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Mohammad Amin MIRGHADERI[*] (University of Tehran, Iran)

Kamal Aldin NIKNAMI[**] (University of Tehran, Iran)

The Chronology of the Archaeological surface remains of Tepe Pa-Chogha, Central Zagros (Kermanshah, Iran)

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Abstract: *The highland plains of western Iran have been investigated with varying intensity. The Sarfirouzabad plain, located in the south of Kermanshah province, although visited perfunctorily, has not previously been studied systematically, despite desirable ecological and environmental conditions. In 2009, a team from the University of Tehran conducted a systematic and intensive field survey in the region to identify archaeological settlements and to assess their location concerning ecological, environmental and cultural factors impacted the distribution of sites on the plain. The surveyed area was walked in transects at 20-metre intervals and resulted in the identification of 332 archaeological sites from different cultural periods, which added much to the limited knowledge about the history of this region. During this survey, Pa-Chogha as the biggest tell site in the area, was identified. Fifty-nine samples of pottery and five stone tools were collected from the surface of Pa-Chogha dated from Late Chalcolithic to Islamic periods. Unfortunately, due to the expansion of Pa-Chogha village, the site is in danger of being destroyed. Our aim to publish this article is to introduce the Pa-Chogha as an important site for the chronology of Central Zagros at first, and preventing the further destruction of this site at the second.*

Key words: Iran, Central Zagros, Kermanshah, Tepe Pa-Chogha, Sarfirouzabad plain, Excavations, Archaeological Sequences

Introduction

The Central Zagros Mountains has long been an essential link between lowland Mesopotamia and the Iranian Central Plateau because of the existence of the major overland route through Khorasan, which was the only primary path connecting the Iranian Central Plateau to the Mesopotamian lowlands. The middle ages

[*] ORCID ID: https://orcid.org/0000-0002-0281-2286. m.a.mirghaderi@gmail.com; This work is based upon research funded by Iran National Science Foundation (INSF) under project No 99019158.
[**] ORCID ID: https://orcid.org/0000-0001-5273-8179. kniknami@ut.ac.ir

Islamic texts is referred to this route as the 'Great Khorasan Road/Silk road'.[1] The beginning of archaeological research in the Central Zagros is marked by discovering some ancient vessels in Gilivran by Herzfeld in 1925 and then by the subsequent excavations carried out by Ghirshman and Contenau in the well-known site of Giyan.[2] Before exploring the most diagnostic site of Godin Tepe, the Zagros archaeological sequences were mainly drawn on the basis of the materials which were found from Tepe Giyan and Susa.[3] The second stage of archaeological research in western Iran is coincided with the onset of archaeological excavations at Godin Tepe in 1967, continued until 1974.[4] The recent reassessment of Godin finds from Godin XI (early Chalcolithic) to Godin II (Iron Age) provided evidence to play a basic role in developing the Central Zagros chronological frameworks.[5] It is also necessary to mention here that the Godin Tepe data have suggested an archaeological chronology for the eastern side of Central Zagros, including plains of Kangavar, Nahavand, Malayer, Hamedan, Burujird valley, Sahne, Harsin and eastern Luristan. Though Godin data is consistent with the chronological order of central and eastern Zagros but there are problems to fit the same orders precisely to the sites located in the western pats such as Kermanshah, Mahidasht and Islamabad Gharb plains. To establish an accurate archaeological chronology to the western Central Zagros, we made a surface examination of Pa-Chogha mound which is one of the highest multi-component sites in the region spanning from Late Chalcolithic (LC2-5) to the Islamic periods [Fig. 1]. Future excavations on the Pa-Chogha (S073) can reveal new insights into the Chronology of the western side of Central Zagros during the prehistoric and historic periods.

Geographical setting

Sarfirouzabad is located in the southeast of Kermanshah province [Fig. 2] covering an area of 971 square kilometres. This region is situated on one of the open plains of the country, starts from a slightly mountainous slope and continues to reach its end in a flat alluvial plain where the primary water egresses. Two southwest and northeast mountainous strips surround the plain; the northeast strip includes Kamajar (Kamehjar), Zangaliyan, Khoarah Tav, and Kuh-e Sefid. The southwest strip is at a lower altitude and includes Nesar, Kola Mal, La'al Abad (Laleh van), Sivelx, Shir Narmi, Barikeh and Qaleh Qazi (Qela Qazi). The altitude of the plain above sea level is less than 1600 meters and with an annual rainfall of 433.6 millilitres has

[1] Abdi, 1999: 33; Majidzadeh, 1982: 59.
[2] Contenau & Ghirshman, 1935; see also Haerinck & Overlaet, 2013.
[3] Renette, 2015: 51; Le Breton, 1957.
[4] Young, 1969; Young & Levine, 1974; Young & Smith, 1966: 389.
[5] Gopnik & Rothman, 2011.

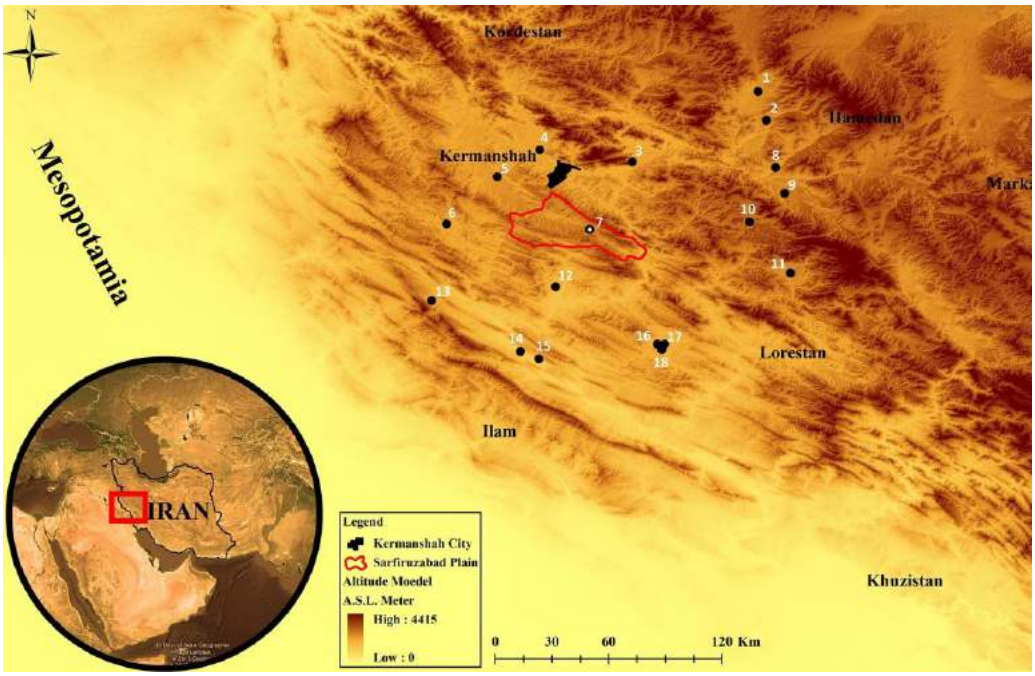

Fig. 1. Map showing the geographical position of Pa-Chogha and 1st-4th millennium BC. in Central Zagros and Iran: (1 - Bad Khoreh, 2 - Godin Tepe, 3 - Bisuton, 4 - Chogha Maran, 5 - Jameh Shouran, 6 - Chogha Gavaneh, 7 - Pa-Chogha, 8 - Noushijan, 9 - Tepe Giyan, 10 - Baba Jan, 11 - Girairan, 12 - Tepe Guran, 13 - Bani Surmah, 14 - Dar Tanha, 15 - Mir Khair, 16 - Chicha Sabz, 17 - Kamtarlan, 18 - Mirvali)

the lowest rate of rainfall in the Central Zagros.[6] Water sources and their accessibility is one of the crucial factors in the development of settlements in this area during its long history. Sarfirouzabad is a large compound syncline, and for this reason, rainfall causes flooding toward the centre of the plain, forming the Mereg River and its branches. Mereg River is the primary water source of springs on the Sarfirouzabad plain from Sarab Sarfirouzabad in the southwest of Mahidasht. Mereg River, alongside the Gashan River, which springs north of Kermanshah, both are the water sources of Sarfirouzabad. These sources, along with the proper agricultural soil, have supported the traditional agriculture for the south of Kermanshah to thrive.[7] Although the Zagros Mountains surround this plain, it is also located close to the Great Khorasan Road that has been prospering during different periods after the fifth millennium BC. [Fig. 3].

[6] Niknami *et al.*, 2016: 85; Niknami & Mirghaderi, 2019.
[7] Heshmati *et al*., 2011.

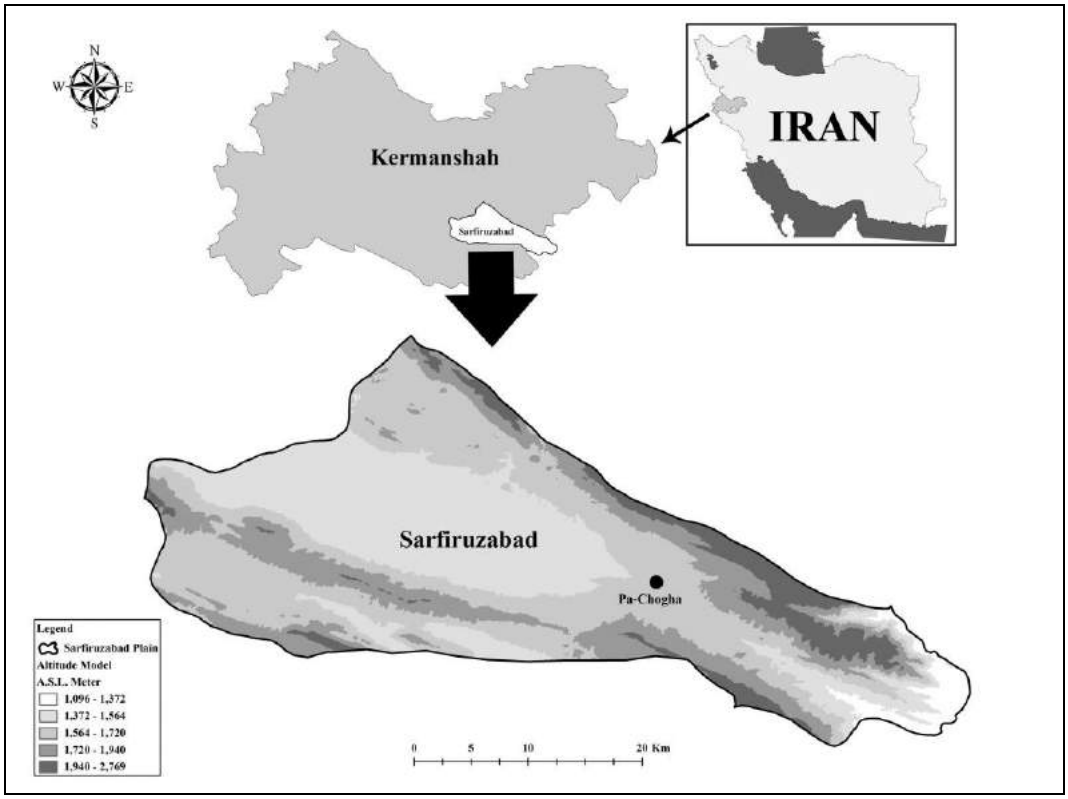

Fig. 2. Map showing the geographical position of Sarfirouzabad plain in Iran

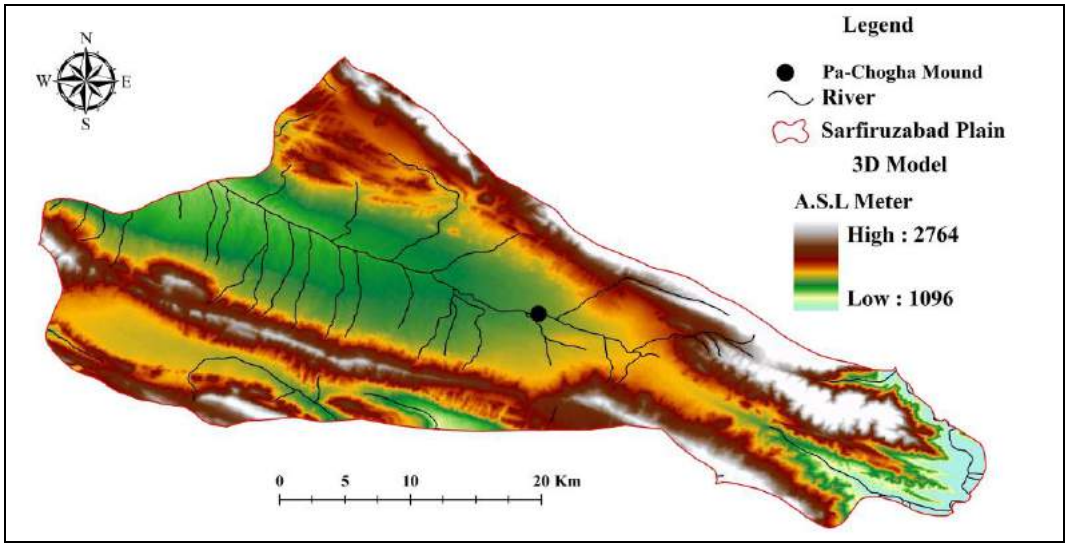

Fig. 3. Map showing the geographical position of Pa-Choga mound in Sarfirouzabad plain

Tepe Pa-Cogha and its perspective in the Sarfirouzabad Plain

Despite its environmental characteristics, Sarfirouzabad Plain in southern Kermanshah, as south and southeastern Mahidasht plain, has just been the subject of surface analyses and studies. This plain has been successively studied by some archaeologists such as R. Braidwood in 1959 and 1960,[8] by C. Goff in 1971,[9] and by L. Levine in 1974,[10] while Ali Akbar Sarfaraz an Iranian archaeologists who made an surficial investigation on the mound and termed it as 'Tepe Pa-Chaga' or 'Firuzabad' (S073).[11] Considering the importance of the region, the Sarfirouzabad plain underwent a systematic investigation in 2009, and this plain is generally regarded as a critical area for reconstruction of the ancient cultures in Central Zagros.[12]

The cultural remains of the area portray an orderly sequence, from the Late Chalcolithic period through the Islamic period. The discovery phase of the survey was performed mainly in intensive survey quadrats as Discovery Units carried out on the Pa-Chogha site. It is a Near Eastern typical tell site is located in the central part of the Sarfirouzabad plain.

Tepe Pa-Chogha is located on the Sarfirouzabad Plain [Fig. 4], on the northern edge of the Mereg River, between Sefid Mountain in the north and Nesar Mountain in the south. The distance of Tepe Pa-Chogha with the the city of Kermanshah is 35 Km. The extends of Pa-Chogha from east to west is 3.8 ha in extent (215 m long and 180 m wide) and 21 m high. The highest part of the Tepe is its centre, which lies 21 m above the surrounding plain [Fig. 5]. For the purpose of a deep understanding of the cultural horizons of the mound we selected diagnostic pottery types from different cultural periods to further study. Due to a large number of pottery shards on the mound surface and to ease quantifying the chronotype shards, a 5×5 m. grid squares was laid down on the surface and a systematic collection procedure including counting artifacts and picking up a representative sample carried out to identify the most typological characteristics as well as the frequency of each type within each square system. This procedure enabled us to compare Pa-Chogha pottery types with the other known types of the region, resulted in ordering the Pa-Chogha sequences in a reasonable time frame.

Unfortunately, due to the expansion of the Pa Chogha village, the site is in danger of being destroyed. Based on the location of Pa-Cogha in the center of The Sarfirouzabad Plain, distance from environmental effect and accessibility to water sources such as rivers, Pa-Cogha was an important site in Sarfiriouzabad Plain during the fourth millennium BC. to Islamic periods.

[8] Braidwood, 1961.
[9] Goff, 1971.
[10] Levine & McDonald, 1977.
[11] Sarfaraz *et al*., 1968.
[12] Niknami, 2010: 513; Niknami & Mirghaderi, 2019; Mirghaderi, 2013: 44.

Fig. 4. Pa-Chogha mound, Aerial view (taken in 1964) (Niknami *et al*. 2016: 93, fig. 9)

Fig. 5. Pa-Choga mound; eastern view (Niknami, 2010: 519)

Archaeological phases of Pa-Chogha

Late Chalcolithic

The excavation in Godin was the basis of western Iran's chronology.[13] Nevertheless, it seems that, unlike in Kangavar plain and other eastern Luristan plains, both local and non- local 4th millennium BC. ceramic traditions can be observed in western Luristan.[14] The proposed date of the Late Chalcolithic period in Central Zagros is 3600-3000 BC.[15]

By the final centuries of the Late Chalcolithic, the spread of the Uruk network reached the Iranian Plateau. The site of Godin Tepe is frequently used as evidence for southern Mesopotamian presence also in the Zagros Mountains, but again, this site, which is located at the eastern edge of the Zagros, is not necessarily representative. Rather, Godin Tepe and the Hamadan region had become culturally affiliated with the central Iranian Plateau where southern Mesopotamian pottery types were also introduced.[16] Because of its complexity, a historical period cannot be summarized by a site's name and generalized to other regions; therefore, an efficient chronological frame is established so as better to understand trans-regional cultures as recent Chalcolithic or $LC_{1\text{-}5}$.[17] Based on this discussion, and according to Godin's excavations, Godin VI is simultaneous with $LC_{1\text{-}5}$ and its oval-shaped building is also simultaneous with Godin VI: 1a, b, which is simultaneous with LC_5 according to this chronology. Beveled-rim bowls are one of the LC characteristics in Central Zagros and a criterion for chronology. However, regarding the distribution pattern of beveled-rim bowls in Kangavar plain and despite the extension of Uruk culture in western central Zagros and the Great Khorasan route, we cannot expect their existence in all of the Central Zagros's sites and especially in the smaller sites.[18] Nonetheless, the Mesopotamian cultural elements of the 4th millennium BC. become more accentuated as we approach the west of central Zagros.

Archaeological remains in Tepe Pa-Cogha included pottery and stone tools. During the examination of the surface of this mound, five stone artifacts, including four blades and one core, and were collected. All of the stone artifacts were engraved from high-grade to low-grade chart in the colors of red, brown, cream, and gray. Most of the artifacts have not been retouched, and it seems they have been made out of indigenous resources that are easily accessible such as chert outcrops in the region. Those stone tools including small flakes with a single notch on the proximal end. The distal end of an elongated blade and a probable trace of breakage on the distal tip.

[13] Young, 1969; Young & Levine, 1974; Young & Smith, 1966.
[14] Rothman & Badler, 2011: 91.
[15] Renette & Mohammadi Ghasrian, 2020: 122, Tab. 1; Henrickson, 1983: 486.
[16] Renette & Mohammadi Ghasrian, 2020: 126.
[17] Rothman, 2001: 341; Rothman & Badler, 2011: 69.
[18] Badler, 2002: 99.

A Core fragment with retouch on its right lateral side and breakage on the distal part. The middle part of a blade and the middle part of an elongated blade with retouch on both left and right lateral sides (like a double side scraper). These stone tools can be assigned likely to have been dating back to the Late Chalcolithic period and Middle and Late Bronze Age [Fig. 6]. The pottery pieces from the Late Chalcolithic period from Tepe Pa-Chogha are made of red to orange-buff and buff clay. Most of them have thick, buff to orange-colored slip, and some of them have a thin buff slip. One of the samples is slipped with a thick red coating on both sides [Fig 7.7]. One of the highlighted found at Pa-Chogha is rolled rim bowls and jars [Fig 7.1, 7.13], which dates to Godin VI (Tab. 1). The external surface of all these ceramic pieces has a thin, buff slipping. These pottery pieces contain vegetal temper; however, some samples were made of silica temper. These pottery pieces are hand-made, though a few might have been made using a pottery wheel [Fig. 7]. Although most of these pottery pieces were not heated to high temperatures, four of them have been fired sufficiently.

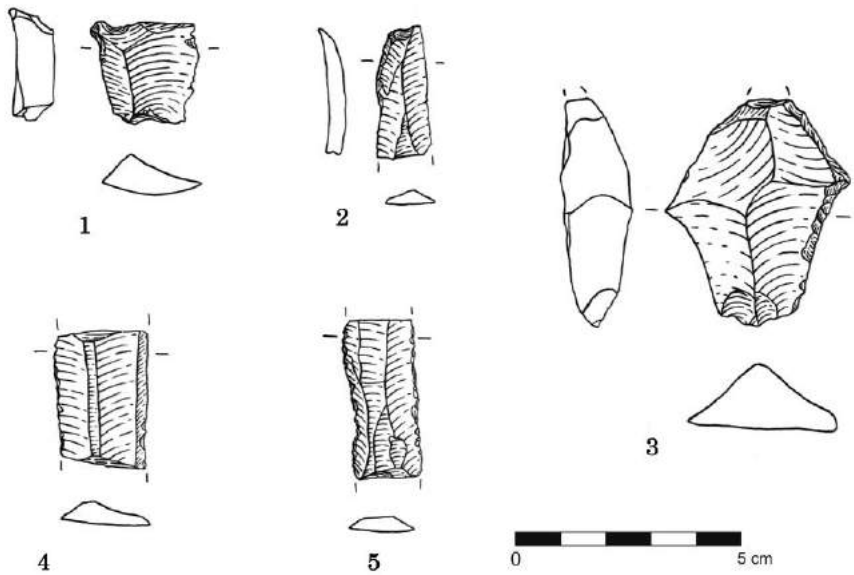

Fig. 6. Pa-Chogha mound; the Stone tools assemblage (Niknami 2010: 531)

We first need to define the ceramic assemblage that is to be compared. At most archaeological sites, pottery was the most ubiquitous category of artifacts recovered from Tepe Pa-Chogha in general. The pottery pieces from the Late Chalcolithic period from Tepe Pa-Chogha are comparable with pottery from Godin Tepe VI and VII, slipped, incised, and painted forms and Red-slipped vessels of Godin VII and VI_3.[19]

[19] Rothman & Badler, 2011: fig 4.10 and 4.11; tab. 4.

However the pottery from this period in Central Zagros also establishes very clear cultural links between the residents of Pa-Chogha and the lowland Uruk world, particularly the part of the Tigris and Euphrates south of modern Baghdad (Nippur and Uruk), as well as the extension of the alluvium into southwestern Iran (Susa and Choga Mish). There are surprisingly few commonalities in pottery style with the Diyala Plain through which travellers from the south would have had to pass. Kunji Cave is related to this VI_2 period.[20] Also, the red slipped pottery from Eastern Pish-i Kah can be compared in Pa-Chogha.[21]

Rothman and Badler argued the corresponding geographical distribution patterns of Uruk-like ware and local ware. Godin VI pottery suggests a directed flow of influence or exchange, not a blanketing effect. The full Period VI ceramic assemblage is found in the central Zagros northeast of the Kuh-i Sefid and even more so northeast of the Kuh-i Garin, extending north to the Qazvin Plain. This is the high mountain front adjoining the Dasht-i Kavir, The so-called attenuated VI, defined as having fewer VI elements, covered an area where only a partial set of the VI types are found to the south and. West of the Kuh-i Sefid in the Mahidasht, Sarfirouzabad and Hulailan valleys.[22] However, the most apparent presence of the Uruk pottery occurred in the broadest agricultural plains of the Central Western Zagros, the Mahidasht, Sarfirouzabad and Kangavar Plain.[23]

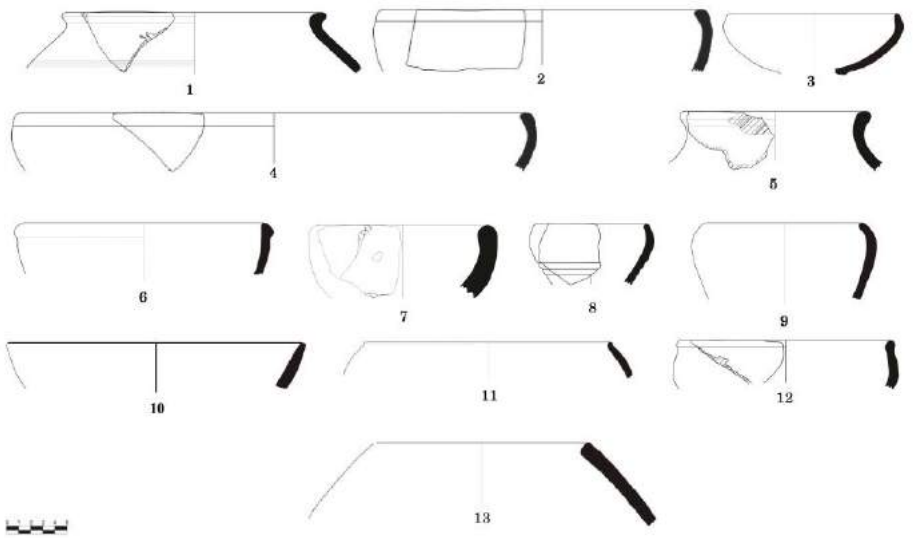

Fig. 7. Pa-Chogha mound; the Late Chalcolithic pottery assemblage

[20] Badler, 2002: 89.
[21] Goff, 1971: 138, fig. 3.
[22] Rothman & Badler, 2011: 92.
[23] Levine, 1975: 488.

Early Bronze Age

The lack of evidence from the Early Bronze Age, Godin IV (3000-2700 BC) or any other Early Bronze Age culture on the Sarfirouzabad plain is an essential fact to consider. Up to now, except for the discovered early Bronze Age ceramics known as redware ceramics of Maran, known from the Chagha Maran site, archaeologists have no knowledge of Early Bronze Age culture on the Mahidasht and Sarfirouzabad plain and also from western Islamabad. Even though evidence of this culture on the Mahidasht and Sarfirouzabad plain has not been observed, Vanden Berghe's excavations in the cemeteries of War Kaboud, Kaleh Nissar and Bani Sormeh,[24] revealed the two-phases of the Early Bronze Age I. The ceramic remnants in these graves are also comparable with samples discovered in Mesopotamia, coinciding with the 2nd and 3rd early dynasties.[25] The excavations in Darvand and Sardant cemeteries have also revealed the remnants of early Bronze Age II, which have been comparable samples with Akkad and Ur III period in Mesopotamia and Khuzistan.[26] Kunji cave's excavation indicated evidence from the Early Bronze Age and probably coinciding with the 2nd and 3rd dynasties (2600-2700 BC) in Khoramabad valley.[27] In the eastern plains of Central Zagros, there is evidence of the Early Transcaucasian Culture or Godin IV culture (3000-2700 BC) while there is no trace of Early Transcaucasian Culture or Godin IV culture in the western half of Zagros.[28] The Early Transcaucasian Culture or Godin IV culture remains have not been observed on the Sarfirouzabad plain.[29]

According to these facts, the question that may arise is that according to the presence of the Godin IV or Early Transcaucasia Culture (ETC). In Kangavar and eastern plains of Central Zagros, why has this culture not influenced the plains more to the west? To answer this question, A. Motarjem believes that the "subsistence pattern of Early Bronze Age societies was based on semi-nomadism with relatively limited commercial and cultural interactions inside the high mountainous regions, while the western plains in Zagros such as Mahidasht and Sarfirouzabad are flat and suitable plains for sedentary life".[30] On the other hand, it seems that patterned buff ware was common in western valleys such as Mahidasht during Godin VI. During the emergence of Godin IV culture in the eastern valleys, with some Mesopotamian culture influence in some samples, apparently, these cultures, like a wall, had prevented the presence of the Transcaucasian culture in the other valleys of Zagros.[31]

[24] Vanden Berghe, 1975a, 1975b; Haerinck & Overlaet, 2008, 2006.
[25] Haerinck, 2011; Renette *et al*., 2022.
[26] Carter, 1984: fig 10.
[27] Emberling *et al.*, 2002.
[28] Henrickson, 1986: 21.
[29] Mirghaderi, 2013: 45.
[30] Motarjem, 2008: 289.
[31] Rothman & Badler, 2011: 91.

These ceramics with black, brown, and red colour were painted after being baked and were not very strong. As a result and according to the surface inspections, identification of Early Bronze Age ceramics is very hard, and the lack of evidence related to the Yanik Period to the west of Central Zagros is understandable.[32] Due to the limited research on Central Zagros Bronze Age settlements and that most of the settlements are hidden under river sediments, a discussion about the settlements of this period is difficult.[33]

Some shards, similar to the samples discovered in the layer between the Chogha Maran red-slipped sequence and the early Godin III sequence, were found during an excavation in Chogha Maran; this type of ceramic probably dates back to the Early Bronze Age.[34] However, the contemporaneity of the cultural background of Godin III_6 in the Zagros Mountains and ED II in 2800-2600 BC, is probable.[35] This view can be supported by the evident similarities between Chogha Maran red-slipped wares and Godin III_6 ceramics, dated back as early as ED II.[36] Of course, Henrickson maintains that these shards belong to the style represented in Godin Tepe level III_6 and that this level should, therefore, be dated to the Early Dynastic IIIB period.[37] However, in the Pa-Chogha, we have not identified surface evidence from Early Bronze Age.

Middle and Late Bronze Age

For the Middle and Late Bronze Age, the chronology of Godin III in Godin Tepe was established based on the Mesopotamian historical texts and archaeological sequence of the Khuzestan plain, especially based on excavations of Susa. The Godin III horizon spans the period from the middle of the 3rd millennium BC (ca. 2600 BC) to the middle of the 2nd millennium BC (ca. 1400 BC). This timespan in the archaeology of western Iran includes the Middle and Late Bronze Age times (2600-1400 BC) while the beginning of the 3rd millennium (ca. 3000-2600 BC) can be defined as Early Bronze Age. Excavation of Godin III strata in the deep sounding at Godin Tepe resulted in stratified material from six separate architectural levels, numbered Level III_6 through to Level III_1 (earliest to latest), each level with a distinctive ceramic assemblage.[38]

The changing distribution of Godin III_{6-2} pottery in central-western Iran reflects a dynamic process of the socio-political and economic integration of a mosaic of local

[32] Haerinck, 2011: 59.
[33] Potts, 2013: 212.
[34] Levine & Young, 1986: 20; Renette *et al*., 2022.
[35] Henrickson, 2011: 272.
[36] Levine & Young, 1986: 48; Renette *et al*., 2022.
[37] Henrickson, 1984: 708.
[38] Henrickson, 1986: 17.

ethnic collections into a loose confederation.[39] Long-distance trade and political and economic pressure from the Mesopotamian lowlands, combined with factors of local economy and geography, contributed to this development, regional differences were still to be found, probably marking various ethnic collections. After an extended period of strength and relative unity, the regional organization disintegrated into a more unaffected and more localized economy, in which pastoralism was dominant as the Godin III tradition came to an end. A historical perspective on Godin III_{6-2} is crucial to understand the developments, because the emergence of the Awan, Šimaški and Sukkalmah powers, concurrent with the Godin III period, may have been the cause of the cultural similarities and increasing numbers of settlements in the Central Zagros.[40] Although Godin III_6 is contemporary but not coterminous with Early Dynastic III, its role in the history of the times remains unclear. The geographical distribution of the Godin III_6 pottery concentrated east of the Kuh-e Sefid, does not correlate with lowland historical sources, maybe because the historical geography of the highlands and the nature of local polities are ill-defined.[41]

Godin III_5 is contemporary with the Proto-Imperial and Akkadian periods in Mesopotamia. Akkadian kings conquered and held the Susiana lowlands and repeatedly campaigned in the outer highland valleys, some of which they may have controlled.[42] Uncertain highland historical geography impedes a detailed comparison of Akkadian activity with the archaeological evidence. However, the Zagros highlands were a royal concern; this may be reflected in the apparent dominance of Mesopotamian-related material in Pusht-i Kuh graves of this period and the virtual absence of Godin III_5 pottery there. The lowland political isolation from the highlands is mirrored in the ceramic assemblage from Susa. Although 'Gutium' in the Akkadian period is often assumed to be in central-western Iran, there is no archaeological evidence from Mesopotamia, such as Godin III_{5-4} pottery, to suggest any connection with central-western Iran at this time. 'Gutian' material culture remains to be identified. Contemporary sources indicate that Gutium in the Akkadian period is to be found in the mid-Euphrates; the trans-Tigridian Gutium begins with Old Babylonian traditions.[43] Thus the waves of Gutian barbarians descending from the Zagros lack historical or archaeological confirmation. Godin III_4 is contemporary with the Ur III and early Isin-Larsa periods. Susa and lowland Elam was a province of the Ur III state from the reign of Shulgi until that of Ibbi-Sin.[44]

Sustained military and diplomatic efforts were devoted to the consolidation of the Iranian highland frontier. The maintenance of a protective buffer of semi-

[39] Henrickson, 1984.
[40] Alizadeh, 2008; Henrickson, 1984, 1986: 21; Potts, 2016.
[41] Steinkeller, 1982: 41; Stolper, 1984: 32-36.
[42] Stolper, 1984: 24.
[43] Hallo, 1971: 719.
[44] Henrickson, 2011; Stolper, 1984: 28.

independent vassal states in the outer highlands was a strategic aim.[45] Šimaški, a confederation of several highland polities, first rises to prominence within the Elamite state at this time. Judging from the historical data, Šimaški must lie in the highlands, somewhere north of Susiana or Fars.[46] Henrickson argued that it lay in Luristan.[47] Šimaški appears to be a 'secondary state', although 'secondary confederation' might be more accurate. In response to the sustained Ur III (and earlier Akkadian) military and political pressures, autonomous highland polities gradually created a network of alliances, perhaps reinforced by intermarriages among leading families. The success of allied military action against Ur provided the opportunity for the emergence of an overall political leader and the creation of a dynastic line. Within such an inter-regional network, considerable local autonomy was possible such as during the following Sukkalmah period (1900-1600 BC), when the Elamite state consisted of loosely linked regional components.[48]

Our information about Godin III_1 is minimal, but Godin III_2 pottery is nearly ubiquitous throughout central-western Iran. It is found in all major and most minor valleys, more frequently than pottery of any other phase. However, the apparent increase in the area of distribution and number of sites may be somewhat misleading, due to a subsequent shift in settlement patterns; the number of Godin III_2 settlements relative to earlier phases may be disproportionately large.[49] The overall stylistic homogeneity throughout the distribution is striking and suggests an unprecedented degree of cultural, economic, or political integration.[50] By 2000 BC, the Šimaški dynasty controlled the Šimaški lands, Anshan (in Fars), the Su-lands (location unknown), and Khuzestan. The Šimaški dynasty was replaced by the dynasty of the Sukkalmahs (ca. 1900 BC), but the 'sukkal of Elam and Šimaški' was second only to the 'Sukkalmah', the chief ruler of the Elamite state in the titular.[51] After Godin III_2, our evidence from Godin Post III_2 and Godin III_1 offer little scope for discussion because it has been identified only at Godin Tepe itself. The disappearance of the formerly widespread regional economic and political integration, inferred from the uniformity of the painted wares, suggests the breakdown of the regional economy into smaller local units, such as individual valleys or settlements.[52]

It seems that during the second phase of the Godin III period, the Sarfi-rouzabad Plain witnessed a maximum number of re-occupations and eventually population growth. Among the surface findings from 2009 fieldwork, there has been a large number of pottery evidence indicating overall expansions of the Godin

[45] Michalowski, 1976: 77-94.
[46] Stolper, 1982: 45.
[47] Henrickson, 1984: 885.
[48] Stolper, 1982: 53.
[49] Henrickson, 1984: 889-892.
[50] Henrickson, 1986: 24 and 2011: 210.
[51] Stolper, 1982: 49 and 1984.
[52] Henrickson, 1987: 213.

phases III_{2-6} sites over the area. Since settlements from the Early Bronze Age (3000 -2600 BC) have been identified on the Sarfirouzabad and Mahidasht Plains, conducting excavations on the various sites of these plains especially on the Pa-Chogha site might provide valuable information. The plain is spread over quite a wide area and has a significant stratigraphical sequence, which can bring us either a new perspective on the transition from Late Chalcolithic to Early Bronze Age or the nature of the Early Bronze Age of Central Zagros. Moreover, the Pa-Chogha mound has a regular sequence of Godin III_{2-6}. Its data, together with eleven large Late and Middle Bronze Age sites, have been identified before on the Mahidasht Plain,[53] which would shed light on the Bronze Age developments of overall Central Zagros.

Middle and Late Bronze Age in Tepe Pa-Chogha is the most crucial period for archaeological studying of Central Zagros. Archaeological remains include the pottery of Godin III culture. The pottery from the Middle and Late Bronze ages (Godin III) includes 13 pieces, 12 of which are decorated with motifs and one has extra embellishments. This pottery collection includes four rim shards and nine body shards. The color of the clay used in these pieces is buff, with one red pottery, and their slip is the same color as the clay. The clay used in one of these pieces is gray, whose inner surface slip is the same color as the clay, and whose outer surface slip is cream-colored. All of the pottery pieces contain sand temper, while white particles can be seen mixed into one of the samples. All of the pottery pieces in this collection have been sufficiently fired, and in terms of quality, they fall into the range of average to delicate. Geometric motifs, such as parallel bands, wavy lines between two bands, and side by side triangles (possibly a butterfly?) inside a frame or a range of dark red to dark brown and black colors decorate the outer surface of these pieces. Some of the pottery contains a mix of painting and relief decorations, with the relief motifs appearing on the bottom, and the painted decorations (including thin horizontal bands) appearing on the top section of the containers. One of the identifiable forms in these pottery pieces is small bowls [Fig. 8].

In general, the pottery pieces assemblage from the Middle and Late Bronze Age in Tepe Pa-Chogha are comparable with pottery from Godin Tepe III and Tepe Giyan II-IV (Tab. 4). As we can to comparing Pa-Chogha Middle and Late Bronze age pottery pieces phase by phase, Godin $III_{6/5,}$ Godin III_4 and Godin III_2 can be identified in Middle and Late Bronze Age pottery assemblage from Tepe Pa-Chogha.[54]

[53] Levine, 1976.
[54] Henrickson, 1986: 38, fig. 14.7; Henrickson, 1984: fig. 137.16; see also Niknami *et al.*, 2016: 111; tab. 2.

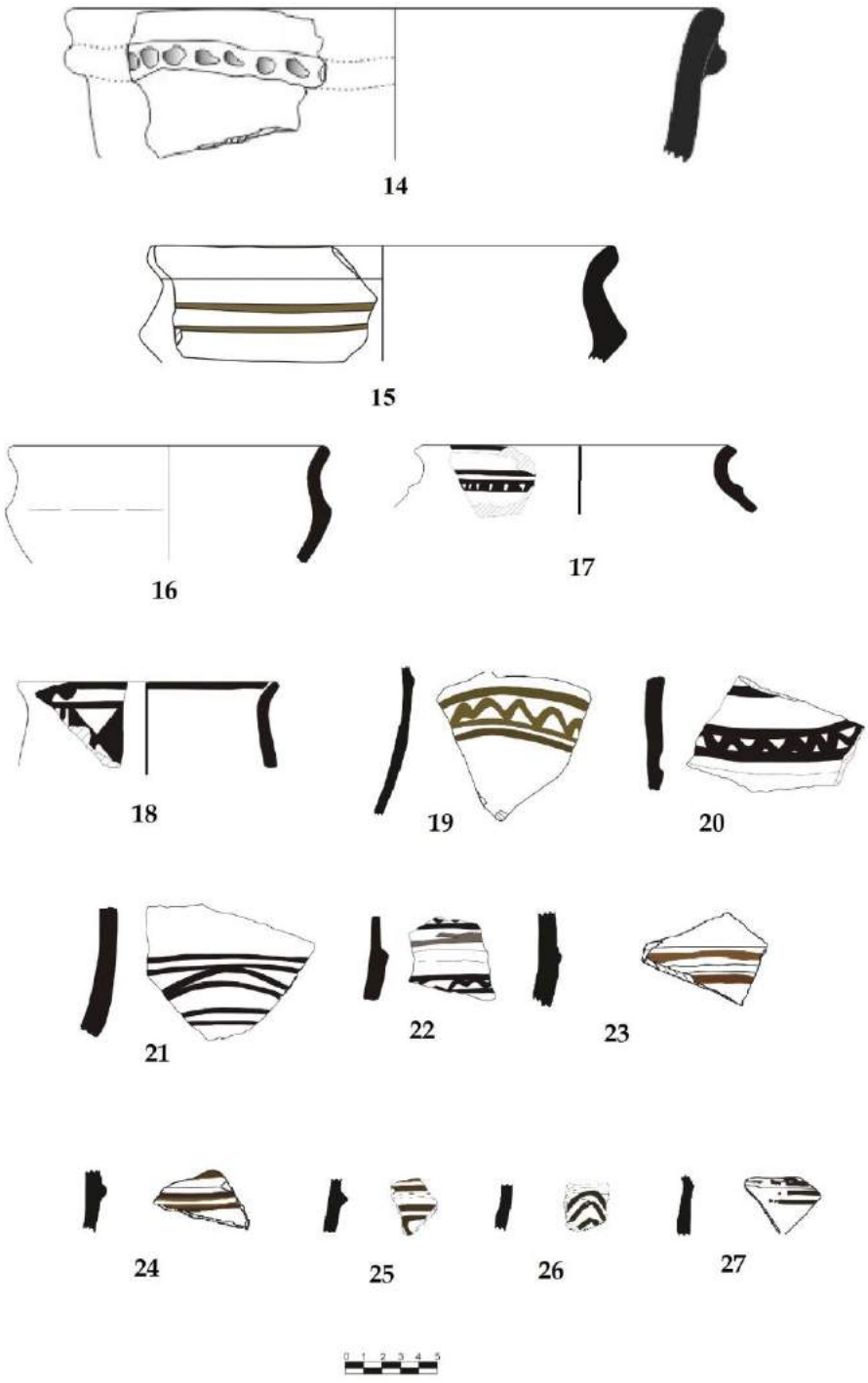

Fig. 8. Pa-Chogha mound; the Middle and Late Bronze Age pottery assemblage

First millennium BC. (Iron Age, Achaemenid, Seleucid and Parthian periods)

In 1965, Young and Dyson each published articles reviewing the evidence available for the Iranian Iron Age. While differing in approach and some details, they were in general agreement as to conclusions. Young divided the Iron Age into three units, labeled the 'Early Western Gray Ware Horizon', the 'Late Western Gray Ware Horizon', and the 'Late Western Buff Ware Horizon'. Dyson replaced Young's somewhat cumbersome but useful names, calling the first two Iron I and II, and dividing the 'Late Western Buff Ware Horizon' into the Iron III and Historic periods.[55] During the archeological studies in Central Zagros, there are four critical sites for the sequence: Baba Jan,[56] Godin,[57] Nush-i Jan,[58] and Jameh Shuran.[59] The first is located in Luristan province, while the other three are found in the valleys that are part of the Khorasan Road. For this time in the Pa-Chogha, only Baba Jan and Jameh Shuran represent stratified sequences. Baba Jan consists of two central mounds and a saddle between them. The east mound contains a sequence for the Iron Age. The lowest level reached had a large 'painted chamber' attached to a building called a fort.[60] This earliest Iron Age Period found, termed Baba Jan III by Goff, is characterized by the handmade painted ceramics that are commonly known as Genre Luristan wares.[61] The Genre Luristan wares continued during this Baba Jan II Period. However, a new type of buff, unpainted wheel-made pottery, called 'micaceous buff ware',[62] appeared alongside the older type. By Baba Jan I, the latest of the periods at the site, the squatter occupation was replaced by a series of the poorly understood house remains on the east mound and in the saddle. The pottery associated with this period was a later form of the wheel-made ceramics of Baba Jan II. The Genre Luristan wares had disappeared entirely.

Godin II is the latest period found atop the large mound called Godin Tepe in the Kangavar Valley.[63] The ceramic assemblage is similar to Baba Jan II/Nush-i Jan and Baba Jan I buff wares and shares many shapes with both, although parallels to the later Baba Jan I material predominate. While the assemblage probably represents the end of the Godin II occupation, for the most part, the long history of the building and the sealing off of parts of it before the final abandonment would account for the apparent chronological range represented by the pottery.[64] In addition to the buff wares from the fortress atop the mound, a small number of graves with

[55] Levine, 1987: 232.
[56] Goff, 1967.
[57] Young & Levine, 1974.
[58] Stronach, 1965.
[59] Levine, 1987.
[60] Goff, 1977.
[61] Goff, 1978.
[62] Levine, 1987.
[63] Young & Levine, 1974.
[64] Gopnik, 2011: 350.

the characteristic of Early Western Gray Ware shapes were found on the flat southern extension of the mound.[65]

In this period, Jameh Shuran is very significant because it is a large site lying just south of the town of Mahidasht and east of the Mereg River (Pa-Chogha is located on the northern edge of the Mereg River, southern Sarfirouzabad/Mahidasht Plain). Surface survey of the site in 1975, and again before excavation in 1978, revealed a chronological range from 'Genre Luristan' to at least Parthian times. Two small tranches were cut into the east slope of the mound; neither reached virgin soil. On preliminary analysis, the material from the two tranches can be divided into three ceramic assemblages, which were label as Assemblage I to III, starting from the top.[66] Assemblage III was found only in a very restricted area in the next operation (Operation 2) it is characterized by a coarse, straw-tempered hand- and wheel -made white ware which this type is not in the Pa-Chogha. Shapes are few (the total sample was just over fifty diagnostic shards) and simple. One characteristic shape is a goblet like the Elamite and Kassite goblets of the end of the second millennium BC. Assemblage II is marked by ceramics that are part of the 'micaceous buff ware' tradition. In Operation 2, it is present in several successive levels in respectable quantity. In Operation 1, it was found only at the bottom of the tranche in a restricted area. On initial analysis, it appears that this assemblage can be divided into an earlier and a later phase. The earlier phase, IIB, included bowls with horizontal handles and goblets with two opposed handles, similar to shapes found at Baba Jan II and Nush-i Jan. No painted ware is associated with this phase. The later phase, Assemblage IIA, has parallels to Godin II and Baba Jan I. It has a wide range of shallow bowl shapes in fine and common wares, a feature that seems to characterize this period. Assemblage IIA also contained the earliest painted ceramics found in an excavation at Jameh Shuran. The painted forms were almost exclusively shallow, flat, or slightly convex rimmed bowls with decoration restricted to the rim. The motifs varied widely but included triangles, parallel lines, bow ties, and the like. Assemblage I was the best represented at the site. It, too, was a buff ware assemblage with a great variety of shapes. Among these were flat bowls (so-called fish plates), pitchers with trefoil rims, several thin-bodied cups, tulip bowls, and canteen fragments. A large number of painted shards were found with the paint usually on the visible surface of the vessel-the exterior on closed shapes, the interior on open shapes. The painting occurred on both highly burnished and smoothed surfaces. While some of the Assemblage II painted bowls and other forms continued to appear in Assemblage I, they did so in small quantities, and the assemblages are markedly different. At Jameh Shuran, neither Genre Luristan nor Clinky Ware appeared in the trenches, although both were

[65] Young & Levine, 1974.
[66] Levine, 1987: 235.

present on the surface. Given the limited size of the excavation, such lacunae may be disappointing but are hardly unexpected.

Nevertheless, the presence of the Genre Luristan material on the surface leads us to postulate a gap in occupation in the excavated areas between Assemblage III and II**.** The absence of Clinky Ware is perhaps fortunate, for it provides an approximate terminus ante quem for Assemblage I at the site.[67] One last observation needs to be made, not about Jameh Shuran, but about the Mahidasht, where classical Early Western Gray Ware was found on survey. Thus, this material occurs throughout the region. The four significant sites under discussion yield a coherent picture for the sequence in central-western Iran. The earliest stratified material is found in the Mahidasht and is represented by the Assemblage III corpus at Jameh Shuran, with its 'Elamite/Kassite goblets.' This material is absent in the Kangavar and Malayer valleys. At Godin, however, we have the Early Western Gray Ware found in the cemetery. The contemporaneity of these will be discussed below. The Genre Luristan wares of BabaJan III appear next, although these are absent in Kangavar and more easterly areas. It remains unclear what, if any, material fits this time range there. The early 'micaceous buff wares' are then introduced, appearing by themselves along the Khorasan Road, both at Nush-I Jan and Jameh Shuran IIB, but mixing with the Genre Luristan material at BabaJan in BabaJan II times. Some of the 'early' Godin II material may fit here as well. A later buff ware phase is represented by BabaJan I and most of Godin II. It seems that Jameh Shuran IIA is contemporary with this material or slightly later. Finally, the assemblage of Jameh Shuran I appear. While it is still the only such excavated assemblage in the central-western Zagros, it occurs on a survey throughout central-western Iran.

The 1st millennium BC potteries in this collection include eighteen pieces: four body parts and 13 rims, along with the base of the container (7 shards dated to Seleucid and Parthian period). The clay used in these pieces is buff to light buff, with a thin outer coating of the same color. Three of the pieces have a thick, cream-colored slip on the outer surface with red painted [Fig. 9.36-39] (Tab 1). All of these pieces of pottery contained sand temper and were made with the use of a pottery wheel. All of the pieces in this collection are fired sufficiently, and in terms of quality, they fall into the classification of delicate pottery. They are all decorated with geometric, and in some cases, floral motifs. Geometrical motifs, such as parallel lines, cross-hatching, thin lines between two bands, scalar form, contiguous circles, and sun-(?) or flower-like (?) designs are manifested on the surfaces of the pottery pieces, which appear as red or dark brown on the outer surface for the most part, except two cases where there is painting inside the containers [Fig. 9].

[67] Levine, 1987: 235.

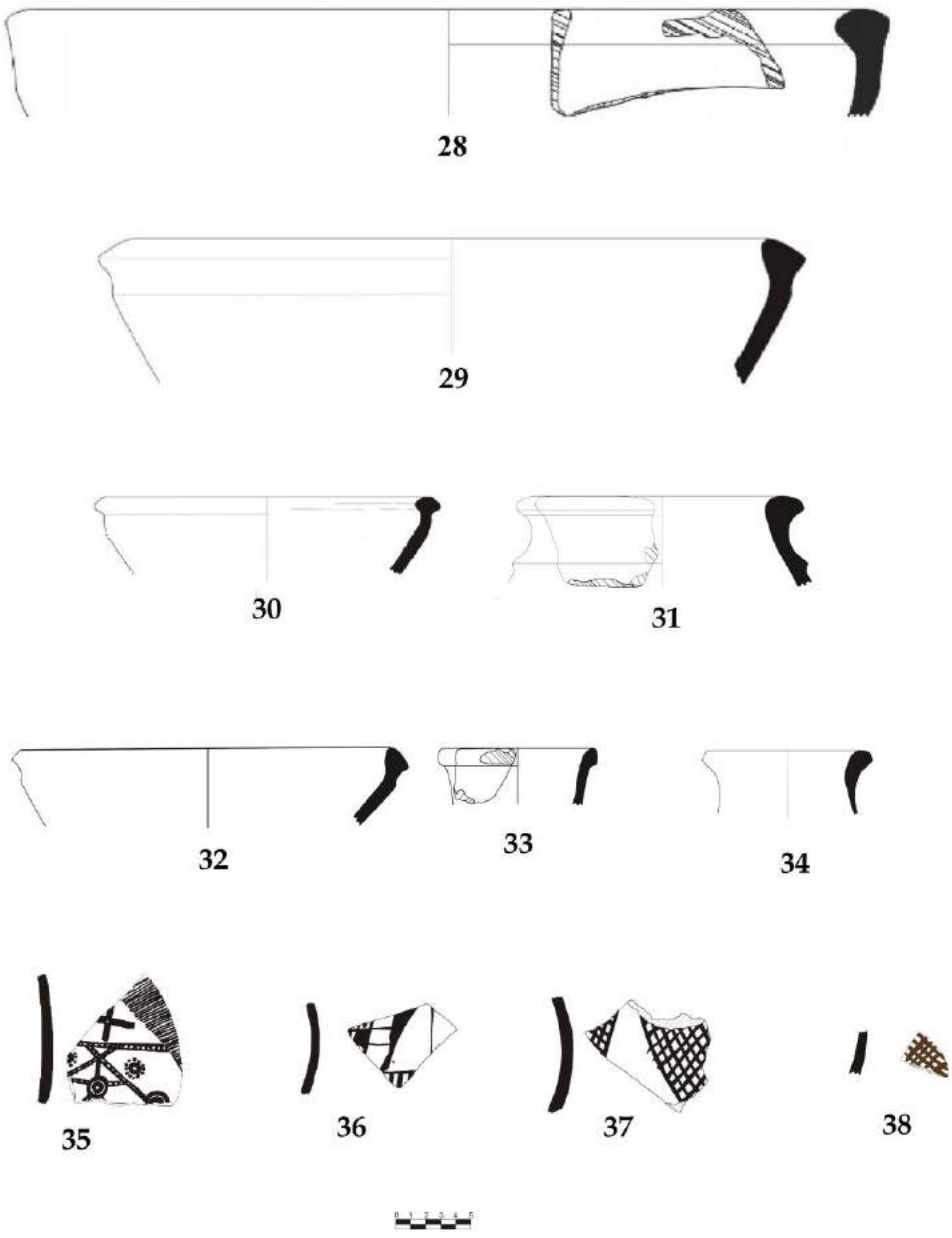

Fig. 9. Pa-Chogha mound; first millennium BC. (Iron Age, Achaemenid, Seleucid and Parthian periods)

Collection of Luristan wares (common in the Jameh Shoran I and II) including Gray Ware, Median Pottery Type, Triangle and Festoon Styles have a wider distribution across Iran[68] are absent among the 1st millennium BC. Pottery remains of the Pa-Chogha. However, it seems the 1st millennium BC, Pottery pieces assemblage of Tepe Pa-Choga can be compared with Godin II and Jameh Shuran I, II and Bastam,[69] Iron III. Small and large bowl types in Godin II_1 and Jameh Shoran II-I[70] and fine common ware bowl in Baba Jan I.[71] All of the painted pottery from Iron Age III can be compared with Baba Jan II painted common wares from,[72] which dated to 750 BC to Achaemenid period[73] (Tab. 3 and 4).

Despite the existence of a series of sources,[74] the period between the end of the Achaemenid Empire and the rise of the Sasanian dynasty can be considered one of the 'dark ages' in the history of Iran. Archaeological research on this period has been neglected for decades and only in recent years has comprehensive projects dedicated to clarifying the cultural processes of this period. On a historical level, the end of the Achaemenid Empire and its desolation by Alexander the Great, represents a crucial phase in the history of Iran because of the complex process of encounter and fusion between Hellenism and Iranism. Seleucid Empire, founded in 312/311 BC by Seleucus I Nicator, formerly a general in the army of Alexander in Central Zagros on 145 BC, when the region was conquered by Seleucid power, lasted until about the Arsacids.[75] Archaeological remains of the Seleucid period in Iran are scarce, and so these remain often in the form of written documents or coins. Archaeological remains of the Seleucid period in Central Zagros were recognized in Kangavar and Nahavand (Laodikeia**).** The spectacular temple at Kangāvar exemplifies the problems of identifying Seleucid architecture. The massive structure with its great Ionic columns set on a high stone platform has been equated with a Greek temple noted by Isidore of Carax. However, recent excavations support its reconstruction by Sasanians rather than Seleucids.[76]

Some fifty painted shards of the festoon wares type were recognized in Nahavand excavation. These wares, mainly to be found in Central Western Iran, were however also attested in Fars and Khuzistan, and their production was probably started in the (late?) Achaemenid period but were most common in the Seleucid period until the 1st century BC. At this point, it is also interesting to remember Herzfeld's

[68] Khatchadourian, 2018: 189.
[69] Gopnik, 2011: 355, fig. 7.55; Kroll, 1979: 9, fig. 21; tab. 4.
[70] Gopnik, 2011: 357, fig. 7.57.
[71] Goff, 1985: 5, fig. 2.
[72] Goff, 1978: 50, figs. 8, 9.
[73] Khatchadourian, 2018.
[74] Wiesehöfer, 1994.
[75] Callieri & Askari Chaverdi, 2013: 691.
[76] Kambakhsh-Fard, 1973: 196-197.

rhyton in the shape of a bovid's head and festoon ware style (now in the British Museum).[77]

Unlike the Seleucid period, archaeological evidence of the Parthian period (ca. 250 BC-224 AD) has been widely distributed throughout the Central Zagros inter-mountain plains. In the Central Zagros region, the Parthian period can be clearly identified by the emergence of several distinctive types of pottery, including diagnostic 'Clinky' pottery. Concerning settlement density, the Kangavar Plain and Chamchamal Plain have indicated the highest rates of population densities. In the Malayer plain, a large number of sites dating back to the Iron Age III were recorded, but the transition of the Iron Age III into the Achaemenid and Parthians were utterly absent in this area. Another point to be considered is the characteristics of Clinky pottery. Haerinck,[78] Young[79] and Stronach[80] have demonstrated extensive information on this type and have dated it to the mid-Parthian period (i.e. the 1st half of the 2nd century BC). The 3rd century AD has been suggested as the end of the widespread use of this type of pottery. It was common in an area stretching from Ghasr-e Shirin in west Iran, through Maragheh in the northwest and the Iranian Central Plateau. Considering the diverse forms and shapes of the Clinky form, it seems that they may be in use over a longer time. The morphological analysis of the Clinky pottery also shows a particular type with an angular (boat-shaped) body. Similar pottery pieces are available from the Neo-Assyrian era, Iron Age III and the Achaemenid period. Certain types of delicate Clinky type potteries have also been found in northwest Iran, particularly in Qalaichi and Ziwiye that were resemble the Clinky pottery of western Iran in terms of form and style. The influence of local and regional styles on the structure of Parthian culture deserves more research and discussions. In addition to pottery with specific local features found across remote mountains of the western part of Central Zagros, only imitations of common Parthian period styles are seen in this area. The fabric of the pottery in the remote mountainous areas of west Zagros is coarse, and there is no sign of Clinky or painted pottery at the heart of the mountains. Except for a few pieces inside the jar burials of this period, there are no pottery items in the Salas-e Babajani, Paveh, and Marivan, which were highly influenced by the jar burial culture. Analysis of the pottery reveals a logical relationship between the finds from Marivan and the jartomb (pithos) cemeteries of Germi of Moghan. As for the influence of local and regional styles, evidence suggests independent artistic styles for the Parthian times in Central Zagros. In ancient times, Southwest Asia situated on the border between the East and West was influenced to some extent by the Hellenistic and Roman worlds, but there is no evidence of such influence in the Central Zagros area.[81]

[77] Rahbar *et al*., 2014: 305.
[78] Haerinck, 1991.
[79] Young, 1965.
[80] Stronach, 1969.
[81] Mohammadifar & Niknami, 2013: 8.

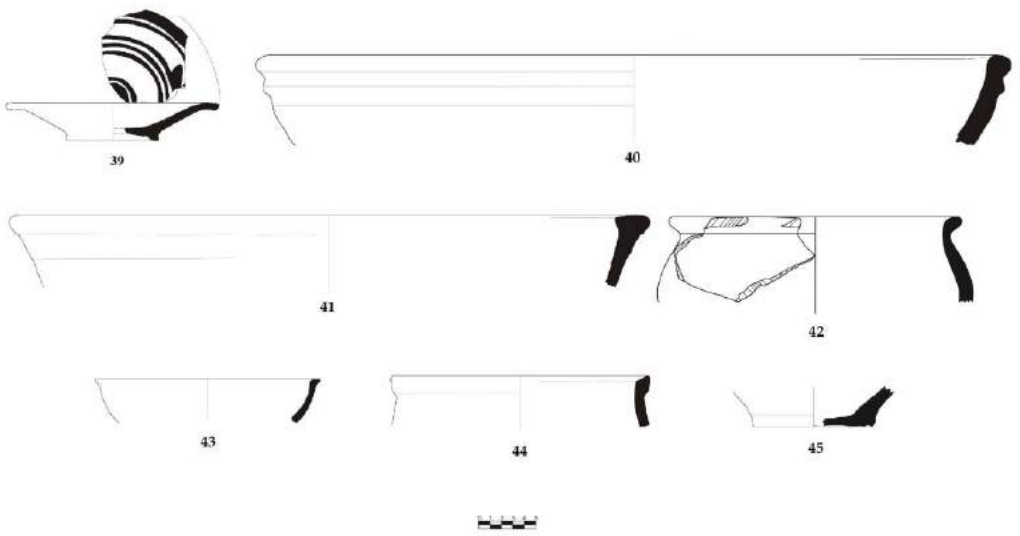

Fig. 10. Pa-Chogha mound; first millennium BC (Iron Age, Achaemenid, Seleucid and Parthian periods)

The pottery from the Seleucid and Parthian periods includes 7 pieces, 6 of which are rim shards and one of them a base piece. The clay used in them is buff and cream-colored, with a thin, buff -colored slip coating. The pieces are made using pottery wheels, and they were fired to completion. The temper of these potteries is made of sand, and in terms of quality, they are categorized to fall into the range of average to delicate pottery. Carved geometrical motifs can be seen on the external surface of three of two pieces, including parallel shoulder lines, parallel wavy lines, and wavy lines contained between two bands in the shoulder section [Fig 10. 41, 42]. The shapes of these pieces include small bowls, round jars, urns and round pots [Fig. 10].

The Seleucid pottery pieces from the Tepe Pa-Chogha can be compared with the festoon ware' shards explored from the ancient city of Nahavand.[82] Parthian pottery pieces from Tepe Pa-Chogha can be compared with ware shards assemblage founded in the Parthian site of Bisotun[83] and the ancient city of Nahavand.[84] Bisotun is the closest and most crucial Parthian excavated site located about 60 km. to Tepe Pa-Chogha.

[82] Rahbar *et al*., 2014: 317, pl. 6.
[83] Alibaigi, 2010: 62, pl. 4; Kleiss 1996: fig. 11, 12.
[84] Rahbar *et al*., 2014:320, pl. 9.

Islamic period

During the Islamic Period, Mahidasht and Sarfirouzabad plains both were significant because these two areas were located on the Khorasan High Road commercially connected Iran to Iraq and the Mediterranean coast in the west and Central Asia in the east. Moreover, both plains had benefited from easy access to abundant water sources as well as fertile soil supporting food production rates to increase.[85] For this reason that our investigations in Sarfirouzabad plain in 2009 field work yielded to identify 114 sites of the Islamic period, among which Pa-Chogha is the most prominent Islamic site in Sarfirousabad plain (about 50000 m^2).

The pottery from the Islamic period includes eight pieces: one handle, one lid, one base, and five body fragments. The clay used in these pieces is buff. The inner surface of one of the pieces is green-glazed, with the outer surface glazed in turquoise. The inside of another piece is spray glazed in green, black, white, and its outer surface is covered with a thin coating in the same color as the clay. Additionally, a light greenish-white glaze can be seen on the inside surface of a base shard. All of the pieces were made using a pottery wheel and have been adequately fired [Fig. 11].

The Islamic pottery pieces assemblage of Tepe Pa-Choga can be compared with Islamic pottery founded from the Islamic city of Bisotun.[86] Bisotun is the closest and most important Islamic site located about 60 Km. to Tepe Pa-Chogha.

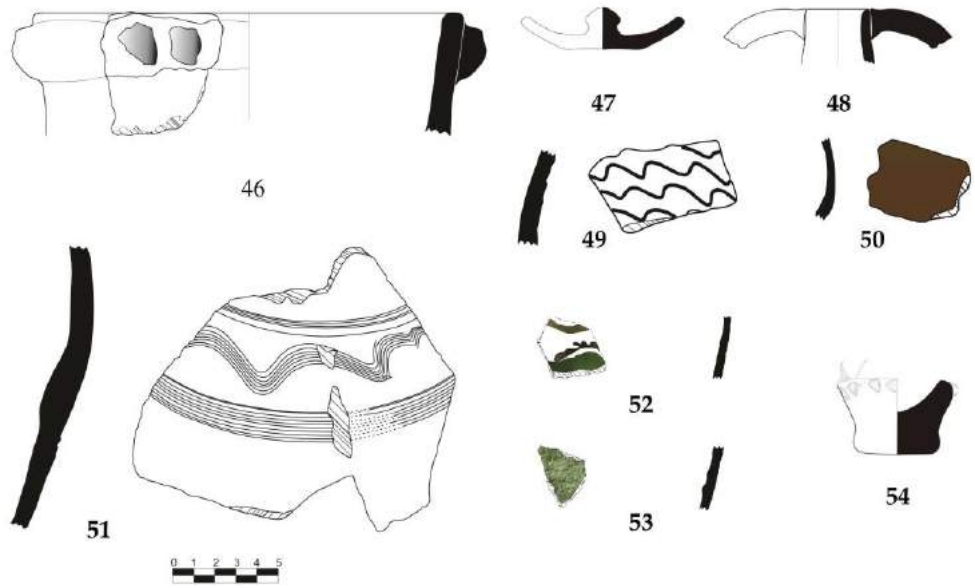

Fig. 11. The Islamic pottery assemblage

[85] Levine, 1974.
[86] Luschey, 1996: figs. 12, 13, 20, 21.

Discussion and Conclusions

Due to the limited research on Western Central Zagros chronology and that most of the settlements are now hidden under river sediments, thus, a discussion about the settlements of this period is difficult.[87] Further, Excavation in the site of the Pa-Chogha (S073) might solve the problem of identifying Early Bronze Age sites in the region. A regular sequence from Early Chalcolithic to historical periods has been documented at Pa-Chogha mound based on pottery styles (Tabs. 1-3), so the presence of the Early Bronze Age sequence between Late Chalcolithic and Middle Bronze Age layers in this mound is expected to be seen by the future excavations. In general, archaeological remains of Pa-Chogha reveal this point that understanding the transitional periods from Late Chalcolithic to Bronze Age and Bronze Age to Iron Age could be identified and answered to our questions about those periods in the western of Central Zagros. It seems Pa-Chogha data can contribute well to illustrate an archaeological picture of Central Zagros and its contact with Mesopotamia, especially during the Middle and Late Bronze Age.

The findings from the surface examinations of Pa-Chogha supports this assumption that further archaeological excavations of Pa-Chogha would provide valuable evidence to the questions regarding the archaeology of Sarfirouzabad plains, Mahidasht, and the Central Zagros. Furthermore, its excavation would also address the problems of transitional phases from the prehistory to the late Islamic periods of the region.

In summary, Pa-Chogha is the highest multi-component cultural mound in the plain, but it is suffering from the extensive disturbance made by adjacent villagers or by looters. The northern and eastern parts of the mound were sadly cut through, and soils were removed to build houses around the mound. On top of the mound, there have been ditches made deeply by looters in search of treasures. Now a day was filled by rain penetrating beneath to submerge cultural layers. Although Pa-Chogha is the only one in the region that would represent an accurate chronological order of cultural layers from the early beginning to the most recent, unfortunately, there is no mitigation plan to salvage mound encountering the various threats.

[87] Potts, 2013:212.

Table 1: The chronology of Central Zagros and adjacent areas during the Neolithic to end of Chalcolithic Age and (after modified Rothman, 2011: 70).

BC	Godin Tepe	Pa-Chogha	Mesopotamia		Nippur Inanna	Susa Acropole
3000	VI:1/V		LC5	Late Uruk	XV-XVI	17
3200	VI:2		LC4	Middle uruk	XVII	Late 18
					XVIII	
3400						Early 18
3600			LC3		XIX-XXI	19-22
3800	VI:3 VII		LC2	Early Uruk		
4000	VIII		LC1	Terminal Ubaid		23-27 Susa A
4200	IX Seh Gabi		Middle Chalcolithic	Ubaid 4		
4400				Ubaid 3		
4600						
4800	X		Early Chalcolithic			
5000	XI			Ubaid 2		
5200			Halaf	Ubaid 1		

Table 2: The chronology of Central Zagros and adjacent areas during the third and second millennium BC. (after modified Henrickson, 2011: 270).

BC	Godin Tepe	Tepe Giyan	Baba Jan	Pa-Chogha	Pusht-I Kuh	Susa, Ville Royale	Mesopotamia
1400	III:1	Giyan II (graves 64,65,71,72, 73,77,79,82)	Trench C Grave 3		Late Bronze	Ville Royal I	Kassite
1500	Post- III:2 Graves						
	Gap						
1600		Giyan III (graves 83-101,105-107, 108,110,112, 115)			Middle Bronze	Strata 3-6	Old Babylon
1700	III:2		Level 4 Op. F Graves 1-4				
1800							Isin-Larsa
1900	III;3						
2000	Gap	Giyan IV (graves 11,113,114, 116-119)			Early Bronze II	Strata 5-6	Ur III
2100	III:4						Post Akkadin
2200	Gap					Strata 7-8	Akkadian
2300		Giyan IV (grave 102)	Level 5 Graves 1-2				
2400	III:5						
2500					Early Bronze I	Strata 9-12	Early dynastic IIIB
2600	III:6					Strata 13-15	Early dynastic IIIA
2700	IV						Early dynastic II

Table 3: Relative chronology of Central Zagros and adjacent areas during the first millennium BC. (Iron Age, Achaemenid, Seleucid and Parthian periods) (after modified Gopnik, 2011: 344)

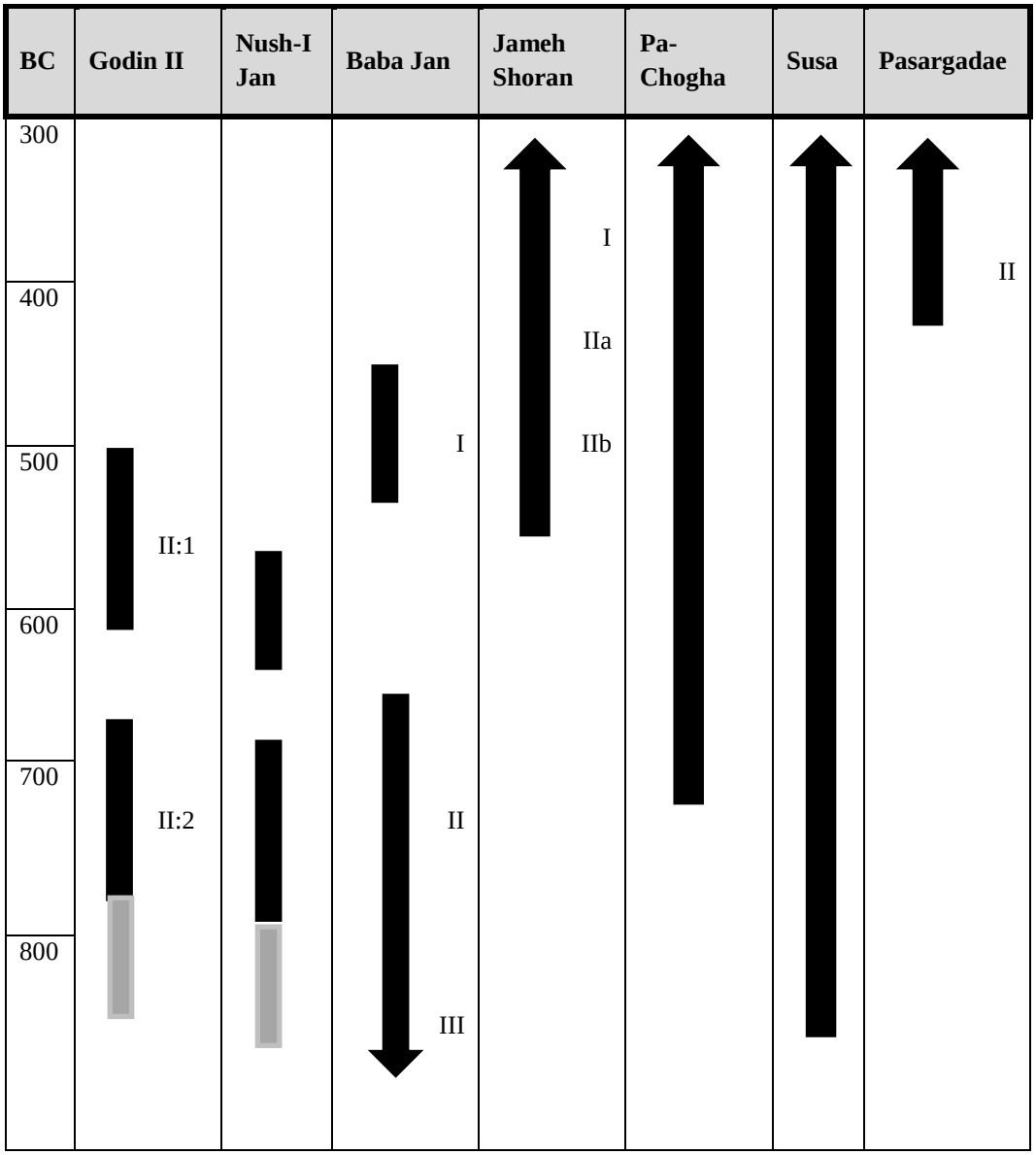

Table 4. Catalogue of the Pottery of Pa-Chogha

No.	**Description:** **(Shred, temper, color, finish,manufacture, firing, decoration, painted color)**	**Parallels**	**Date**
1	Rim, common, buff, smoothed, fast wheel, well fired.	Rothman & Badler, 2011: fig. 4.48	**LC 2-5**
2	Rim, common, red, red slipped, handmade, well fired.	Rothman & Badler, 2011: fig. 4.46	**LC 2-5**
3	Rim, common, buff, smoothed, fast wheel, well fired.	Young & Levine, 1986: fig. 17-7	**LC 2-5**
4	Rim, common, red, red slipped, handmade, well fired.	Rothman & Badler, 2011: fig. 4.44	**LC 2-5**
5	Rim, common, buff, smoothed, fast wheel, well fired.	Rothman & Badler, 2011: fig. 4.49	**LC 2-5**
6	Rim, common, red, red slipped, handmade, well fired.	Rothman & Badler, 2011: fig. 4.44	**LC 2-5**
7	Rim, heavy coarse, grey black, smoothed, handmaid, poor fired.	Renette, 2018: fig. VI.9	**LC 2-5**
8	Rim, common, buff, smoothed, fast wheel, relief decoration, well fired.	Young & Levine, 1986: fig. 17-13; Rothman & Badler, 2011: fig. 4.45	**LC 2-5**
9	Rim, common, buff, smoothed, fast wheel, well fired.	Young & Levine, 1986: fig. 17-13; Rothman & Badler, 2011: fig. 4.45	**LC 2-5**
10	Rim, common, buff, smoothed, handmade, well fired.	Young & Levine, 1986: fig. 20-1	**LC 2-5**
11	Rim, coarse, buff, smoothed, handmade, well fired.	Young & Levine, 1986: fig. 12-5	**LC 2-5**
12	Rim, common, buff, red slipped, handmade, poor fired.	Rothman & Badler, 2011: fig. 4.46	**LC 2-5**
13	Rim, coarse, buff, smoothed, handmade, well fired.	Renette, 2018: fig. VI.14	**LC 2-5**
14	Rim, common, red, smoothed, handmade, relief decoration, poor fired.	Henrickson, 1984a: fig. 68	**Godin III**
15	Rim, common, buff, matte, handmade, well fired, monochrome painted, dark brown.	Henrickson, 1984a: fig. 81.12	**Godin III$_{6,5}$**
16	Rim, common, red, smoothed, fast wheel, well fired.	Henrickson, 1984a: fig. 79. 17	**Godin III$_{6,5}$**
17	Rim, common, buff, smoothed, handmade, well fired, monochrome painted, black.	Henrickson, 1984a: fig. 55.3	**Godin III$_{6,5}$**

18	Rim, common, buff, smoothed, fast wheel, well fired, monochrome painted, dark brown.	Henrickson, 1984a: fig. 130.2	**Godin III_4**
19	Body, common, buff, smoothed, fast wheel, poor fired, monochrome painted, dark brown.	Henrickson, 1986: fig 28. 2	**Godin III_4**
20	Body, common, buff, smoothed, fast wheel, well fired, monochrome painted, brown	Henrickson, 1984a: fig. 137.15	**Godin III_2**
21	Body, common, buff, rough, slow wheel, poor fired, monochrome painted, dark brown.	Henrickson, 1986, fig. 10.3	**Godin $III_{6, 5}$**
22	Body, common, buff, smoothed, fast wheel, well fired, bichrome painted, red and brown	Henrickson, 1984a: fig. 137.16	**Godin III_2**
23	Body, common, red, smoothed, handmade, well fired, monochrome painted, dark brown.	Henrickson, 1986: 45, fig. 28: 7	**Godin III_2**
24	Body, common, buff, smoothed, fast wheel, well fired, monochrome painted, dark brown	Henrickson, 1986: 38, fig. 14:7	**Godin III_2**
25	Body, common, buff, smoothed, fast wheel, well fired, bichrome painted, red and brown.	Henrickson, 1984a: fig. 137.16	**Godin III_2**
26	Body, common, buff, smoothed, fast wheel, well fired, bichrome painted, red and brown	Henrickson, 1984a: fig. 137.16	**Godin III_2**
27	Body, common, buff, smoothed, fast wheel, well fired, bichrome painted, red and brown.	Henrickson, 1984a: fig. 137.16	**Godin III_2**
28	Rim, common, buff, smoothed, fast wheel, well fired.	Gopnik, 2011: fig. 7.55, 71	**Jameh Shuran I**
29	Rim, common, buff, smoothed, fast wheel, well fired.	Khatchadurian, 2018: pl. 4, 9b; Gopnik, 2011: fig. 7.55, 71	**Godin II_1, Jameh Shuran IIb**
30	Rim, fine, buff, smoothed, fast wheel, well fired.	Gopnik, 2011: fig. 7.55, 71	**Godin II_1, Jameh Shuran IIb**
31	Rim, fine, buff, smoothed, fast wheel, well fired.	Gopnik, 2011: fig. 7.53, 9; Miroschedji, 1981: 14, fig. 10; Stronach, 1978: fig. 119.24.	**Godin II_1, Jameh Shuran IIa, IIb**
32	Rim, fine, buff, smoothed, fast wheel, well fired.	Gopnik, 2011: fig. 7.55, 60; Stronach, 1978: fig. 111.20	**Godin II_1, Jameh Shuran IIb**
33	Rim, fine, buff, smoothed, fast wheel, well fired.	Gopnik, 2011: fig. 7.53, 6; Goff, 1985: 5, fig. 13	**Jameh Shuran IIb**
34	Rim, fine, buff, smoothed, fast wheel, well fired.	Gopnik, 2011: fig. 7.53, 7; Goff, 1985: 5, fig. 4	**Godin II_1, Jameh Shuran IIb**

35	Body, fine, cream slipped, fast wheel, well fired, bichrome painted, black.	Goff, 1978: fig. 8, 9	**Baba Jan II**
36	Body, fine, buff, cream slipped, fast wheel, well fired, bichrome painted, black.	Goff, 1978: fig. 8, 9	**Baba Jan II**
37	Body, fine, red, cream slipped, fast wheel, well fired, bichrome painted, red.	Goff, 1978: fig. 8, 9	**Baba Jan II**
38	Body, fine, red, cream slipped, fast wheel, well fired, bichrome painted, red.	Goff, 1978: fig. 8, 9	**Baba Jan II**
39	Rim, fine, buff, cream slipped, fast wheel, well fired, inside bichrome painted, black.	Rahbar *et al* , 2014: 317, pl. 6	**Seleucid period**
40	Rim, common, buff, smoothed, fast wheel, well fired.	Alibaigi, 2010: 59, fig. 1	**Parthian**
41	Rim, common, buff, smoothed, fast wheel, well fired.	Alibaigi, 2010: 60, fig. 2	**Parthian**
42	Rim, common, buff, smoothed, fast wheel, well fired.	Alibaigi, 2010: 60, fig. 2	**Parthian**
43	Rim, fine, red, smoothed, fast wheel, well fired.	Alibaigi, 2010: 59, fig. 1	**Parthian**
44	Rim, common, red, smoothed, fast wheel, well fired.	Alibaigi, 2010: 60; fig. 2	**Parthian**
45	Base, fine, red, smoothed, fast wheel, well fired.	Alibaigi, 2010: 61, fig. 3	**Parthian**
46	Rim, common, red, smoothed, handmade, relief decoration, poor fired.	Khosrvi & Rashno, 2012: fig. 84-82	**Islamic period**
47	Lid, fine, buff, smoothed, handmade, well fired.	Luschey, 1996: 20	**Islamic period**
48	Handle, fine, buff, smoothed, handmade, well fired.	Luschey, 1996: fig. 12	**Islamic period**
49	Body, fine, buff, smoothed, fast wheel, scribed painted, well fired.	Luschey, 1996: fig. 13	**Islamic period**
50	Body, fine, buff, brown glaze, fast wheel, well fired.	Luschey, 1996: fig. 21	**Islamic period**
51	Body, fine, buff, smoothed, fast wheel, scribed painted, well fired.	Luschey, 1996: fig. 12	**Islamic period**
52	Body, fine, buff, glaze, fast wheel, well fired, with, green and brown.	Luschey, 1996: fig. 13	**Islamic period**
53	Body, fine, buff, green glaze, fast wheel, well fired.	Luschey, 1996: fig. 13	**Islamic period**
54	Base, common, red, smoothed, fast wheel, bichrome painted, black.	Luschey, 1996: fig. 12	**Islamic period**

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