Cultural Development of Chalcolithic Era in the East of Central Zagros based on Archaeological Excavations at Tepe Gheshlagh

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Situated in the Talvar valley of the Bijar County, Tepe Gheshlagh is an archaeological site with a sequence spanning the Chalcolithic through to the Bronze Age. Two seasons of salvage excavations have covered the site as it will be submerged as part of the intended lake of the Talvar Dam. Results from the excavations show evidence of long-lasting Chalcolithic (Dalma) settlements at the site. Dalma represents a major culture of the early-mid-Chalcolithic period, and its presence has thus far been documented over large parts of northwest and west Iran. In this period several socio-economic changes and environmentally provoked cultural adaptations have led to a diversity and distinction in certain cultural aspects. The preliminary results from the excavations at the site reveal strong parallels with the Hajji Firuz-Dalma cultures of the Lake Urmia Basin alongside inspirations from the Hassuna culture of northern Mesopotamia in the form of a pottery of Dalma type. The excavated material indicates external connections.

Keywords: *Tepe Gheshlagh, Rescue Excavation, Central Zagros, Chalcolithic, Talvar Valley*

Introduction

Tepe Gheshlagh is one of the major sites with deposits of the Chalcolithic period within the prospective reservoir of the Talvar Dam. Excavations at the site have the potential to shed indispensable light on the prehistoric cultures of the region. The absolute lack of earlier excavations with particular emphasis on the Chalcolithic period in the region further highlights the significance of the recent works at Tepe Gheshlagh. The main objective of these excavations is to establish the cultural sequence of the site. Other aims include dating the most important settlement attested at the site, and pinpointing the subsistence system of the Chalcolithic community that occupied it.

Thanks to its geographical location, the region serves as a line of communication and a bridge linking the central Iranian plateau with northwest and western Iran. In addition, results from the excavations suggest that a settlement that had continued uninterruptedly since the early Chalcolithic period was abruptly abandonment sometime at the end of the late phase of the same period, which corresponds with Godin Period VI. In the wake of this clear hiatus that coincided with the replacement in the region of the Yanik culture, a transient settlement again formed on the southern slope of the mound in the mid to late Bronze period and later occupations at the site would continue into the Iron III. Therefore, settlements at Tepe Gheshlagh span several periods. Though there is as yet no conclusive evidence to account for this fluctuating settlement history, it may partially be attributed to the environmental pollution prompted by local tin, copper and plaster (tophus) mines, the strains caused by famine, and the less-fertile nature of regional soil.

Geographical Location

Lying next to the modern village of Chehel Amiran in the Bijar County, Kurdistan Province, the archaeological site of Tepe Gheshlagh is located at UTM 3956676, 0760689, at an elevation of 1641 meters above sea level. The Iranian central plateau lies within a wet climate zone (Oberlander 1968). This geographical feature in the historical past has caused the main human settlements to concentrate around the rivers, resulting in their linear pattern centered on the permanent water sources (Sumner 1998). In the recent years, the excessive exploitation of these sources to supply potable water and the

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decreased annual precipitation have given rise to a number of problems, most notable among them being the gradual drying up of the inland lakes, including Urmia and Parishan, as a result of low in flow (UNEP 2012). As a high-rising small intermountain plain, Talvar lies in a region that straddles the northwest and western cultural zones of Iran. The regional climate is relatively cold and wet. Unlike the Zagros, here the mountains are high and devoid of vegetation. After running across the plain in a south-north direction, the Talvar River, as one of the headwaters of the north basin, joins the Sefid Rud. The literature of Iranian archaeology is marked by a cultural-regional demarcation because of the varying environmental conditions in different parts of the country. What is virtually neglected in the previous works is the investigation into the correlations and interfaces between cultures of each region with those of the surrounding ones, which appear to have been so wide-ranging that occasionally call for a re-evaluation of the mentioned demarcation.

Tepe Gheshlagh of Talvar

The mound measures approxmately 80 meters long and 70 meters wide, covering a total area of ca. 5600 sq. meters. At the highest point, it rises about 7 meters above the surrounding lands. It represents the largest prehistoric site across the Talvar valley. Generally speaking, two major factors have caused wide damages to the site: farming and clandestine digging. The observations made during the survey program by a team from the Iranian Cultural Heritage, Handicrafts and Tourism Organization (ICHHO) in 2008, suggested presence of a horizontal sequence at the site. This horizontal sequence is noticed in particular in the walls of the deep clandestine cuts which showed indications of late Neolithic and early Chalcolithic pottery, which were visible in the lower strata particularly; the intermediate levels included deposits exclusively belonging to the Dalma culture, especially ceramics with impressed motifs and thick slip, and streaky ware; and the upper layers contained types of Godin VII pottery that pointed to late Chalcolithic occupations. However, the settlement mainly shifted to the southwestern quadrant of the mound in the early and mid-Bronze period. This part of the mound was found to contain pottery diagnostics of the period, including Yanik-type burnished black pottery associated with the painted buff pottery of Godin III. The main settlement appears to have been abandoned in the second millennium B.C. and the occupation seems to have moved to some point almost 200 meters to the east as gray ceramics of the second millennium B.C. as well as the distinctive forms of the early half of the first millennium B.C., such as fine red and buff bowls, were found in the exposures undertaken in this part (Fig. 1).

History of Archaeological Work in the Region

In the archaeological literature, Northwestern Iran is primarily famed for the plains of the Lake Urmia Basin. The sphere of influence of the region's culture, however, spreads over a much vaster zone. In regards to the history of scholarship, the basin was among the regions of the most interest for domestic and foreign scholars at the dawn of professional archaeology in Iran. In the northern Basin, excavations at the Neolithic site of Tepe Hajji Firuz have yielded ceramics paralleling the material from the Early Hassuna sites such as Umm Dabaghiyah (Voigt 1983: 101). Dalma-type pottery has occurred at Tepe Sivan (Solecki 1973), Hajji Firuz (Voigt 1983: 80) and Pisdeli (Dyson 1960). The University of Pennsylvania Museum's long-lasting Hasanlu Project, started in 1956 under the general direction of Robert H. Dyson, is the most significant work in this basin (Dyson 1968). On the other hand, work in the northeastern basin of the lake began in 1960 by Charles Burney at Yanik Tepe, furnishing important results, among them the identification of the Trans-Caucasian culture's infiltration into northwest Iran (Burney 1961, 1962, 1964). Excavations at Yanik Tepe revealed a sequence spanning the Neolithic (Hasanlu Period X or Hajji Firuz Period), i.e. sixth millennium B.C., to the second half of the first millennium B.C. (Burney 1964). The Chalcolithic material here was found in Trench M, which contained painted and impressed pottery of Dalma type that concurs with the Hasanlu Period IX (Burney 1964: 58). Indeed, earlier excavations by Burton-Brown at Geoy Tepe, in the same part of the Basin, had uncovered evidence of the Trans-Caucasian culture

in Level K (Burton-Brown 1951). Later excavations by Burney at Haftvan Tepe brought to light further aspects of the Bronze and Iron age cultures. In general, no independent work, neither survey nor excavation, had been completed in the Talvar plain prior to 1971 when Stuart Swiny directed a general survey program covering the main valleys from the southern part of northwest Iran up to the fringes of the central Zagros in Hamadan, though his report fails to cite the small plain of Talvar (Swiny 1975). In the course of the construction of the Talvar Dam, its prospective reservoir was subjected to a survey by a team from IOCHHT in 2007 during which registered a total of 27 sites across the reservoir, including Tepe Gheshlaq of Talvar (Fig. 2).

Method of Excavation and Stratigraphy

In view of the topography of the site and the depth of the cultural deposits and after inspecting the walls of the clandestine cuts, the northern



Fig.1: *Satellite image from the position of Tape Gheshlagh in the margin of Talvar river (After: Google Earth, depicted on 10/07/2013).*



Fig. 2 : *General view of Tape Gheshlaq, (From the East) (photo by: Motarjem).*

part, the slope of the northern crest of the mound, was selected for excavation. The first trench, measuring 10 x 8 meters, covered Grid DIV, thus the designation TT.DIV. The stratigraphic work commenced (extending northward) after cutting the trench into three steps.

The second trench, to the north of the first one and measuring 10 x 4 meters, was set up in Grid D.III and labeled TT.DIII. Given the topography of the mound and the distribution of the surface material, the cultural material seemed to be of highest density in the northern half where cultural deposits appeared to have been concentrated. Also, the northern crest was steeper than the other parts, therefore laying out the grid system and conducting stratigraphy here would produce more results in a shorter time. On the other hand, illegal excavations had taken a toll on the other parts of the mound and the northern quarter was in a better state of preservation.

A step trench, measuring 20 meters north-south and 8 meters east-west was also opened and divided into two parts. The southern part, being 10 x 4 meters in dimensions, covered Grid D.IV, while the northern one, with the same dimensions, occupied Grid D.III.

Data recording was based on locus sheets and the cultural/natural sequence of the deposits. The work started from the trench TTD.IV. An important observation made in this trench was deposits of mid- and early Bronze age material characterized by wheel-made, painted buff pottery in the uppermost level. This was a clear indication that the settlement shifted at the end of the mid-Chalcolithic period towards the southern parts of the mound (Fig. 3).

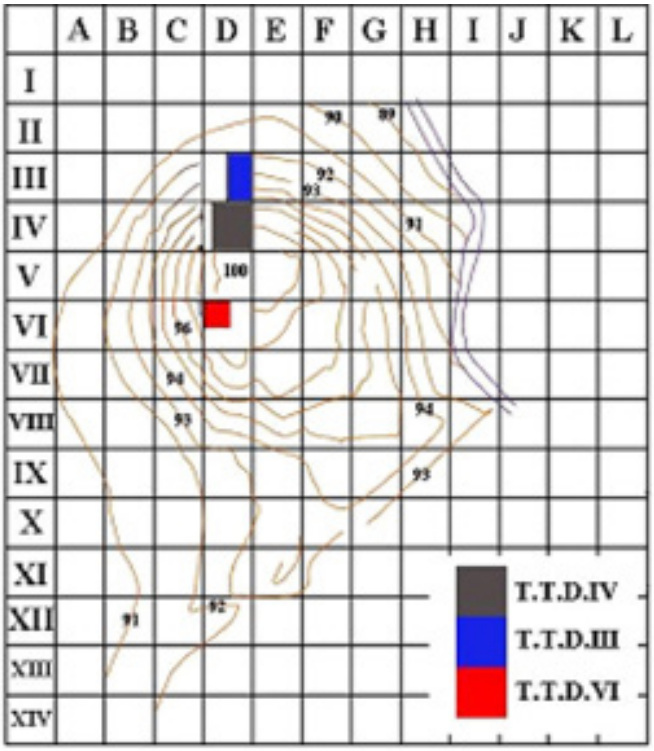


Fig. 3 : *The position of excavation trenches on Tepe Gheshlagh.*

Stratigraphy

Drawing on the whole body of evidence acquired from the excavation of the step trench, six cultural levels were identified, falling in a chronological range from the early Chalcolithic to the mid- to late Bronze Age. At the end of the latter, the settlement was abandoned and a new settlement established some 100 meters to the east during the Iron III. Though the Chalcolithic occupations are separated by a long hiatus from those of the mid-Bronze, the site was settled intermittently from the early to mid-Chalcolithic period.

Level I: In the main trench, Level I included deposits ranging from 0.2 to 0.6 meter in thickness and consisting of a dark colored clay layer of architectural debris and brick fragments. The most important remains pertaining to this level were recognized in Locus 101. It included an ovoid pit filled with a clay fill mixed with small to large cobbles.

Level II: This stratum was defined by a change in the soil texture and color from the depth of 0.6 to 1.30 meters. Sand and grit were the main inclusions in the soil. The level covered Loci 201-205. These loci were formed within Level II, and the most important features recorded in them involved isolated architectural remains. Loci 201 and 202 consisted for the most part of short stone walls made of medium-to-large cobbles and medium-sized flat stones laid regularly in a single course, in two side by side rows. Locus 203 contained a segment of

a wall constructed from small, medium and large cobbles in the southwestern quadrant of the trench, running for a length of about 3 meters. A dense pack of small cobbles, sand, grit and pottery sherds was encountered in the two loci of 204 and 205. Levels I and II represent the Iron III.

Level III: A clay deposit containing sand and grit forms this layer. In the section of the trench it appears as a brown deposit. Of the materials found for the first time in this layer are the pieces of packed clay with chopped straw inclusions in the form of clay mortar. Characterizing features are the increased volume of architecture and a profusion of cultural material such as sherds and (animal) bones. In addition, Loci 301 and 309 contained the major features in this stratum. Three small pits framed by stones were also recovered.

Level IV: It is comprised of a total of 26 loci and may be referred to as the first regular stratum with architecture associated with occupational debris. The architecture includes a mud-brick wall. Remains of two jars of a coarse fabric were found within the area enclosed within this wall. The jars have open mouths, slightly bulging bodies and flat bases. The rims are decorated with undulating raised bands and incised lines. These hand-made vessels are coated in a thick red slip and are inadequately fired. The same area also contained remains of a fired, clay lined hearth at the depth of -2.35 meters. The hearth was found to contain fragments of a coarse, poorly fired jar. Also found in Level IV at the depth of -2.90 meters were bins formed by vertical and aslant flat stones. The afore-mentioned mud-brick wall was strengthened through raising a retaining wall against it. The retaining wall at the time of excavations consisted of 6 courses of flat stones about 0.70 meter in height, running along the entire length of the western brick wall of the central room. (The central and the most important architectural space recovered at the middle of the test trench was labeled as Central Room or Storeroom.) In the lowermost layer of Level IV, the interior of this room/storeroom formed a regular structure mostly occupied by a small north-south oriented room. This is the same room designated as Central Room/ Storeroom. It is noteworthy that no floral remains were recovered from the wet sieving of the soils from this storeroom. This, however, might have resulted from the possible disintegration of these organic materials as no traces of firing and charring that would have carbonized the grains within the jar were observed. On the whole, the ashes obtained from the floatation of floral remains collected from inside the hearths and ovens varied between 5 to 20 liters that were fully floated. Generally speaking and in light of the above-mentioned indications, Level IV may be safely characterized as remains representing a permanent settlement at the site, traces of which are hardly found in the upper levels. On the other hand, the lack of permanent architecture in Level III raises the possibility that it served as a seasonal, transient settlement.

Level V: The stratum is mainly comprised of a soft deposit of fine- to medium-textured soil. The level is marked by a rise in the quantity of cultural materials, in particular sherds. This level related to Early Chalcolithic.

Level VI: It consists of a dark brown deposit. The assemblage of small finds from this and the underlying deposits are predominated by sherds, bones and spindle whorls.This level related to Early Chalcolithic.

Judging from the recovered remains, Levels I and II in the stratigraphic test trenches of T.T.D.IV and T.T.D.III, and Level I in Grid D.VI represent the Iron III culture. Among the major characteristics of Levels I and II is the presence of dry-laid cobble structures and arrangements. It is notable that the tradition of cobble arrangement is frequently attested at the other excavated sites within the prospective lake of the Talvar Dam, among them Tepe Reza Abad and Tepe Haj Nabi to name but a few. These probably belonged to the nomadic groups that inhabited the region in the first millennium B.C. (Iron III). The excavated material from these strata includes handmade red-slipped ceramics along with wheel-made, buff and gray pottery that typifies the ceramic industry of the first millennium B.C. (Iron III).

In Level III, sherds and other small finds display a relatively higher consistency. In the eastern half of the trench, the team recovered part of a structure formed by a single course of medium-sized flat

stones in a north-south orientation. A unique feature distinguishing it from those of the previous levels is the existence of clay mortar at the edges of the stones. To the east of this structure, at the same level, two small pits lined with rubble were encountered. Each pit measured between ca. 15 to 20 cm in depth and diameter, respectively. These were presumably postholes (Loc 307, 309).

The material from Level III and the exposed structures display the characteristics of the late Chalcolithic period. Note that Level III is consistent with the underlying levels, with no significant differences visible between them. In view of relative depth and structural attributes, the architecture recorded in Level III and IV appears to have derived from different phases of the same period that were not separated by a considerable timespan.

Level IV is the major excavated stratum at Tepe Gheshlagh and the most important architectural evidence comes from this same level. The stratum contains a consistent and coherent architecture that will be briefly described below.

As stated earlier, at the center of the trench, in Level IV, a mud-brick structure was found and designated as a Central Storeroom. With a total area of ca. 12 sq. meters, it is an L-shaped space with its long axis aligned north-south. Its main walls were built by mud-bricks set into clay mortar. To support and strengthen the western mud-brick walls, short retaining walls of rubble and clay mortar were raised behind them. Another architectural feature in the central storeroom is a bin in its northwestern corner, which was constructed from standing large rubble placed together. The northern, eastern and western sides of its walls were built against the brick walls, while the southern side was strengthened by pies retaining wall. The interior walls and the floor of the bin were coated in plaster (Figs. 4-11).

Cultural Materials

A total of 1184 sherds from the first season of excavation at Tepe Gheshlagh have been subjected to

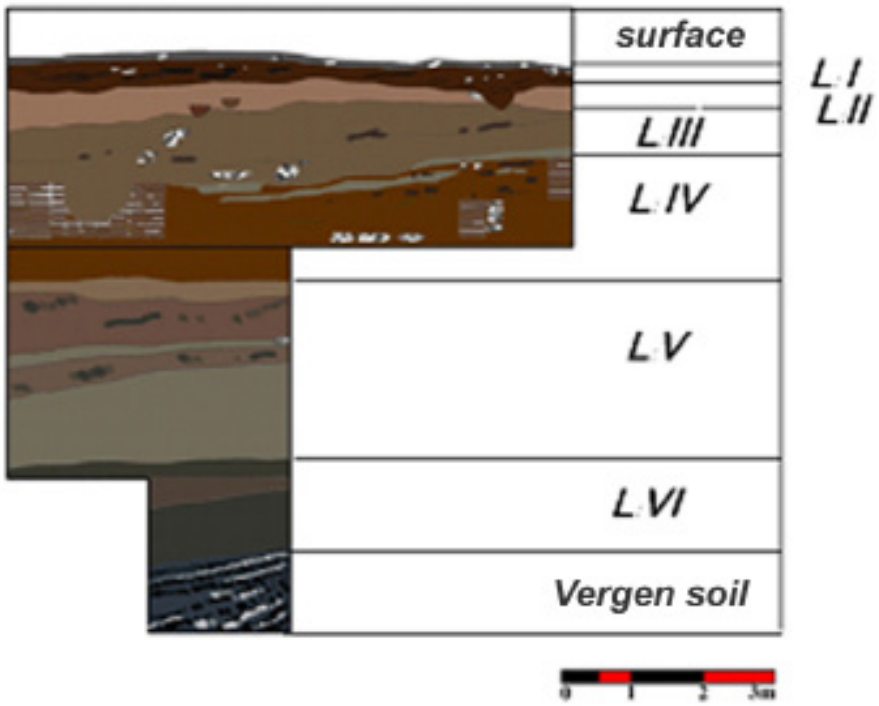


Fig. 4 : *Stratigraphy sketch in the main step tranche of Tepe Gheshlagh.*

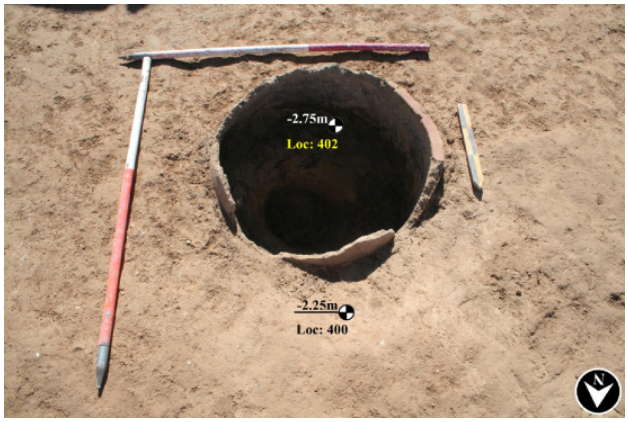


Fig. 5 : *Emerging a storage vat after unloading, (view from the North).*



Fig. 6 : *Small Bin with rubble stone with gypsum plaster L: IV.*



Fig. 7 : *Overall explored Architectural structure (view from the South).*



Fig. 8: *Position Loc: 407, overall explored architectural structure (view from the South East).*

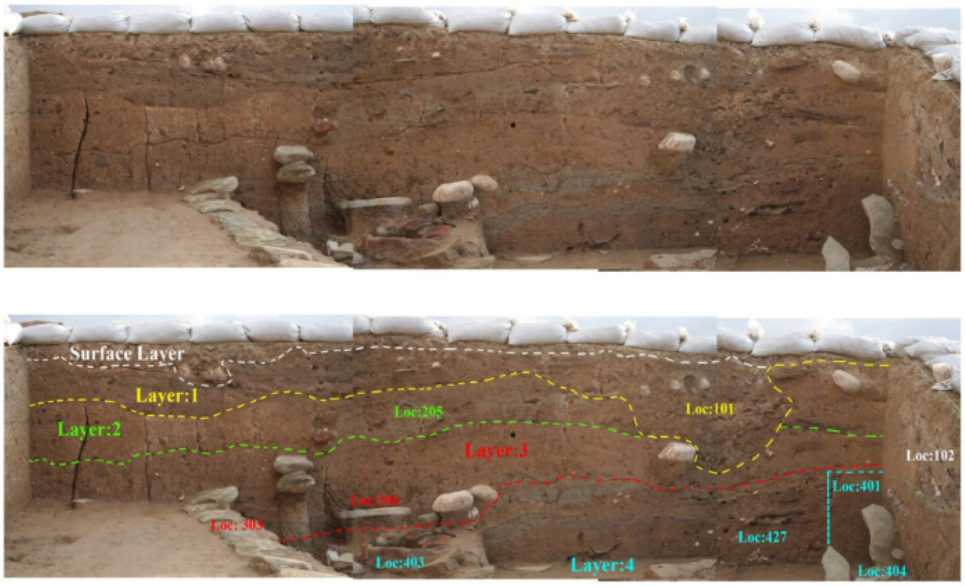


Fig. 9: *Stratigraphy picture of the southern part of the tranche TT.D.IV.*

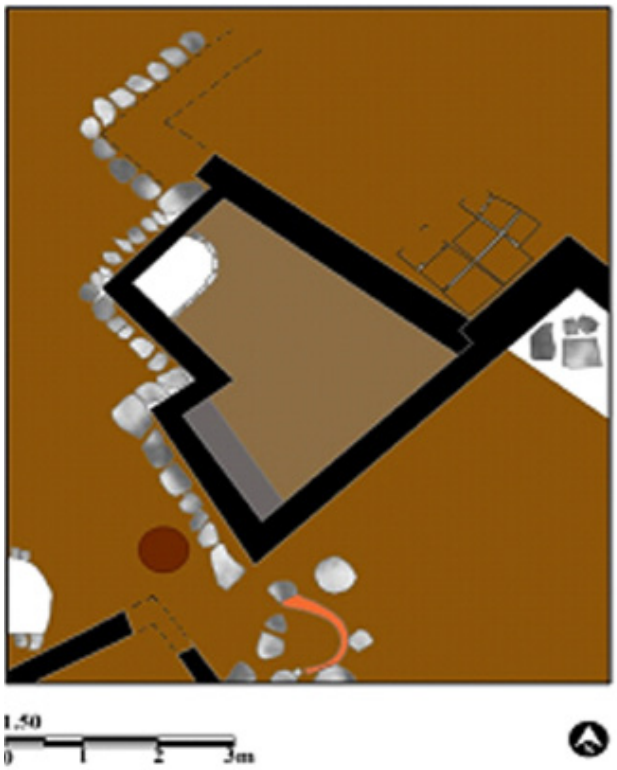


Fig. 10: Plan of Architecture of the tranch TT.D.IV, Phase II.

analysis. In terms of appearance and technique, they are categorized into the following groups and classes.

Pottery Type I: This type is comprised of fragments of handmade vessels with black or gray core and Straw temper (mainly chaff). They tend to bear a thick or thin buff and brown, gray or red slip.

Pottery Type II:The vessels were inadequately fired resulting in a gray or black core and loose and friable body. Another major reason for the low quality of the vessels was the nature of the local soil that contained high contents of mineral materials, including calcium carbonate and calcium sulfate particles (gypsum and limestone). As one of the main factors deciding the quality of the vessels, the heating involved in the firing operation changed these particles to quicklime and dried plaster, thus the poor quality of the vessels. It was for this same reason that they had broken into very small sherds.

Another criterion in subcategorization of this pottery type is the presence/absence of decorative elements. In this regard, they fall into the two plain and decorated subclasses. The attested techniques in

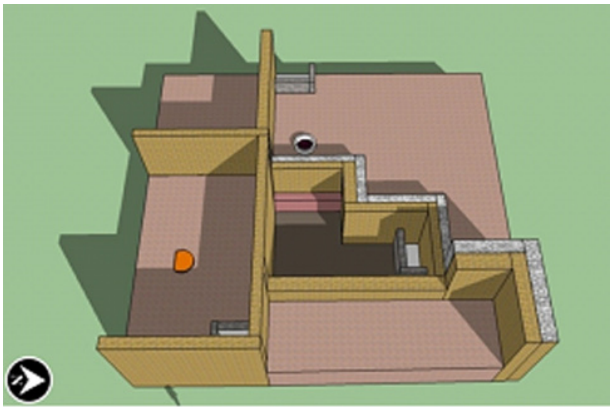


Fig. 11: Reconstructed plan of the architecture of phase II, trenches TT.D.IV, (view from the East).

the latter subclass are incised, appliqué and painted decorations.

1-Incised:ThissubclassisknownasDalmaStreaky Ware in the mid-Chalcolithic period, particularly in the classification of the material from Dalma phase or Godin X period in the eastern Central Zagros (Henrickson 1983). It reveals close affinities with the Lower Hassuna-type incised pottery in technique and not at date (Lloyd et al. 1945, figs. 13-14).

2- Appliqué: Unlike the former, here the motifs and decorations are mainly confined to the upper half of the vessels. Dalma ware is characterized by horned handles. Of the most striking examples of appliqué decorations is the highly abstracted head of a ram added to two long horns on the vessel's surface. The tradition is known from Tepe Idir of Neolithic date in Moghan (Hessari and Akbari 2005, drawing 1) and the Chalcolithic deposits at Tepe Kalanan of Bijar (Saed Mucheshi 2011: 46). This decorative technique indicates relations with the Lower Hassuna-type pottery from Umm Dabaghiyah (Kirkbride 1972, N: c, p: 6 and No. 4-7-11, pl. XI, P: 13; Kirkbride 1973: No. c, pl. XI, P: 6).

A reference should here be made to the similarities that exist between the Hajji Firuz and Dalma materials (see Solecki 1973). The cultural resemblance of these materials does not, however, derive from their chronological propinquity. The Hassuna culture is cited here because the Hajji Firuz tradition is a continuation of this Mesopotamian culture (Voigt 1983: 101)

and the Dalma culture in turn is a continuation of the former, all of which have their roots in the Neolithic cultures and thus demonstrate a cultural continuity. Therefore, this decorative tradition is attested at the known Dalma sites (Figs. 15-16).

Painted: Constituting only a small percentage of the assemblage, this pottery type is often decorated with painted motifs. The attested patterns include, 1) geometric designs, 2) animal motifs, including goat, sheep, ram, and a single instance of what resembles the tadpole motif characteristic of the so-called Tadpole ware, and 3) natural elements such as sun. The technique particularly involves using light buff paint on a thick slip. The vessels are technically related to the Hajji Firuz material of the Neolithic era and the Tadpole Ware characteristic of the mid- and late Chalcolithic period of Zagros already known from many sites of the region (Merpert and Munchaev 1973, Pl. XLI. 2) (Figs. 17a-b).

The common forms include open bowls with a bulging and semi-spherical body and a flat base, large pithoi and storage jars, large bowls, and open-mouthed vessels with short upright rims and short walls (pots).



Fig. 12: *Examples of Tape Gheshlagh pottery with Dalma engraved striped decoration and standard engraved decoration of Hassuna.*

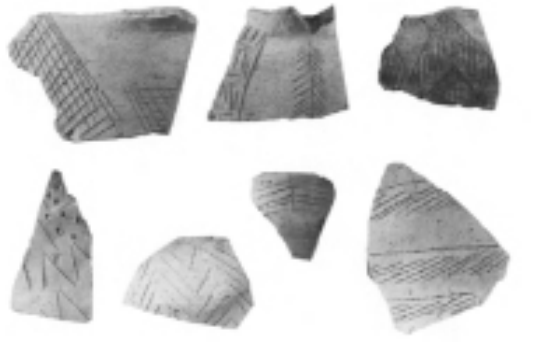


Fig. 13: *Engraved decorated lower Hassuna pottery from Tape Alkhan(name of a hill) in the north of Mesopotamia (Braidwood et al. 1983).*



Fig. 14: *Standard engraved pottery of classification II,I a Hassuna, quoted by (lioyd et all. 1945. Fig. 10).*

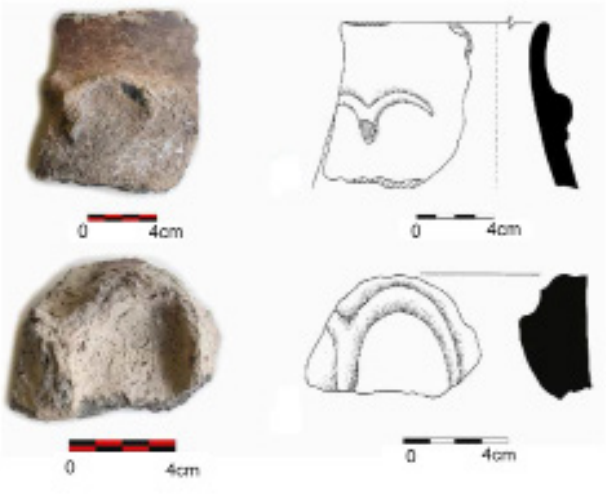


Fig. 15: *Potteries with stylish Animal feature from the layer IV of Tape Gheshlagh.*

Pottery Type III: Made up of a very small assemblage, this group is comprised of buff vessels with a buff core and fine mineral temper. The group is similarly subdivided into the two categories of (a) plain ware, and (b) painted ware. The motifs on the latter category include the two groups of geometric and animal motifs as wavy lines and a row of animal representations, such as goats, below the rim. This technique finds parallels in the Seh Gabi ware of Zagros (see Henrickson 1983, fig. 36).

Pottery Type IV: Included in this type are wheel-made forms with a buff or light brown core, mineral temper, and thick buff or, occasionally, red to ochreous slip and related to bronze age. The vessels were well-fired. The common shapes are open-mouthed bowls with a bulging body and flat base, shallow plates with oblique walls, vessels with horizontal handles at the rim (such as cups) and beakers. Technically, they are related to the painted buff pottery of Godin, examples of which are found in phases 2 of Tepe Gheshlaq (Young 1969).

Pottery Type V:This last class is represented by a gray ware tempered with fine and medium mineral particles. The decoration mainly consists of applied cordage bands and incised lines. Large pithoi, open bowls and philaes with a sharp carination at mid-body, and spouted vessels make up the major forms of the type. This assemblage could have been related to the Iron Age settlement in the eastern extreme of the site, and likely made its way from this part of the mound to its top (Fig. 19).

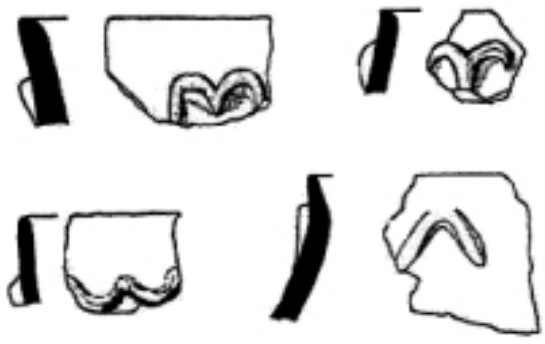


Fig. 16: *Sherds with animal horn decoration, Umm Dabaghiyah, Iraq (kirkbride 1972, No4-7-11, Pl: XI, P: 13).*

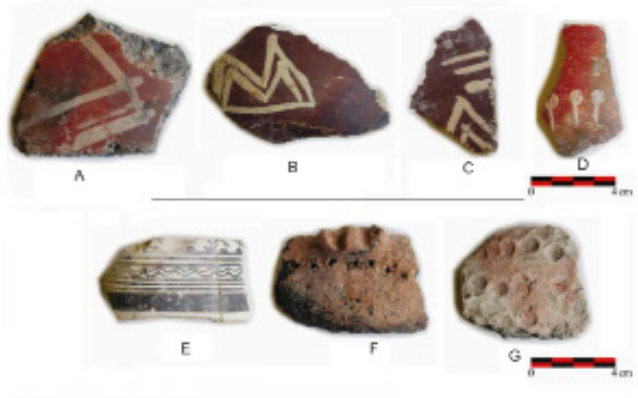


Fig. 17a: *Chalcolithic pot-shreds of Tape Gheshlagh A, B, C; thick slipped; semi-tadpole ware-, E .seh Gabi. Painted-ware. F, Godin VII. Style; G, impressed pot-sherd.*

Clay Objects

Apart from vessels, the assemblage from the excavations at Tepe Gheshlaq in Layer IV includes four conical spindle whorls made from clay. These medium-sized tools have a diameter of 4 cm and are conical in section. Two instances are decorated with recurrent incised zigzags in several rows as well as incised dots (Fig. 20).

Metal Objects

Two hammered pieces of copper in Layer IV are the only metal objects recovered in the course of the excavations. These include an oval object (probably of copper) about 4 cm long and 3 cm wide, which is flat and badly oxidized. The second is a rod about 2.5 cm in length and 4 cm in thickness (Fig. 21).

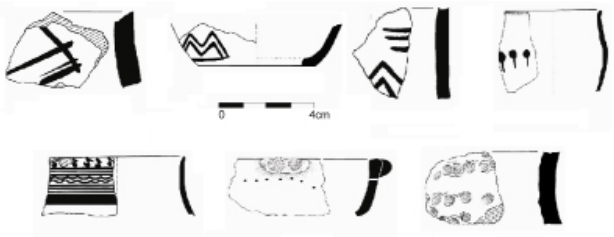


Fig. 17b: *Pottery sketches of Chalcolithic period in Tepe Gheshlagh.*

Stone Objects

Stone objects and tools fall in the following categories: 1) round vessels with a round or oval section, 2) round or ovoid stones that presumably served, among other functions, as weights, 3) grinding stones, 4) hand stones as conical pieces used in pulverizing or grinding, 5) pivot stone, 6) assorted blades, with the foremost typology in the list being the bifacial, trapezoidal-sectioned, trihedral blades of impure flint, mainly of chert, with traces of retouching on the edges and with the longest measuring about 10 cm long and 2.5 cm wide, and 7) obsidian fragments, including two black pieces which were simply waste material lacking any regular form (Figs. 22-23).

Relative chronology

The pottery from Tepe Gheshlagh is comparable to the material coming from the Dalma culture of Kurdistan, Azerbaijan and the Central Zagros. On the whole, wares with the characteristics outlined above represent the following periods based on comparisons with related examples:

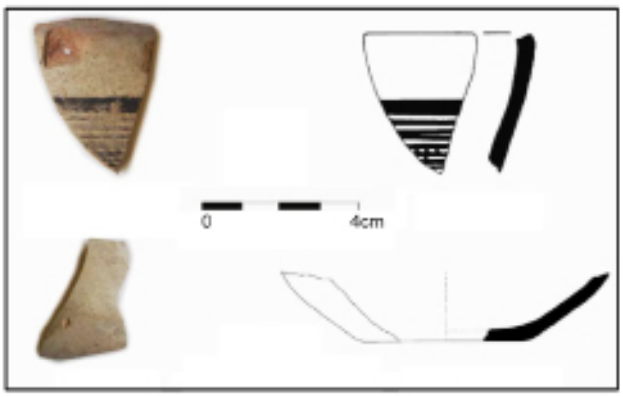


Fig. 18: *Bronze Age pot-sherds of Godin III in Tape Gheshlagh.*

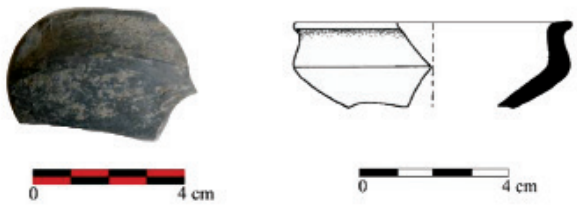


Fig. 19: *Gray pottery of Iron Age II in Tape Gheshlagh.*

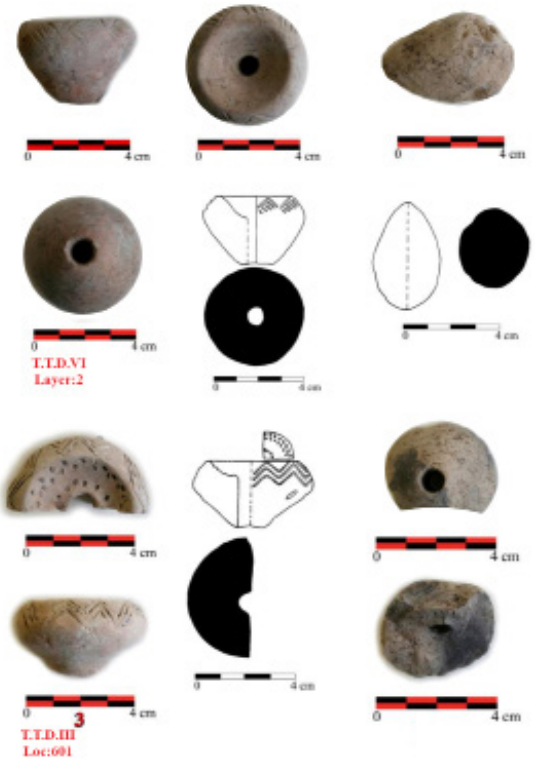


Fig. 20:*Terracotta spindle whorls.L:IV*



Fig. 21: *A pieces of copper in layer III*

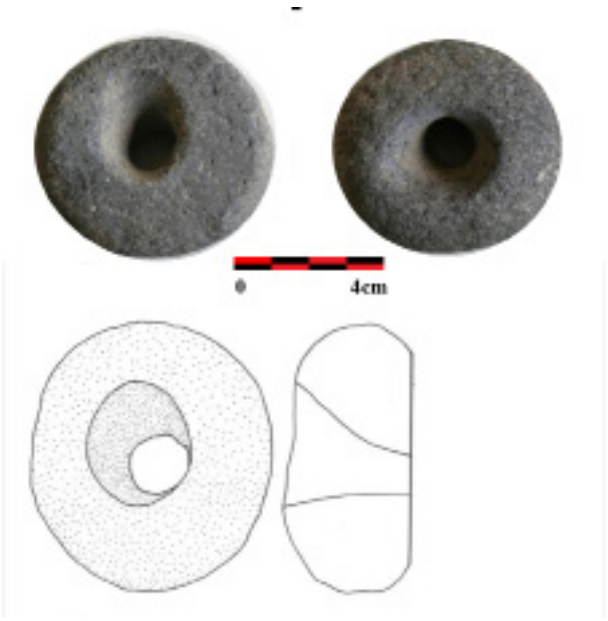


Fig. 22: Image and sketch of stone tools.



Fig. 23: Sample of obsidians. L:IV

(1) Handmade pottery with a red and occasionally double slip, streaky ware, and incised ware as well as ceramics with appliqué, geometric and animal motifs typify the mid and late Chalcolithic cultures. The material from Tepe Gheshlagh parallels those of Dalma Tepe (Hamlin 1975, 123, fig. 16). Excavations at Pisdeli have uncovered Dalma-type pottery (Dyson and Young 1960, 25) that resembles those from Tepe Gheshlagh. The latter also shows resemblance to the pottery diagnostics of Hassuna I-II and Umm Dabaghiyah of northern Mesopotamia as well as Godin X, VIII-VI in the central Zagros (Levine and Young 1986). Indeed, Solecki believes that the Dalma-type pottery from the Kermanshah region are later than those from Azerbaijan.

(2) Painted buff pottery compares with the diagnostic material of the late Chalcolithic central Zagros and Mahidasht. Related forms are known from level IV at Geoy Tepe and Tepe Seh Gabi (Mound E)(Young 1969; Levine and Young 1986). The ceramics from Seh Gabi bear motifs rendered in black paint that was crystalized and vitrified during the firing process as a result of its high silica content. This is a characterizing feature of Seh Gabi pottery. Besides geometric motifs, animal motifs, mostly ibex, were painted on the vessels (Motarjem 2008), examples of which were recovered at Tepe Gheshlagh of Talvar.

(3) Gray ware finds close parallels among the ceramics that prevailed in the first millennium B.C., in particular during the Iron II and III (Goff 1976; Stronach and Roaf 1978).

It is noteworthy that a number of motifs decorating the pottery diagnostics of the Chalcolithic period, among them the so-called tadpole motif, represent continuations of the earlier motifs (Figs. 24a-d).

Subsistence System and Economy

As regards subsistence, in the assemblage of faunal remains excavated at the site sheep/goat is the predominating species. Also, presence of pig and donkey bones evinces an economy that mainly hinged on animal husbandry rather than hunting. Tough in the course of the excavations all the ash collected from the hearths and ovens were carefully floated, too limited grains, in particular those of wheat and barley were recovered. While presence of seeds belonging to rangeland plants seemed to suggest that farming was not a common practice, several mortars and grinding stones, in particular saddle querns which were fixed in ground in certain places, speak of a diet being contingent on cereals. On the other hand, the scarcity of sickle blades raises the possibility that farming was practiced in a rather limited scale and or there was a system for exchanging farm animals for crops of the neighboring areas. Drawing on the regional ethnological trends, similar exchanges have been

know to exist widelywidely existed till the recent decades between the transhumant herders and farmers inhabiting the region.

Conclusion

Excavations at Tepe Gheshlagh have furnished invaluable information regarding the Dalma culture in eastern Kurdistan, thus enabling a more comprehensive analysis of the cultural accomplishments of the period here as compared to any other of the relevant sites. The Dalma culture is distinguished by the wide geographical distribution of its pottery that also occurs in central Zagros besides the eastern Zagros (Hamlin 1975). The shift of the culture from northern Zagros to Western Iran has been credited to the transhumant herders by Solecki.

Tepe Gheshlagh lies between the natural corridor



Fig. 24a: *Images and sketches of Chalcolithic Sherds.*



Fig. 24b: *Images and sketches of Chalcolithic Sherds.*

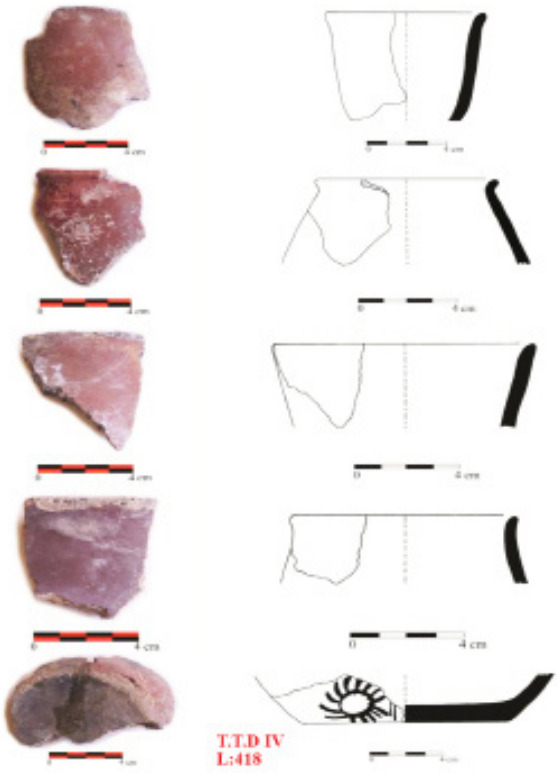


Fig. 24c: *Images and sketches of Chalcolithic Sherds.*

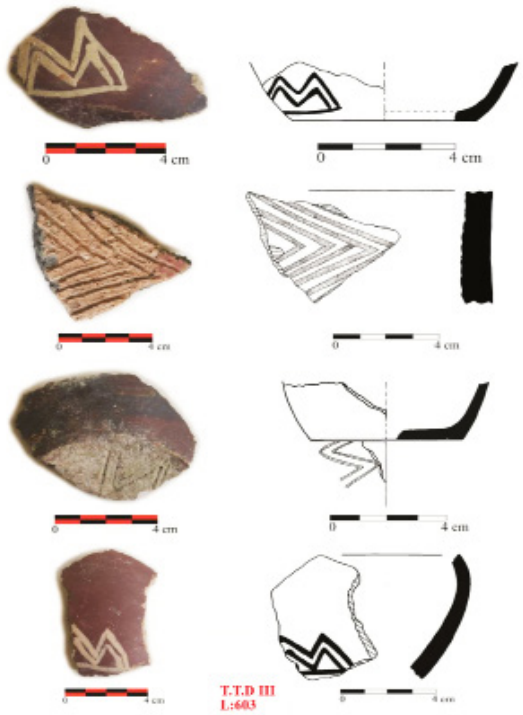


Fig. 24d: *Images and sketches of Chalcolithic Sherds.*

of the northwest and west Iran. The regional climate and natural settings are inevitably identical to the large parts of the neighboring regions, including the Lake Urmia Basin of northwestern Iran, higher elevations of Zagros Mountains, and northern Mesopotamia. Therefore, the analysis of the cultural data reveals interactions with the known contemporaneous cultures in the neighboring regions, such as Dalma in the southern Lake Urmia Basin, the mid-Chalcolithic Dalma and Se Gabi cultures of the eastern Central Zagros as well as some inspirations from the northern Mesopotamian culture of Hassuna. This concordance may be attributed to the high correlation of the natural environment with the structure of the early village societies. Further, exploitation of the unique capacities of the local environment at Tepe Gheshlagh, including the excessive use of plaster in coating floors of houses and bins as well as in fixing the large jars set into the ground within architectural spaces, stands as a distinct local phenomenon, though the use of plaster was also reported from the contemporary deposits at Hajji Firuz.

In the lower levels, certain types of plain pottery covered in a thick red or ocherous slip and a type with applied decorations in the form of animal horns and tab handles may somehow relate the site to the Hassuna site of Umm Dabaghiyah, particularly as the deposit contained what seem to be sherds from husking trays. Examples of related sherds have been recorded in the course of surveys at a number of Chalcolithic sites in eastern Hamadan.

In the northern cut of the mound was recorded a sequence of seven unbroken architectural phases, which combine to form a total of six distinct cultural periods. The exposed architecture involves small, rectangle rooms that often had their main doorways in the southwest side. The structures were built of rubbles set in clay mortar as foundations superimposed by walls of mud-bricks measuring 35x30x10 cm and 35x35x10 cm. Absence of party walls between connected architectural units and the lack, in most cases, of interlocking between the main and the partition walls, a situation clearly seen in all the six attested periods, suggest a sort of disjointedness between these units. Another peculiarity of the contemporary architecture is the abundance of bins that were built on the floors of domestic constructions. They tend to be less than 1 meter in each side and their main walls were formed by flat rubbles that show indications of clay coating followed by several successive plaster coats. Also, in most architectural spaces large storage jars with a volume exceeding 100 liters were found in the wall corners set at a lower level in the floors and strengthened by a thick plaster coating around the rim and mid-body.

In general, though a sequence from the Chalcolithic through the Iron III has been documented at Tepe Gheshlagh, the settlements did not continue incessantly as there are clear evidence for a prolonged gap at the end of the late Chalcolithic era which would simply be interrupted in the mid- or late Bronze Age with a transient occupation of a transhumant group on parts of the southern slope of the mound. And, it was only in the late Iron Age, in about the eighth or seventh century B.C., that another major settlement was developed on the eastern slope of the mound. Infertile soil, rather high elevation and, consequently, the relatively colder climate compared with the surrounding regions as

well as the poor meadow lands are among the factors that were likely responsible for the instable nature of the regional settlements in the prehistoric times. On the other hand, results from many survey programs suggest occurrence of a population boom in the mid- and late Chalcolithic period which eventually led to a rise in the sites number. Though the reasons might elude us at the moment, given the depth of the contemporary deposits at Tepe Gheshlagh the said trend is obvious and beyond any question in this intermountain plain. However, deposit of such thickness is as yet unattested in any later periods in the Talvar plain.

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