

## **Reviewing the Chronology of Northwestern Iran in the Bronze Age, Case Study: Qalla Khosrow**

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### **Abstract**

North-western Iran comprises diverse geographical landscapes, including pastures of piedmonts, mountains, and well-watered plains. The present chronology of this region, nevertheless, is based exclusively on data collected from sites around the Urmia Lake, other regions being almost totally ignored. During the late Bronze Age (hereafter LBA) a new way of life took shape in the mountainous region, the most outstanding characteristic of which was fortified settlements.

This paper attempts to revise the chronology of North-western Iran by deciphering LBA materials from some of these sites.

**Keywords:** Late Bronze Age, Khosro Fort, Forts, Cromlech graves, Chronology.

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## **Introduction**

After surveying Ardabil and East-Azarbaijan provinces, from 2000 to 2003, the authors came across considerable numbers of remains of fortresses with similar architectural features. Cemeteries in the proximity of these fortresses, composed of cromlech<sup>1</sup> burials, are another visible aspects of the surveyed fortresses.

The previous surveyors had dated these remains from Iron Age to the historical periods. Characteristics of the surface materials collected from several of these sites, nevertheless, persuaded the authors that these sites are, most probably, older than the Iron Age. This was chosen by one the authors as the theme of his Ph.D. thesis, entitled: *Emergence of Socio-Political Complex Societies of LBA in North-Western Iran Case Study: Qalla Khosrow*.

## **Summary of Previous Researches**

During the Bronze Age, North-Western Iran was part of a vast cultural horizon, extending from Transcaucasia to eastern Anatolia and Levant (Kushnareva, 1997: 44). Archaeological sources refer to this culture by the two following terms:

- Kura-Araxes culture, as named by Kuftin [since most of the settlements of this culture were first discovered between the two rivers of Kura and Araxes] (Kiguradze 2000:321).

- and early Transcaucasian culture [named by Charles Burney] (Burney and Long, 1972: 44 ).

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1. Regardless the original meaning of the word for Anglo-Saxon archaeologists, following Smith and ...in), here we use this idiom to determine cist burials made mostly of large monoliths, around which there are remains of a circle of smaller pieces of stone. Some of these cist burials are built on top of natural hillocks.

The reason behind the expansion of Kura Araxes culture in such a vast geographical zone is not yet known. It is, nevertheless, presumed that an important ethnic movement, perhaps that of the Hurrians, caused the spread of this culture (Kohl, 1995: 1059; Burney, 1994:48).

The main characteristics of this culture, the first manifestation of which appears as early as 3500 B.C., or slightly earlier, are rectangular- or almost rectangular- and circular houses built of mud brick or wattle and daub. Portable, often anthropomorphic or zoomorphic, hearths; a wide range of hand made burnished pottery, frequently displaying a range of contrasting colors of black, grey, brown, and red, sometimes elaborately decorated with carved motifs; fine bone implements; figurines of horned animal; a simple range of metal objects mostly made of arsenical bronze; and, in the eastern regions, a stone tool repertoire mostly manufactured of obsidian (Kiguradze and Sagona, 2003:38).

Charles Burney classified the Kura-Araxes culture into three. Period I is the formative stage. During period II circular houses and the pottery with incised decorative patterns appear. In the III third period circular houses are replaced by the square ones and incised decorative motifs disappear from the pottery (Burney and Long, 1972: 55-57).

In north-western Iran, Geoy Tepe is the only site with remains of the earliest stage of the Kura Araxes culture (K1 period- Burney and Long 1972:59, Sagona 1984:60). In the II and III stages, this culture spread out to the most of north-west, west, as well as the central part of the Iranian

plateau. Materials of these stages have been found at Geoy Tepe (Periods K2 and 3-Brown, 1951:39); Haftavan Tepe (Periods VII to VIII- Burney, 1975:150); Yanik Tepe (Layers XXVI-VII- Burney, 1961:141-147, 1962:139-141, 1964:59), and in western Iran, from Godian Tepe (Period IV- Young, 1969:11).

A review of materials found during several archaeological surveys demonstrates that the remains of this culture are also found considerably at the sites situated in the plains between Yanik tepe, to the north-western Iran, and Godin Tepe, in the Zagros mountains to the west, such as: plain of Malayir (Howell, 1999:157); plain of Hamadan (Young, 1966:232-235); plains of Bijar and Rawaz in Khoy region (Klies and Kroll, 1979:27) plain of Marand (Tepe-ye Barouj-Alizadeh, 1382:12); and plain of Ghazvin. (Tape-ye Ebrahim Abad-Talaie, 1384:8).

Economy of the Kura Araxes culture was based on agriculture and animal husbandry. During this period irrigation systems and ploughing instruments were considerably improved and, apart from plains, the mountainous regions were also inhabited (Kushnareva, 1997:183). However, in the second half of the third millennium B.C the Kura Araxes settlements were suddenly abandoned (Kohl, 1995:1056). The Early Bronze Age might have come to an end by about 2100 B.C (Sogona, 2004:478).

As mentioned above, the beginning of Middle Bronze Age (hereafter MBA) in southern Caucasus was marked by disappearance of the Kura-Araxes culture and the large- scale abandonment of village communities. This transition has been caused by the advent of nomadic groups, predicating their

domination upon pasturages (Badaliyan, Smith and Avetsiyan, 2003:150). There is an obvious shift in the economy toward stock breeding, the occupation of foothills and mountainous parts of the land, contrasted with a comparative depopulation of the lowland areas of south and central Caucasus, and an intensification of social stratification (Puturidze, 2003:114). Only a handful of the old settlements, such as Uzarlik Tepe, Shahtakhti, Kol Tepe, and Haftavan Tepe still witnessed traces of architecture and settled life (Ozfirat, 2003:117).

The most evident changes in this period include the appearance of precious gold and silver vessels and artistic craft (indices of unexpectedly advanced gold smithing), new forms of metallurgical products, new forms of burials, and the appearance of four wheeled wagons.

New grave constructions and richer burial gifts, as well as the location of burials of the MBA, signify a profound rupture in social relations and the emergence of more complex societies (Kohl, 1993:128). The majority of the archaeological records of the MBA come from graveyards of this period.

These and other materials of the period enabled the students to distinguish five local subcultures.

- 1- western Transcaucasus subculture
- 2- the Trialti subculture
- 3- Karmirberd subculture
- 4- Sevan Uzarlik subculture
- 5- Kizilvank subculture (Kushnareva, 1997: 84).

During the first half of the 2nd millennium B.C two distinct ceramic traditions cohabited in north-western Iran. One of them, termed by Stronach Urmia ware, was found in Haftavan Tepe, level

VIB (Edwards, 1981:65, 1983:72, 1986:65). Urmia ware is characterized by black and red painting on a white ground. In addition to Haftavan Tepe, Urmia ware has been found in Geoy tepe, periods C and D (Dyson, 1968:18) and Dinkha tepe, in the disturbed deposits of the late Bronze Age sequences (Rubinson, 1994:199).

Outside Iran, this pottery has also been found in the Azerbaijan republic (Abibullaev, 1982:4-6; Aliev, 1967:117) and eastern Turkey, where the shreds have been primarily surface finds (Cilingiroglu, 1986:312; 1987:121).

Urmia ware can be classified in two phases of early (found as far north as the Araxes region and Transcaucasia) and late (extending only as far as the southern course of the Araxes-Edwards, 1966:72). Only one C14 dating is available for Haftavan Tepe period VI indicating that Urmia ware was used in 1772 B.C. (Burney, 1975:161). A series of archaeomagnetic intensity tests highlighted following range of dates: Haftavan VIC 2200-2000 B.C.; Early VIB 1900-1550 B.C.; Late VIB 1500-1450B.C. (Edwards, 1986:70).

The outcome of recent excavations in Armenia enabled the excavators to suggest 2400 to 1600 B.C. for MBA in that region. However, Bakhshalief and Seidov have dated this period between 2300 and 1600 B.C. (Ozfirat, 2001:122-123).

On the basis of the available data, therefore, we may suggest that Urmia ware is a product of MBA culture, in vogue in western and northern Urmia Lake. We may equally conclude that 24

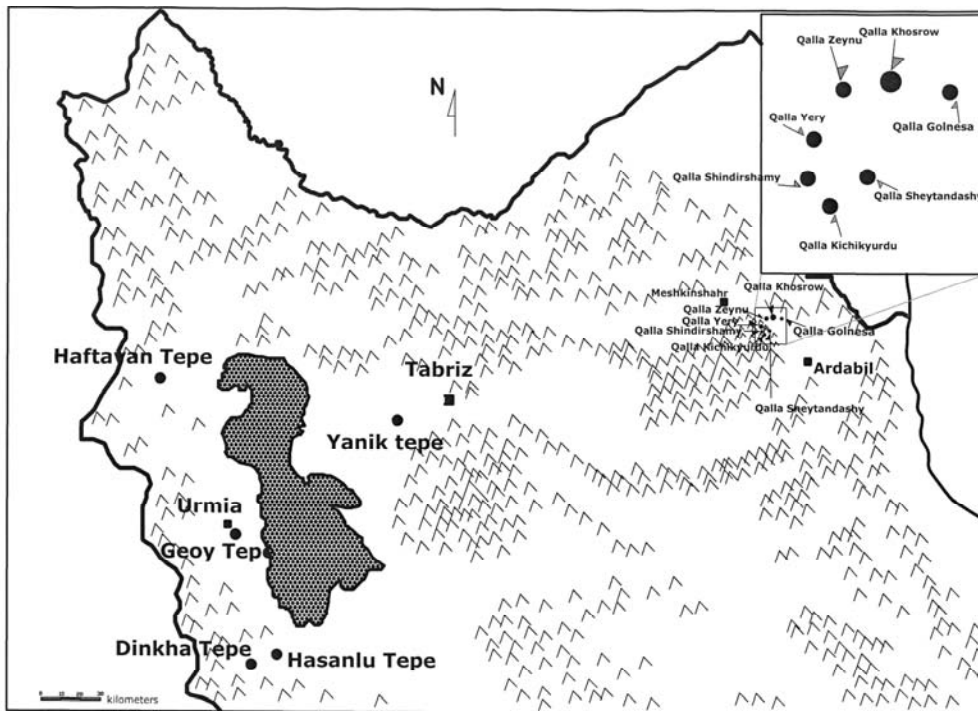
pieces of this pottery found in Dinkha level IV, had reached this old Assyrian-old Babylonian trading colony via trade (see below-Rubinson, 2004:666).

The other distinct ceramic tradition of north-western Iran is Khabur ware, found in bulk in Dinkha tepe IV, but some also unearthed in Hasanlu VI. This was an intrusive phenomenon unrelated to the earlier painter's orange ware of Hasanlu VII. It is related instead to the Khabur ware of northern Iraq and Syria (1900-1600 B.C.) and may represent the eastern most extension of old Assyrian trade contacts (Hamlin 1974:129-130). This characteristic grit tempered buff ware is painted with bands of primarily geometric motifs (Henricson: 1991:288).

With the beginning of LBA the Khabur ware disappeared and the Urmia ware was the only pottery in western part of Urmia Lake that continued till the beginning of Iron Age.

### **Recent Surveys**

North-western Iran comprises a variety of geographical landscapes, including pasturages of piedmonts, mountains, and well-watered plains. Changing precipitation rates and, consequently, different vegetation populations proper to each geographical zone greatly influenced the way of life of their inhabitants. The present chronology of this region, nevertheless, is based exclusively on data collected from sites of the plains around the Urmieh Lake, other regions, mountainous areas in particular, almost totally ignored (Figure 1).



**Figure 1** Distribution map of the bronze age sites in north-western Iran

During LBA in the provinces of Ardabil and east Azerbaijan mountainous areas a culture was formed that its influence could be felt as far as Urmia Lake region.

Three tombs excavated in Dinkha IV belong to this culture. Cut down into the level beneath and markedly irregular in plan, they are lined with stone walls and roofed with large, irregularly shaped, flat slabs. All of them contains multiple burials [Brown: 1951:100] but neither of these contained painted pottery. Disappearance of painted pottery in favour of black, grey, buff wares with incised decorations- as well as new approaches to metallurgical production-mark the transitional period between the middle and LBA (Badalyan, Smith and Avetsiyan 2003:152).

LBA sites in adjacent republics of Azerbaijan and Armenia have been well studied. The most marked characteristic of this period is the reappearance of

numerous stone masonry fortresses, of various sizes, built atop hills and outcrops (Badalyan, Smith and Avetsiyan 2003:152). “The fortifications conform the natural contours of the hills on which they are built, and the cyclopean walls are fairly crudely constructed, sometimes without irregularly placed buttresses. Hundreds of these fortresses are found throughout Armenia, on the high plateaus of southern Georgia, and in western Azerbaijan along the right bank of the Kura River” [Kohl 2001:324].

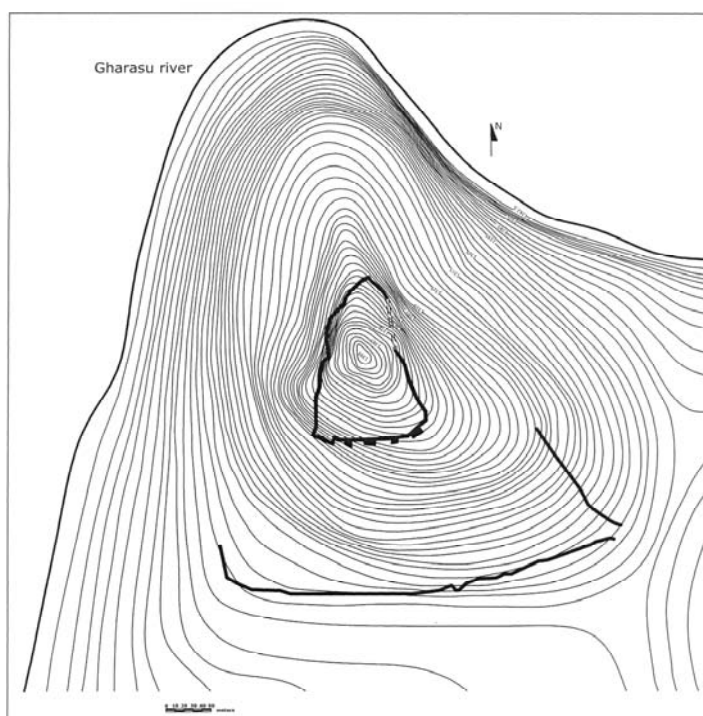
Qalla Khosrow, a similar fortress, is located at about 30 kilometers North-West of the city of Ardabil and very close to the village of Ghonaghghiran. The fortress stands on a rocky peak, 1395 meters above the sea level, on the left bank of the Gharasu River, dominating, together with other hills and mountains surrounding it, the Ardabil plain (Figure 2). This formation represents the north-eastern extensions of Mount Sabalan’s foothills.



**Figure 2** Qalla Khosrow

Qarasu River runs along the north, north-west and eastern sides of the peak on which Qalla Khosrow stands and, together with the deep steep

on these sides, form a breathtaking landscape and, above all, an impregnable defence. On the west side cliffs form the barrier (Figure 3).



**Figure 3** Topographic map of Qalla Khosrow

In addition to a formidable natural defence, Qalla Khosrow benefits from a strategic location on the ancient route between Ardabil and Moghan plain.

The physiographic of Qalla Khosrow includes the settlement and cemetery areas, together more than 300 hectares. The fortress itself is about 20 hectares.

The fortress, extending roughly in east-west direction, following the topography of the hill, needs no defence walls on the sides surrounded by Gharasu River, protected as mentioned above, by steep slopes and cliffs. Lack of the defence wall on these sides is a classic feature of fortresses from LBA period (Figure 4).



**Figure 4** Southern defensive wall of Q.Kh.

There are no traces of rock cutting or foundation trenches either. Walls following topographical contours are, thus, rarely, if at all, straight. Walls are built without any set-backs or buttresses. The thickness of the enclosure wall varies from 1/90 to 2/40 meters. Large blocks are employed for the facades, whereas smaller pieces are used to fill the gap. There are no signs of any

mortars, clay or other. The gate of fortress is, apparently, located on the south eastern corner.

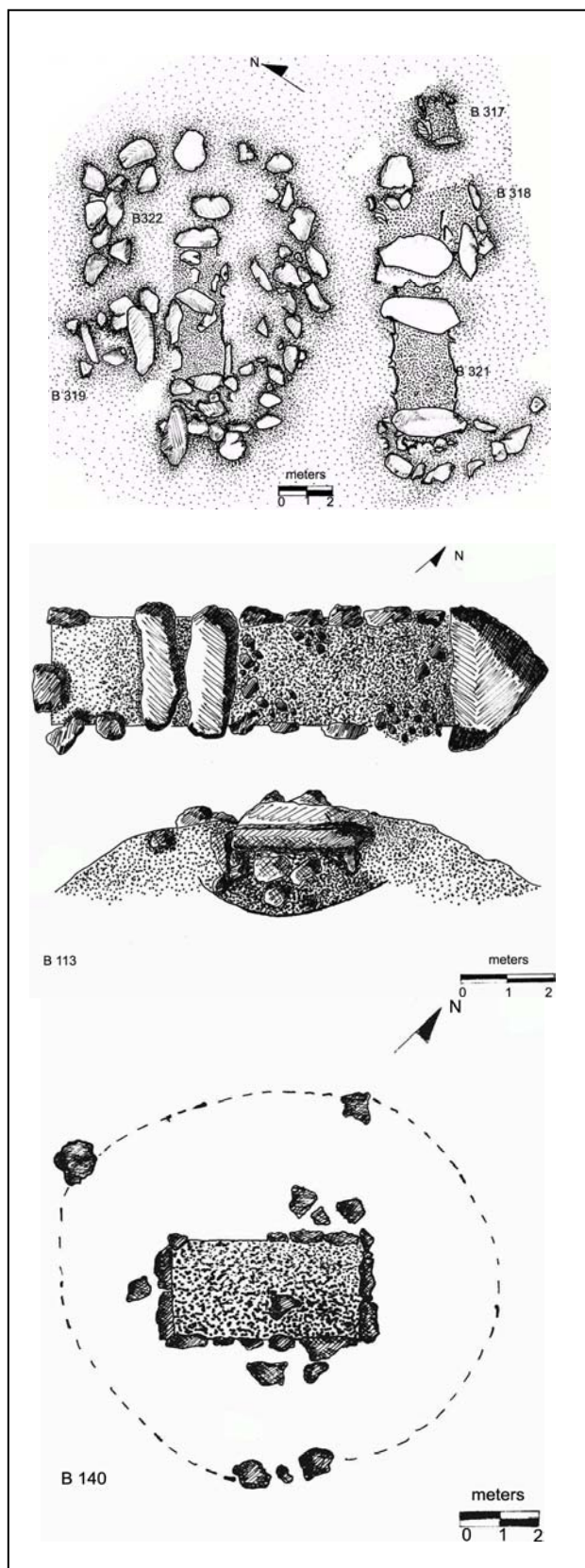
The necropolis, extending over a very large area to the south of the fortress, comprises cromlechs graves, typical for the mortuary architecture of the period. Walls of the burial chamber are constructed of large stone blocks and roofed by stone slabs, obtained from local quarries (Figure 5).



**Figure 5** Samples of Qalla Khosrow cromlech graves

Burial chambers of the graves are encircled by stone of various diameters, from 6 to 16 meters. Dimensions of the graves vary from 11 to 4 by 1/5 to 1 meter<sup>1</sup>. In some cases there is a big burial chamber built in the centre and several smaller graves are scattered around it. During the three seasons of field works, 429 graves were listed in Qalla Khosrow cemetery, most of which, it must be emphasized, have been plundered (Figures 6, 7, 8).

In the course of surveys around the Qalla Khosrow, we discovered six smaller forts of 1 to 2 hectares, which are: Qalla Zeynu, Qalla Yery, Qalla Shindishamy, Qalla Ghoshgoyan, Qalla Gulnesa, and Qalla Sheytandashy (Figure 9). It seems that these forts make a network of fortified positions around Qalla Khosrow as the central place. Most distinctive characteristics of the central place are its much larger dimensions and existence of an extensive cemetery comprising cromlech graves in its immediate vicinity. In contrast, smaller forts scattered around the central fortress lack cemeteries.



**Figure 6** Samples of Qalla Khosrow cromlech graves

1. The largest of all graves discovered so far is, as mentioned above, 11meter long . This grave is located within the fields and it is, perhaps, because of systematic plowing that all traces of the circle around it has disappeared. Were this circle still in situ, it would certainly be more than 6 meter in diameter.



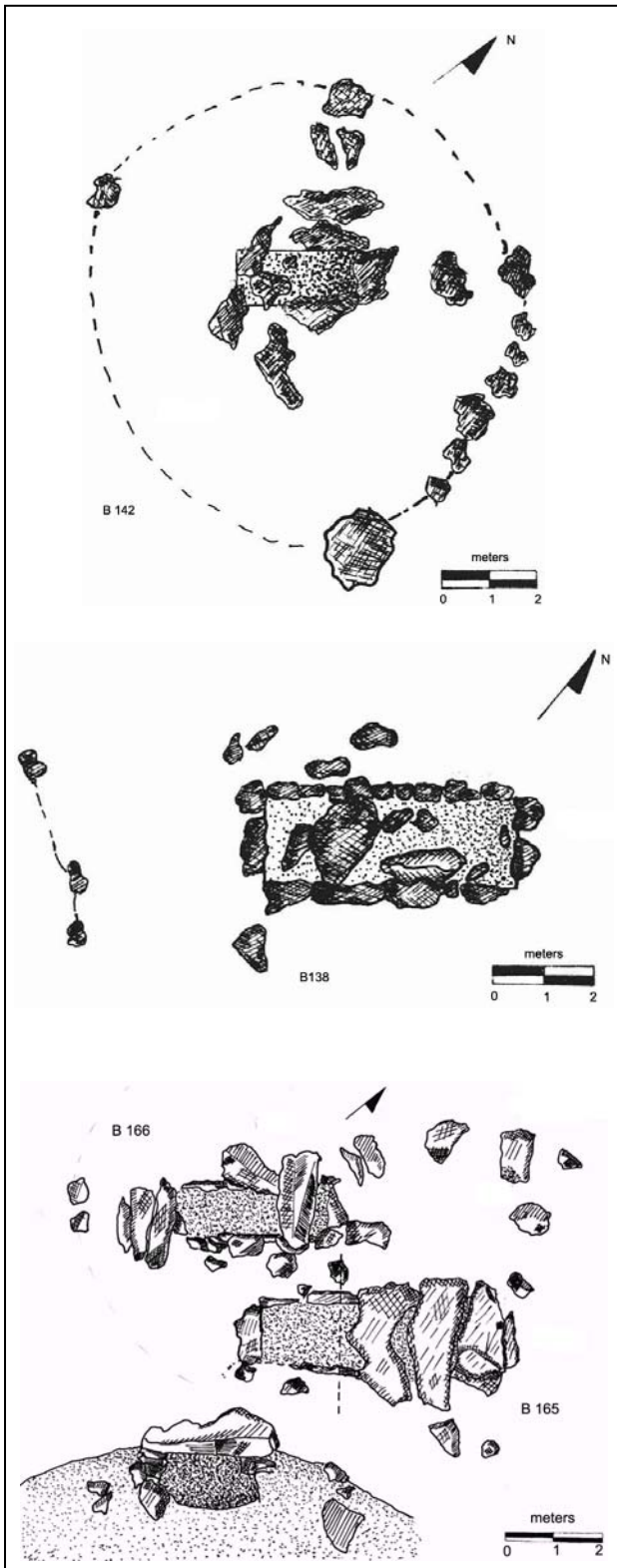


Figure 7 Samples of Qalla Khosrow cromlech graves

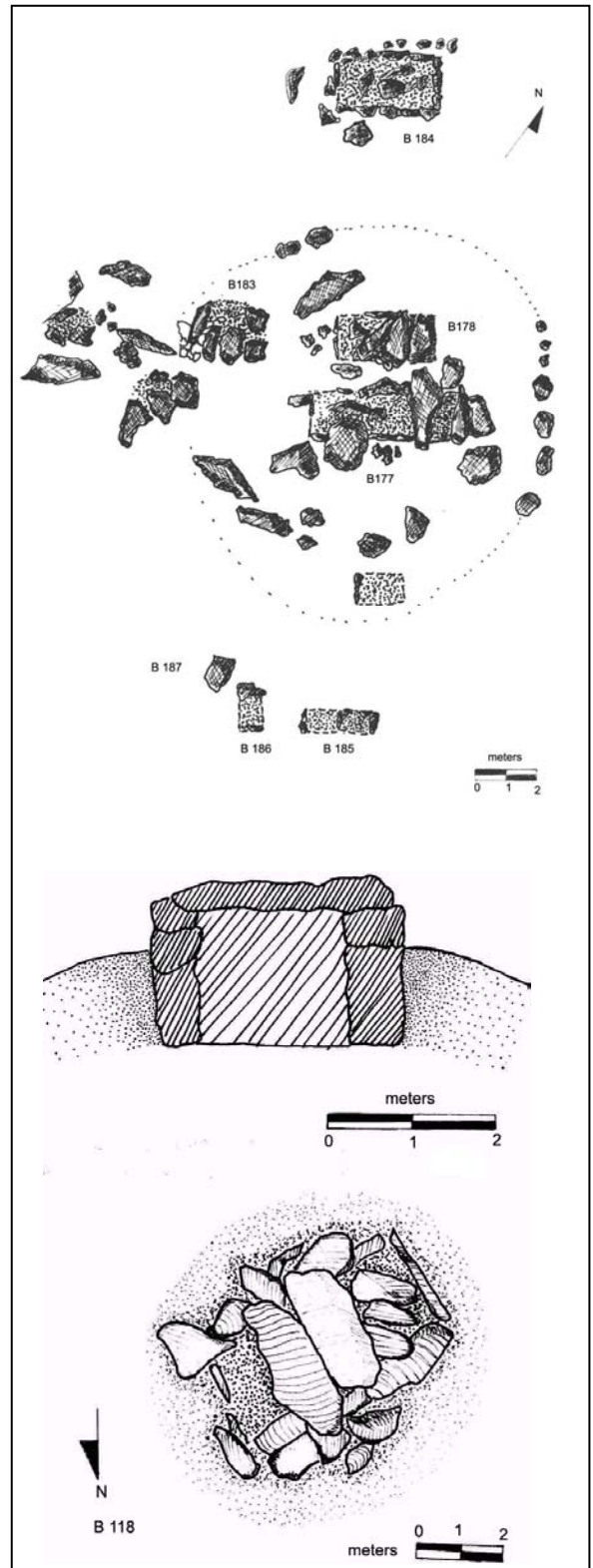
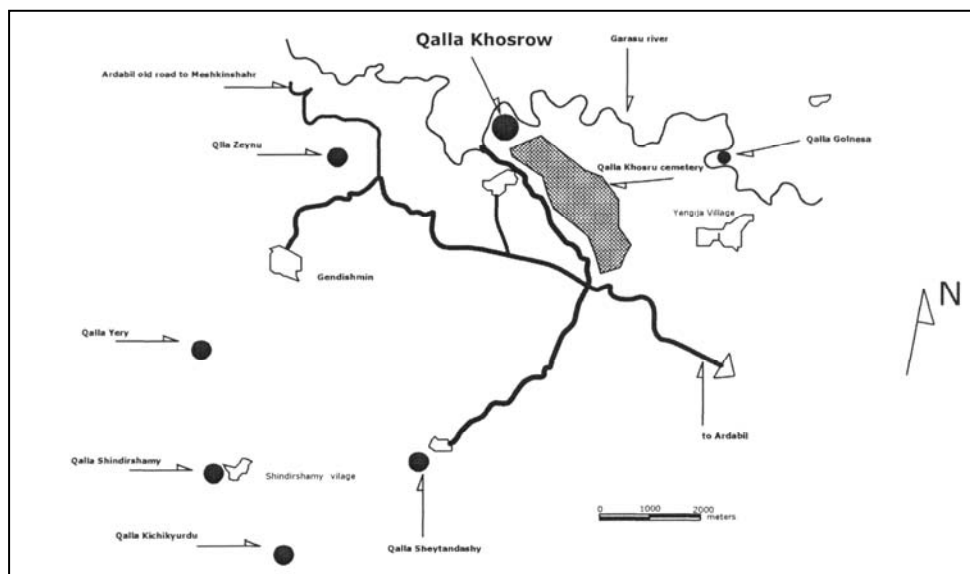


Figure 8 Samples of Qalla Khosrow cromlech graves



**Figure 9** Late bronze age fortresses around Qalla Khosrow

The forts are probably built to protect the boundaries and pasturages belonging to the central fortress and oversee eventual threats to the Ardabil plain approaching, as a whole, from the north. Considerable numbers of cromlech graves have also been discovered in the foot of mount Sabalan and in the Ardabil plain with no fortresses or settlements near them. Hypothetically, therefore, one may suggest that these dispersed graves indicate the ownership of pastures by people living, mostly, in central fortresses such as Qalla Khosrow. The economy of these people was based on animal husbandry and therefore pastures were of utmost importance to them. Moreover, the LBA period being one of extensive dislocations of peoples and, in addition, one of the north-south routs to the Iranian plateau crossing the Ardabil plain, it would be imaginable that marking the ownership of pasturages was vital to the people settled in the area in order to prevent their seizure by migrant peoples of Transcaucasia.

As mentioned above, this LBA culture influenced the western and southern shores of Urmia Lake. Cist graves excavated in Dinkha Tepe, period IV3 (Henrickson, 1991:379) and Geoy Tepe level D4 have been interpreted as a sign of the influence of Ardabil and east Azerbaijan LBA culture. On the basis of the absolute chronology provided for Dinkha Tepe, we may put the beginning of this period around 1600 century B.C. LBA culture continued to exercise its influence in this region until the beginning of Iron Age, in the second half of 2nd millennium B.C.

Study of LBA burials in north-west Iran began in the late nineteenth and early twentieth centuries when de Morgan carried out his first excavations in cemeteries around Namin [de Morgan 1905:267-305]. A team of German archaeologists conducted surveys in 1968, 1971, 1977, 1978 in east Azerbaijan and Ardabil provinces. [Jolfa, Marand, Tabriz, Maragheh, Mianeh, Sarab, Ardabil, Germy, Ahar, Meshkin-Shahr-Kroll 1984:12-14] These

surveys demonstrated that there are numerous cromlech burials scattered in Meshkin-Shahr, Ahar, Ardabil, and Germe. [Kleiss, 1969:188-191] In addition, in these surveys LBA fortresses, such as Qalla Mirfatah (44 k. north-west of Ardabil-Kleiss 1972: 61-62) Qalla Segindil (5 kilometers east of Varzganann), Qalla Sassan (50 k. south of Astara- kleiss 1997:187) have also been studied.

A team of British archaeologist headed by Charles Burney carried out surveys at Meshkin - Shahr in 1976. This survey marked a large number of scattered LBA cromlech burials around Meshkin-Shahr (Ingraham and Summers, 1976:68-69) Kambakhsh-e Fard conducted survey around the Sarab and Nir and studied two LBA cemeteries of Tikili-Dash (Kambakhsh-e Fard, 1370:123).

### **LBA Sites in Caucasus**

The most comprehensive studies of LBA, are those carried out in Armenia by joint Armenian-American teams in the frame of project for archaeology and geography of ancient Transcaucasian societies (ARAGATS). As part of this project, excavations were carried out in the fortresses of Tsakahovit and Gegharot.

Horom, in the Shirak region of north-western Armenia is another LBA fortress which was excavated by joint Armenian-American archaeological team in 1990 (Badalyan, Kohl Stronach and Toikyan 1994:1).

The systematic archaeological surveys and excavations of this project enabled the archaeologists to distinguish the layer belonging to the initial stages of complex societies in Tsalkahovit region during the LBA and collect

considerable quantity of data from this period [Smith, Badalian, Avetisyan and Zardaryan, 2003:7].

In Georgia, too, some of the LBA fortresses, such as the Shaori, have been studied (Kohl 2001:324) This fortress is situated on top of a high hill, looming above the western shores of lake Paravani in southern Georgia.

Last but not least, in Azerbaijan republic, cemeteries of LBA, such as Sahtahti, Kolani, Sariderre, Hakkihlik , Bayahmet, Karabulak, Zeyve, Yurtcu and kol Tepe I and II have been studied (Bahsaliev 1997:101).

### **Conclusion**

The beginning of LBA in the eastern parts of north-western Iran is marked most conspicuously by appearance of numerous permanent settlements in the form of diversely sized stone-masonry fortresses built atop hills and outcrops. The unique nature of Qalla Khosrow, and the presence of a group of fortified outposts around it, suggest a possible model of settlement pattern. In this model, Qalla Khosrow is considered as the central fortress and smaller forts scattered around it as its outposts. Most distinctive features of the central fortress (Qalla Khosrow) are its considerable dimensions and the presence of a cemetery of cromlech graves, nearby. The central fortress includes residential areas as well. The outpost forts are not only much smaller than the central fortress but also lack the cemetery. These citadels, as watch posts, have been built to protect the boundaries and pastures of the central fortress and oversee possible threats to the Ardabil plain, coming from the north. So far,

LBA of the region has so far been almost totally ignored. Taking into account the comparisons made above, we suggest LBA of the region under study may be dated as early as Circa 1650 B.C.

## References

- [1] Abibullaev, (1982) The eneolithic and bronze ages in the territory of Nakhichevan ASSR. Baku.
- [2] Aliev, V.G., (1967) New materials about the culture of painted pottery in Azerbaijan. *Sovetskaya Archeologiya* 1:115-212.
- [3] Alizadeh, Karim. Azarnoosh, Masoud, (1382) "Systematic Survey of the Baruj Tepe", *Journal of Archaeology and History*, no 17. Vol 2 pp 22-30.
- [4] Badalyan, R. S. P., Kohl, D., Stronach and A. Tonikian. (1994) Preliminary report on the 1993 excavations at Horom, Armenia. *Iran* 32:1-29.
- [5] Badalyan, R. S. A., T. Smith and P. S. Avetisyan. (2003) The emergence of socio political complexity in southern Caucasia. In *Archaeology in the borderlands: investigations in Caucasia and beyond*, edited by A. T. Smith and K. Rubinson. pp 144-167. The cotson institute of archaeology at UCLA. Los Angeles.
- [6] Bahsaliyev, V. (1997) *Nahcivan arkeolojisi, The archaeology of Nakhichevan*. Arkeologi ve sanat yayinlari, Istanbul.
- [7] Burton Brown, T. (1951) *Excavations in Azerbaijan 1948*. London.
- [8] Burney, C.A. (1961) Excavation at Yanik tepe, North-West Iran. *Iraq* 23: 138-53.
- [9] \_\_\_\_\_, (1961) Excavation at Yanik tepe, Azerbaijan, 1961: second preliminary report. *Iraq* 24: 134-49.
- [10] \_\_\_\_\_, (1964) The excavation at Yanik tepe, Azerbaijan, 1962 third preliminary report. *Iraq* 26:54-61.
- [11] \_\_\_\_\_, (1975) Excavations at Haftavan tepe 1973. Fourth preliminary report. *Iran* 13: 49-69.
- [12] \_\_\_\_\_, (1994) Contact and conflict in north-western Iran. *Iranica Antiqua* 26: 47-62.
- [13] Burney, C.A and D. M. Lang. (1972) *The people of the hills: ancient Ararat and Caucasus*. Praeger Publishers, New York.
- [14] Cilingiroglu, A. (1984) The second millennium painted pottery tradition of the Van lake basin. *AnatSt* 34:129-139.
- [15] \_\_\_\_\_, (1986) Van bolgesi ve ordu ili yuzey arastirmasi, 1985.4. Arastirma Sonuclari Toplantisi: 311-322.
- [16] \_\_\_\_\_, (1987) Van bolgesi yuzey arastirmasi, 1986.5. Arastirma Sonuclari Toplantisi, 2: 119-121.
- [17] De Morgan, J. (1905) Recherches au Talych Persaen 1901. In *Necropoles des ages du Bronze et du fer*, MOP VIII PP 251- 345.
- [18] Dyson, R.H. (1968) The archaeological evidence of the second millennium B.C on the Persian Plateau. In *Cambridge Ancient History*, fascicle 68, Cambridge University Press, 3- 36.
- [19] Edwards, M.R. (1981) The pottery of Haftavan VIB (Urmia ware). *Iran* 19: 101-114.
- [20] \_\_\_\_\_, (1983) Excavation in Azerbaijan (north-western Iran) 1. Haftavan, period VI. Oxford (BAR international series 182).

- [21] \_\_\_\_\_, (1986) "Urmia ware" and its distribution in north-western Iran in the second millennium BC: a review of the results of excavation and surveys. *Iran* 24: 57-77.
- [22] Hamlin, C. (1974) The early second millennium ceramic assemblage of Dinkha Tepe. *Iran* 12: 125-153.
- [23] Henrickson, Robert (1991) The Bronze Age in north-western, western, and southwestern Persia, in Ehsan Yarshater ed. *Encyclopaedia Iranica*. vol 7, Fascicle 8, Mazda publishers, Costamesa.
- [24] Howell, R. (1979) Survey of the Malayer plain (survey of excavations in Iran). *Iran* 17: 156-157.
- [25] Ingraham, M.L and G. Summer. (1979) Stelae and settlement in the Meshkin Shahr plain, northeastern Azerbaijan, Iran. *AMI* 12: 67-101.
- [26] Kambakshfard, Seifallah, (1370) Tehran during 3200 years on the basis of archaeological efforts, Faza Publication, Tehran.
- [27] Kiguradze, T.B. (2000) The chalcolithic-early bronze age transition in the eastern Caucasus. In *Chronologies des pays du Caucase et de l'Euphrate aux IVe-IIIe millénaires: Actes du colloque d'Istanbul, 16-19 décembre 1998* (Acta Anatolica XI), edited by C. Marro and H. Hauptmann, pp. 312-328. Paris
- [28] Kiguradze, T.B and A. Sagona (2003) On the origins of the Kura-Araxes cultural complex. In *Archaeology in the borderlands: investigations in Caucasia and beyond*, edited by A.T. Smith and K. Rubinson. pp. 38-95. The Cotsen Institute of Archaeology at UCLA. Los Angeles.
- [29] Kleiss, W. (1969) Bericht über zwei Erkundungsfahrten in nordwest-Iran. *AMI* 2: 7-119.
- [30] \_\_\_\_\_, (1972) Bericht über Erkundungsfahrten in Iran im Jahre 1971. *AMI* 5: 185-242.
- [31] \_\_\_\_\_, (1997) Hügelgräber in Nordwest und Westiran. *AMI* 29: 179-191.
- [32] Kleiss, W and S. Kroll (1979) Ravaz und Yakhvali, zwei befestigte Plätze des 3. Jahrtausends. *AMI* 12: 27-47.
- [33] Kohl, P.L. (1993) The Transcaucasian periphery in the Bronze Age. In *Resource power and regional interaction*, Eds. A. Urban and E.M. Schortman. Plenum Press. London. pp. 117-137
- [34] \_\_\_\_\_, (1995) Central Asia and Caucasus in the Bronze Age. In *Civilizations of the Ancient Near East*, edited by J.M. Sasson, J. Baines, G. Beckman, and K.S. Rubinson, pp. 1051-1056. New York: Charles Scribner's Sons.
- [35] \_\_\_\_\_, (2001) Migrations and cultural diffusions in the later prehistory of the Caucasus. In *migration und kulturtransfer*, (Ed) R. Eichmann and M. Parzinger. GMBH. Berlin pp. 313-328.
- [36] Kroll, S. (1984) Archäologische Fundplätze in Iranisch-ost-Azerbaïdjan. *AMI* 17: 13-135.
- [37] Kushnareva, K. (1997) The southern Caucasus in prehistory: stages of cultural and socioeconomic development from the eighth to the second millennium B.C. translated by H.N. Michael. Philadelphia: University of Pennsylvania Museum.
- [38] Özfırat, A. (2001) *Doğu Anadolu yayla kültürleri*. Arkeoloji ve sanat yayınlari, İstanbul.

- [39] Puturidze, M. (2003) Social and economic shifts in the south Caucasian MBA. In *Archaeology in the borderlands: investigations in Caucasia and beyond*, edited by A.T. Smith and K. Rubinson. pp. 111-127. The Cotsen Institute of Archaeology at UCLA. Los Angeles.
- [40] Rubinson, K.S. (1991) A mid-second millennium tomb at Dinkha Tepe. *American Journal of Archaeology* 95/3: 373-394.
- [41] \_\_\_\_\_, (1994) Eastern Anatolia before the Iron Age: A view from Iran. In *Anatolian Iron Ages 3, The proceedings of the third Anatolian Iron Ages colloquium held at Van, 6-12 August 1990*, edited by A. Clingiroglu and D.H. French, pp. 199-203. Ankara: The British Institute of Archaeology.
- [42] \_\_\_\_\_, (2004) Dinkha Tepe, Iran, and so-called Urmia ware. In *Ancient Near Eastern Studies, supplement 12, A view from the highlands archaeological studies in honour of Charles Burney*, edited by A. Sagona. pp. 661-676. Belgium. Peeters.
- [43] Sagona, A. (1984) *The Caucasian region in the early bronze age*. Oxford: BAR International series 214.
- [44] \_\_\_\_\_, (2004) Social boundaries and ritual landscapes in late prehistoric Trans-Caucasus and high land Anatolia. In *Ancient Near Eastern Studies, supplement 12, A view from the highlands archaeological studies in honour of Charles Burney*, edited by A. Sagona. pp. 475-538. Belgium. Peeters.
- [45] Smith, A.T., R.S. Badalyan, P.S. Avetisyan and M. Zardaryan. (2003) Early complex societies in southern Caucasia: A preliminary report on the Tsakahovit plain, Republic of Armenia, forthcoming. In *American Journal of Archaeology*
- [46] Stein, A. (1940) *Old routes of western Iran*. New York: Macmillan.
- [47] Talaei, Hassan, (1374) *Iranian archaeology and art in first millennium B.C.*, Samt Publication, Tehran (in Persian).

## بازنگری گاهنگاری شمال غرب ایران در عصر مفرغ، مطالعه موردی: قلعه خسرو

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شمال غرب ایران از چشم‌اندازهای جغرافیایی متفاوتی چون مراتع، تپه ماهورهای کوهپایه‌ها، کوهستان و دشتهای پر آب تشکیل می‌شود. با این وجود گاهنگاری موجود این منطقه منحصراً بر اطلاعات گردآوری شده از محوطه‌های پیرامون دریاچه ارومیه متکی است و دیگر مناطق تقریباً به طور کامل نادیده انگاشته شده است. طی عصر مفرغ جدید روش زیستی نوینی در مناطق کوهستانی شکل گرفت که ساخت دژهای مسکونی از شاخصترین ویژگیهای آن بود.

نویسندگان این مقاله کوشیده‌اند تا در پرتو تحلیل مواد فرهنگی عصر مفرغ جدید متعلق به این محوطه‌ها گاهنگاری شمال غرب ایران را بازنگری کنند.

واژگان کلیدی: عصر مفرغ جدید، قلعه خسرو، گورهای کلان سنگی، گاهنگاری

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