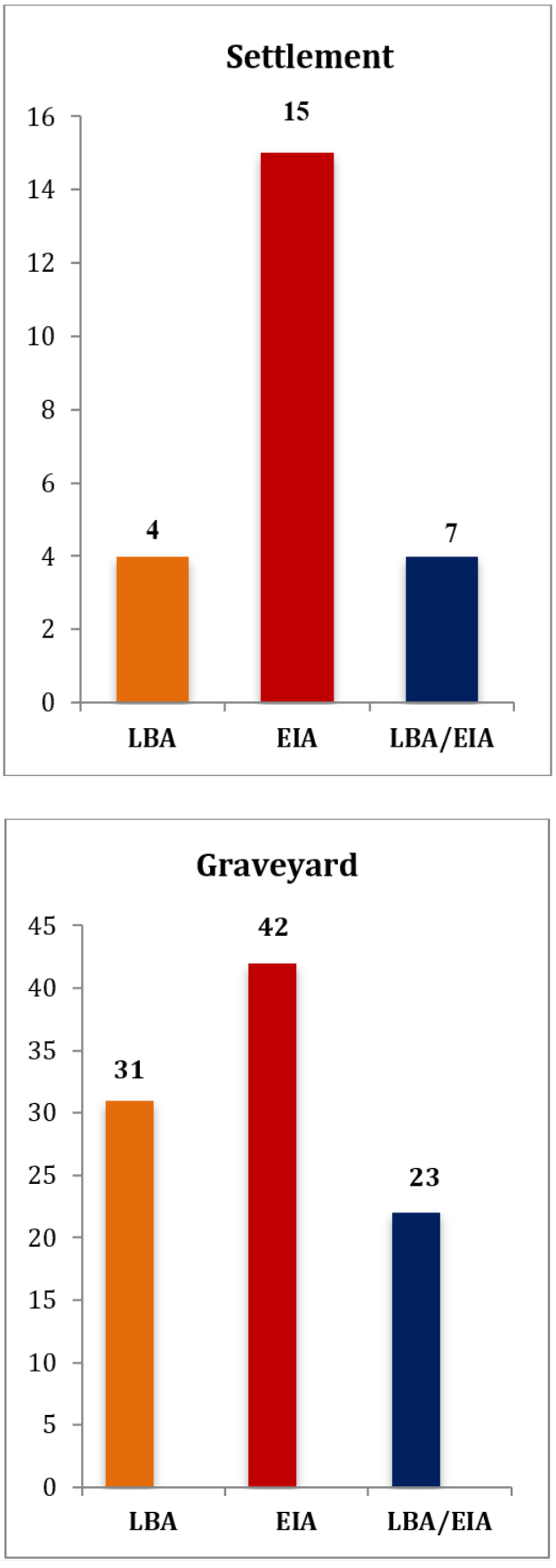

Fig. 8. Percentage of distribution of settlements and graveyards in LBA, EIA and Transitional Period (LBA-EIA).

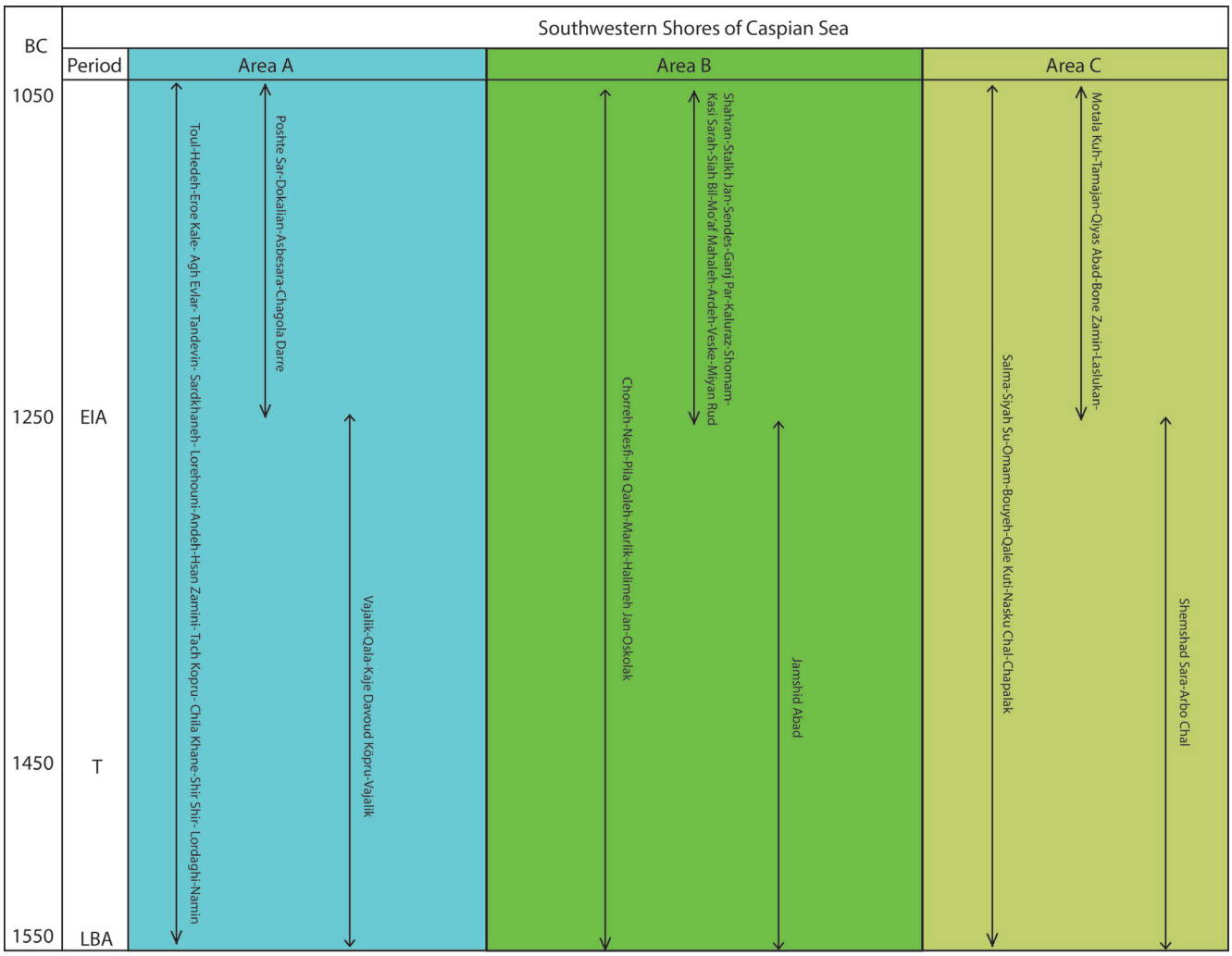

Fig. 9. Table of chronology of LBA/EIA and Transitional period in *Gīlān* (author's suggestion).

When the great archaeological discoveries on the Iranian Plateau were made during the first half of the 20th century, most archaeologists tried to prove philological and ethnological theories about the Aryans and their rise on the Iranian Plateau in the second half of the second millennium BC. Despite the discovery of important prehistoric and historic sites, the first radiocarbon dating in Iranian archaeology was conducted at one of the key sites, *Ḥasanlū*, in the southern part of *Urmīā* Lake (Dyson, 1965). Subsequently, the term "Iron Age" was added to Iran's ancient chronology table by Robert Dyson. Hence, most dating of excavated sites across many parts of the Iranian plateau was based on, and compared with, the *Ḥasanlū* stratigraphical chronology. Meanwhile, theories about the arrival of new tribes on the Iranian plateau in the middle of the second millennium played an important role in dating finds from this period, including the emergence of grey pottery and/or the burial structure. It is important to note that most of the old dating and chronological analyses among *Ḥasanlū* are no longer reliable. Due to additional research and reconsideration, studies of other comparative archaeological sites in Iran need to be revised. An existing major problem with the prehistoric sites along the southern/southwestern shores of the Caspian Sea is that most identified and excavated sites are graveyards. Therefore, the stratigraphical analysis and identification of the cultural sequence of the 2nd and 1st Millennium BC is very difficult. A further problem is that most found objects stem from illegal digging. As already mentioned, in recent decades, some settlement sites have been identified that belong to the second half of the second Millennium and the first half of the first millennium BC. Still, it is problematic to draw a definitive conclusion, since the dating of these archaeological sites is still based on outdated non-archaeological theories and chronological studies. In most reports of old excavations in the graveyards of *Gīlān*, it is not clear if, except for the graves, any other structure

existed in the excavated areas. However, as is clear, the knowledge and methods of archaeology, or even excavation, aimed at the end of the 19th, even early 20th, century were not sufficient to analyse these kinds of problems. They were more concentrated on finding objects from graves.

After restudying and analysing carbon samples of *Ḥasanlū* and *Dīnxāh* Tepe, as well as several new archaeological surveys and excavation projects, the chronology of prehistoric sites in *Gīlān*, like many other regions in the Iranian plateau, has been changed (Danti, 2013; Piller, 2003-04; Fahimi, 2013; Fahimi, 2017; Fahimi, 2019). Although new research has changed the old dating of many key sites in Iran, many Iranian archaeologists still insist on the old chronology (Khalatbari, 2013, p. 319). Based on new analysis and results, the beginning of the Iron Age dates back not to 1450 BC, but 1250 BC (Danti, 2013, p. 30). It means that the interval from the 15th to the 13th century BC, which was mostly referred to as Iron Age I, should date to the late Bronze Age. This interval is an important period in the archaeology of *Gīlān*, as it also encompasses the transition from the Bronze Age to the Early Iron Age. Fig. 9 (chronological table) showing my suggestion for the chronology of LBA-EIA as well as the transitional period in the southwestern shores of the Caspian Sea.

CONCLUSION

The results of this study demonstrate that LBA/EIA sites at the southwestern shores of the Caspian Sea were distributed not only in mountainous regions but also in lowland areas, as evidenced by sites such as *Šemšād Sarā*, located approximately 12 km from the Caspian Sea. Most of the known settlement sites are concentrated in Areas B and C, whereas the majority of Late Bronze Age graves have been identified in Area A.

The identification of 26 sites in *Gīlān* containing evidence from both the Late Bronze Age and the Early Iron Age indicates that the southwestern Caspian region represents an important area for investigating the transitional period between these two cultural phases. The archaeological evidence also suggests the reuse of LBA graves during the EIA.

At the same time, many chronological and cultural questions remain unresolved. Further progress in the study of the region requires more systematic archaeological surveys and excavations, as well as detailed analyses of material culture, radiocarbon dating, and multidisciplinary research approaches.

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