
Archaeological Research on Islamic Pottery from Qal'eh Sang, Old Sirjan (Kerman Province, Iran)¹

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DOI: 10.22084/NBSH.2020.18449.1896

Received: 2019/02/13 - Accepted: 2019/07/26

Abstract

Sirjan was one of five districts in Kerman province during the Islamic periods. According to archaeological research and historical written sources the location of the city changed several times. At the time from the 6th to 9th century AH (12th to 15th century AD) the city of Sirjan was located at the site called Qal'eh Sang. During the first season of archaeological survey and excavation besides the identification and discovery of architectural remains, a big variety of different types of Islamic ceramics was found in large quantities which suits for further specialized studies. Questions arising on the ceramics are concerning the variation of ceramic decorations, the dating of the objects as well as the characteristics of local production at Qal'eh Sang. To answer these questions a descriptive-analytical approach is applied on data from archaeological fieldwork activities. The goal of these analyses is to give answers about the relative chronology, the role of Qal'eh Sang on cultural interactions with other regions, the zenith and descent of Qal'eh Sang on base of documented pottery finds in comparison with historical written sources as well as on the local pottery production during early Islamic times. At Qal'eh Sang many ceramic shards dating from Middle Elamite to Qajar period were documented, but the majority belongs to the time from the 6th to 9th century AH (12th to 15th century AD). These ones show similarity to pottery finds from Jiroft, Ghubayra, Kashan, Rey, Farahan, Gorgan, Neyshabour, Belgheys near Esfaryen, several sites on the Northern coast of the Persian Gulf as well as Al-Mataf, Kush and

Al-Huleylah in Ras Al-Khaimah (U.A.E). Some pieces seems also to be imported from Azerbaijan and Afghanistan or f.e. from China during the Yuan and Ming dynasty as evidenced by fragments of blue and white ware and Celadon. In general, the investigation of the ceramic finds from Qal'eh Sang can be used as a good indicator for the developments of trade contacts with centres along the coasts of the Persian Gulf. Trading contacts between the Persian Gulf and Sirjan have been an important economical branch for the exchange of goods with Central Iran and is also an indicator for the imminent influence on the development of the Southern cities.

Keywords: Old City of Sirjan, Qal'eh Sang, Pottery Typology, Islamic Periods, Archaeology of Southern Iran.

Introduction

The old city of Sirjan counted at the time from the early Islamic period until the 4th century AH (10th century AD) and from the 6th century AH (12th century AD) until Qajar Period (19th century AD) to the major important sites of economic trade in Southern Iran. Until the 4th century AH it was also the capital of Kerman province (Ebn-e Khordadbeh, 1991: 38-40; al-Maqdisi, 2006: 681; Ebn-e Hawqal, 1987: 73). With the choice of city of Kerman as provincial capital during the time from the 4th until 6th century AH (10th and 12th century AD) the main route changed also via Sirjan to "Hormoz-Jiroft-Kerman-Yazd-Central Iran" (Amirhajloo, 2015b: 185). But socio-political developments during the 6th and 7th century AH (12th and 13th century AD) and the turmoil and rising insecurities at Jiroft in the 7th century AH (13th century AD) made it necessary that the main routes crossed Sirjan instead of Jiroft (ibid: 190). The growth of the cities and villages in the Sirjan plain were connected to this main route as well as to the city of Sirjan and the settlements on its periphery were highly interconnected to the trade in Southern Iran and the coastal areas of the Persian Gulf. According to archaeological research and historical written sources Sirjan's location changed several times during Islamic periods. Archaeological excavations which were conducted in 1970 and assessments of relative dating on surface pottery finds showed that at the Early Islamic period the site of Sirjan was located at the site of Qal'eh Kafar, about 10 km southeast to the modern town of Sirjan (Morgan & Leatherby 1987). From the 6th century AH (12th century AD) onwards the site was re-established at Qal'eh Sang, about 2 km to the West of Qal'eh Kafar. By that reason at Qal'eh Kafar pottery is exclusively attested until the 6th century AH (12th century AD), like at Qal'eh Sang from the 6th

to the 9th century AH (12th to 15th century AD) (Amirhajloo, 2015a). Likewise from this point in time there are first mentioning of Sirjan at the site of Qal'eh Sang (Afzal al-Din Kermani, 1947: 426; Monshi Kermani, 1949: 84-85; Hamdallah Mustawfi, 2009: 201; Sovar al-Aqalim, 1974: 55). Before that there is no historical record about Qal'eh Sang or the existence of a white limestone outcrop inside of Sirjan.

At the end of the Muzaffarid period due to political issues and skirmishes, Amir Teymur (Tamerlane) and Shahrokh intervened and due to the order of Amir Teymur the city was conquered and destroyed (Vaziri, 1997: 253; Yazdi, 1957: 559; Le Strange, 1958: 334). Following the destruction and the hiatus of the site the remaining local inhabitants chose the site called Bagh-e Bamid at the Northwestern fringes of modern Sirjan for dwelling. The last transfer took place at the reign of Mirza Saeed Kalantar during the Qajar period to the South of Bagh-e Bamid at the village of Saeedabad.² In Qajar period Ahmad Alikhan Vaziri gave reference to Beymand (or Bamid). Though, the Sirjan was situated at the village of Saeedabad at this time and was connected to the roads from Fars to Kerman and Bandar Abbas to Yazd (Vaziri, 1997: 258). The researchers at Qal'eh Sang documented large quantities of varying ceramic fragments deriving for mid and late Islamic centuries which are of high scientific value to enlight this so far neglected period of Sirjan's history.³

Research demand and purpose: Considering that Qal'eh Sang, the second location of the old city of Sirjan, was neglected by archaeological research until recent times and there was a lack of knowledge about the settlement and its cultural material, intensive research on the ceramic finds will provide new data about the developments of the city, its contacts with contemporary neighbouring and distant regions as well as about the local pottery production. The actual purposes of this contribution is to gain more data about typology, relative dating of ceramic finds and to enlarge the knowledge about the quantity and quality of local produced pottery during the Islamic periods from the 6th to 9th century AH (12th to 15th century AD).

Questions: What is the variation of ceramic decorations at Qal'eh Sang and which period they are dating too? When was the zenith and descent of local pottery production at Qal'eh Sang and what are their characteristics?

Research Method: The collected data deriving from field work and studies on published reports will be processed by an analytical-descriptive approach. In the beginning field reports from previous

archaeological surveys in the Sirjan plain were studied intensively. After recent conducted archaeological survey and excavation at site in 2015 the ceramic finds of the Islamic periods at Qal'eh Sang were categorized according to comparisons, relative dating and similarities to other contemporary Islamic sites inside and outside of Iran. Following primary written sources and geographical records were examined concerning the zenith and descent of Old Sirjan in collation with the ceramic finds derived from the recent survey at Qal'eh Sang. Because of limited possibilities during fieldwork just diagnostic cermaic samples were taken into concern instead of using all collected items. Therefore, due to natural and architectural features at the site of Qal'eh Sang eight separated areas were distinguished, B1 to B8, and ceramic samples were collected randomly from each area. The division of the site in eight areas and the collection of samples was conducted for two reasons: First, to study the changes of the ceramic samples in each area separately and secondly to allow more precise studies and awareness from the extent of the site from different periods as well as a handier access for registration and recording of the finds. Further, distinctive ceramic samples deriving from three trenches on the Northern and Eastern slopes of Qal'eh Sang (trenches T1, T2 & T3) were examined to increase a precise typology and dating. In the next step investigations on the technical characteristics of the pottery concerning production, raw material (i.e. clay, temper), shapes and usage as well as colouring and painting/ decoration were conducted. Finally, analysis of the finds in regard of the four aspects “relative dating”, “cultural interactions with other Islamic sites”, “comparisons of the pottery finds with historical written sources to attempt explanations about the zenith and descent of Qal'eh Sang” and “local pottery production” are performed.

Research Literature

Although Sgt. Richard Gibbons was one of the first Westerners who visited and described Qal'eh Sang (Gibbons, 2016: 29), but the first scientific report on Old Sirjan was given by the military investigator Percy M. Sykes. During his surveys in Kerman province he was travelling on the road from Baft to Sirjan where he crossed Qal'eh Sang and identified it as “Karmania” or “Kerman” the ancient capital of Kerman province (Sykes, 1957: 431).

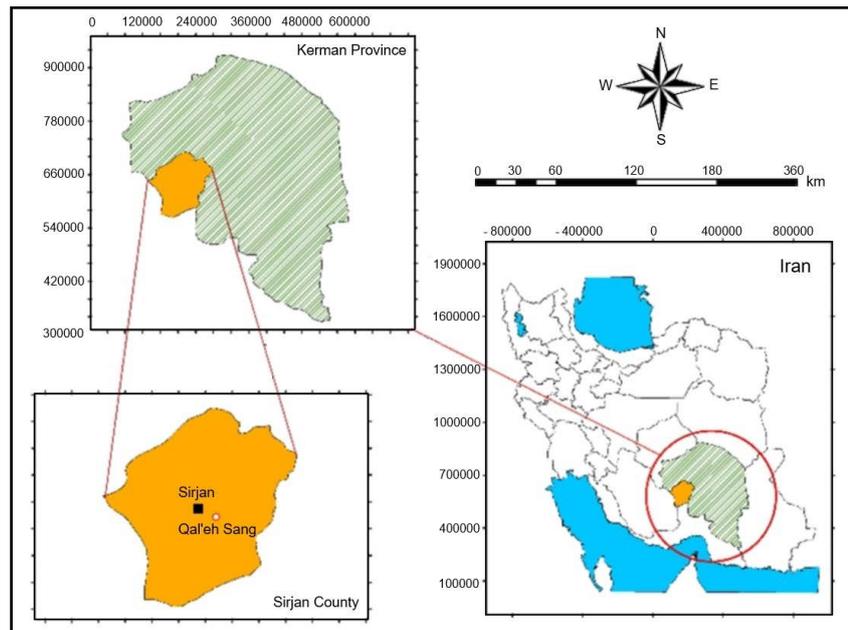
The archaeologist Ali Akbar Sarfaraz surveyed in 1965 the periphery and city of Sirjan. In 1970 Andrew G. Williamson conducted archaeological excavations in a distance of three to five kilometres East of Qal'eh Sang and discovered first remains of the early Islamic

settlement of Sirjan. After his death the incomplete reports was compiled and published by Morgan and Leatherby in 1987 (Morgan & Leatherby 1987). Williamson only published a single scientific article in cooperation with Whitehouse about sea-trade routes in Sasanian period mentioning the contacts between Sirjan, Jiroft and Siraf with the regions on the Southern coast of the Persian Gulf (Whitehouse & Williamson, 1973: 32). Parviz Varjavand published an article on the stone minbar of Qal'eh Sang. According to him it was first build as a fire altar ("Atashdan") and later reshaped and changed in its new appearance. In this contribution he gave also reference to stamped and moulded decorated pottery but did not mention anything about glazed pottery (Varjavand, 1972). Bivar and Fehervari after their excavations at Ghobeyrah were finished also visited Sirjan and recognized that the ceramic finds of both sites dated to the 3rd to 6th century AH (9th to 12th century AD) share many commonalities (Bivar & Fehervari 1975). Abolqasem Hatami conducted during the years 1993-94 archaeological sounding for delimitation of Old Sirjan. Therefore, it was proposed to include the area from North towards the Sirjan-Baft road, from the Northwest towards the pistachio groves of the Ghotbi family, from West toward the enclosures of the Ezatabad mansion, from the South towards the agricultural areas irrigated by the water pump of Hossainabad and from East towards the agricultural fields irrigated by Ostad Mohammad Ali Karbalayi Hamid water pump, as protected archaeological site (Hatami, 1995: 65). During the deep sounding activities the remains of a collapsed mud brick vault, an exit of a qanat-channel, as well as pottery pipes and pottery fragments dating the early Islamic times were discovered (ibid: 66-69). A. Hatami also focused in his master thesis on the research of Old Sirjan according to the results of his fieldwork (Ibid: 1995). He published some of his results in the monograph "Old Sirjan- an industrial and artistic centre during Islamic times" (Hatami, 2001). Further and so far last archaeological investigations started in 2015. During fieldwork several interesting archaeological contexts at the Northern and Eastern slopes of the natural outcrop of Qal'eh Sang were discovered like the remains of a stonecutting workshop and a large bathhouse (Amirhajloo, 2015a).

Geographical characteristics and archaeological evidence of Qal'eh Sang

Qal'eh Sang is located on the Western fringes of Ezatabad village to the West of Old Sirjan in a distance of about eight km to the modern city of Sirjan. Its precise geographical coordinates are 55°45'34"

to $55^{\circ}46'2''$ E and $29^{\circ}21'49''$ to $29^{\circ}22'8''$ N and it is situated about 1745 m.a.s.l. (Map 1). This site is the second place where Sirjan was located during the Islamic times. In central position of the site a natural white-coloured limestone outcrop is situated which is the most prominent height in the Sirjan plain. Its natural shape comes with the best characteristics for the separation of the ruler's headquarter and the popular dwelling area (Figure 1-3).





◀ Fig. 2. Northern view of Qal'eh Sang (Authors, 2015).



◀ Fig. 3. First and second defensive walls of Qal'eh Sang (Authors, 2015).

The ruler's palace and the military garrison ("Kohandezh") were located on top and the slopes of the limestone outcrop and adjacent the downtown dwelling areas ("Sharestan"), two mud brick enclosures, towers as well as the "Rabaz" for livestock barns and agricultural areas in the periphery. Qal'eh Sang with the two mud brick enclosures is given an extent of about 30ha. But in addition with the peripheral area it has an extent of more than 85ha. The total length of the enclosing walls outside of Qal'eh Sang is about 1950 m. The south-eastern part of the enclosing wall is characterized by its bigger height and thickness and the used mud bricks are of bigger dimensions. It also seems like that these parts are the earliest. Further, 49 towers were able to identify along the wall. The most prominent in situ context at Qal'eh Sang is the stone Minbar made of white marble stone which Thuluth inscription on its body mentioning the date 789 AH (Varjavand, 1972: 112). According to the characterization and inscription on the Minbar's body it seems like the objects remained unfinished (Amirhajloo, 2015a: 28). P. G. Sykes identified the date 410 AH in the inscription on the top of limestone outcrop (Sykes, 1957: 427). During recent archaeological activities at Qal'eh Sang a stonecutting workshop as well as a bathhouse with an extent of approximately 180 m² were discovered (Amirhajloo, 2015a).

Discussion

A) Classification and chronology of ceramic types at Qal'eh Sang

The classification of the Islamic ceramic finds deriving from archaeological survey and excavation is has the goal to establish a "nominal classification" of the objects. Due to frequent appearance of glazes and a variety of decoration elements on Islamic ceramics the classification is based on macroscopic characteristics concerning "cover" and "decoration". This variety can be used as the tool to distinguish local products and imported ceramics as well as to

establish relative dating and a form typological analysis. Therefore the ceramic finds are divided in to four main groups: “unglazed plain wares”, “unglazed decorated wares”, “monochrome glazed wares” and “polychrome glazed wares”. Based on this division further investigations on relative dating and comparative studies are applied to the corpus of discovered ceramic finds.

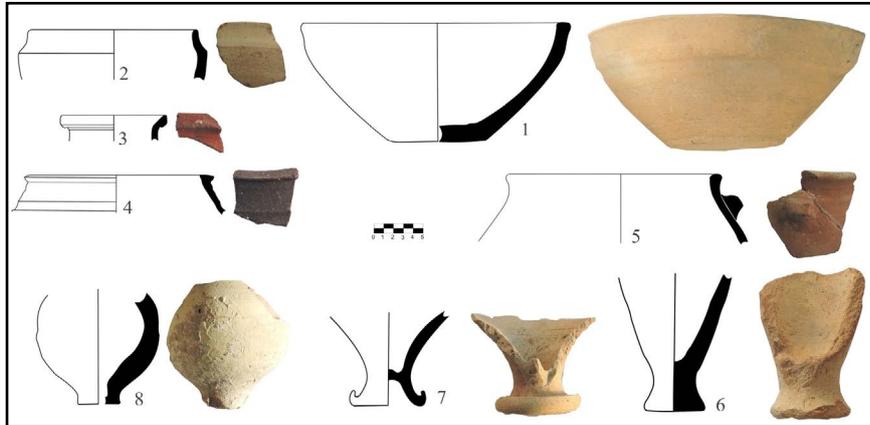
1) Unglazed plain wares

Unglazed plain wares are coming with a buff, dark buff to red and gray coloured paste. The red and gray coloured pastes are mixed with natural sandy temper. Some other, especially the pastes of red or dark buff to red colouration comes with a layer of clay slip of diluted buff, red or dark buff to gray colouration. The thickness of the average shards is about 6 to 10mm, but some coarse wares are coming with a thickness of more than 10mm. In most cases pottery is wheel thrown and some of types with applications like handles, nozzles and lids, but also oil lamps (“Pihsuz”) small bowls (“Piyaleh”) and coarse wares are handmade or coiled pottery. The major forms are coming with closed rims but some are with open rims including spouted vessels, different shapes of storage vessels (“Tong”, “Kuzeh”, “Khomreh”) and bowls (“Kaseh”). The rims are varying from inverted, straight, bevelled, triangular, square to plain rounded and T-shapes. The bases are of concave or flat shape (Figure 4).

It seems like that pottery wares of this group are regularly used from the late historical periods towards the Islamic times without any noteworthy changes in design or production. The oldest examples are a few pieces of pottery with a gray to red coloured paste (see Figure 4: 3-5) which probably dated to late Sasanian/ early Islamic times.

Ceramics with gray coloured paste comes with average thickness and sand-lime tempered clay. It is characterized by closed vessels with reverted rim shapes (Figure 4: 4). Comparable finds were documented at Kush (U.A.E.) during excavation and dated to late Sasanian/ early Islamic periods (Kennet 2002: 157). Pottery with red coloured paste appears in two groups. The first group is only represented by one pottery shard with an average thickness and a slightly red coloured slip. Its temper is characterized by inclusions of white minerals (Figure 4: 3) of shows similarities to late Sasanian/ early Islamic ceramic finds from Kush (Ibid). Another group is characterized by its relative thickness with red coloured clay. On the body of this ware protrusive almost square handles are applied. It

seems possible that this ware also belongs to the late Sasanian/early Islamic times (Figure 4: 5).



◀ Fig. 4. Plain unglazed wares in Qal'eh Sang (Authors, 2015).

The majority of known ceramic finds belonging to this group are with paste colouration from buff to dark buff and red with plain round or reverted rims. Comparable finds regularly appear in many Islamic sites without any special-diagnostic shapes. Therefore, it is almost impossible to provide a precise dating of this ware. But in the trenches T2 and T3, the area of the bathhouse a total amount of 70 buff coloured bowls with plain round-shaped rims and flat bases were discovered. The objects are coming with a smoothed surface and the structure of the clay is rather compact and tempered with fine sand. With respect that these objects exclusively were discovered inside of the bathhouse it seems like there were used as bath bowls (Figure 4: 1). This ware type was also identified in strata dated to the Ilkhanid occupation at Tappeh Hasanlu in Western Azerbaijan province (Danti 2004: 21, fig. 20). In mind that the excavated remains of the bathhouse at Qal'eh Sang are dating to the 5th to 9th century AH (11th to 15th century AD) and the discovered objects dating to the 8th / 9th century AH (14th / 15th century AD) are documented in higher density (Amirhajloo, 2015a: 215) it seems plausible that this type of bowl especially was produced and in usage during the 8th and 9th century AH (14th and 15th century AD).

2) Unglazed decorated wares

Unglazed decorated wares found at Qal'eh Sang are characterized by a paste with a colour spectrum ranging from buff to dark buff and red, gray or green and mixed with fine sands and sometimes gravel. Most samples are showing traces of wheel thrown production, some are handmade or made by coiling. The majority is characterized by forms with closed rims but some are with open rims including

spouted vessels, different shapes of storage vessels (“Tong”, “Kuzeh”, “Khomreh”) and bowls (“Kaseh”). The decorations on the ceramic bodies are varying from incised, imprinted, applied (Figure 5: 6), relief (Figure 5: 7), reticulated and double glazed, stamped or moulded elements, (Figure 5: 1, 9 & 10) which sometimes also appear in combination (Table 1).

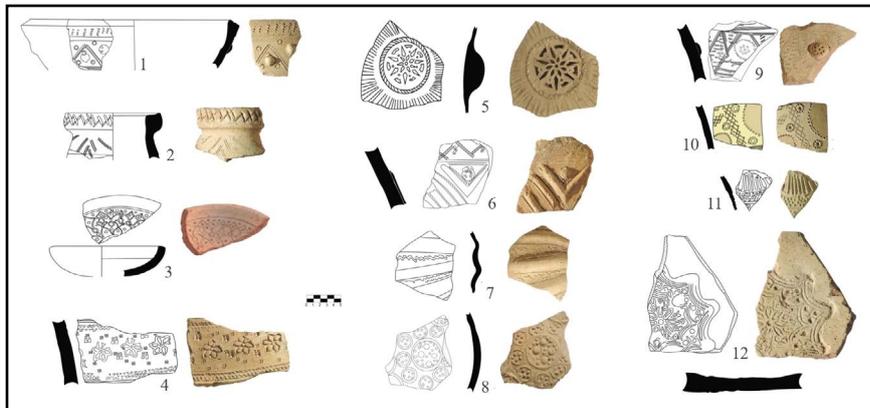
Table 1. Variation of decoration types on unglazed decorated ceramics. ▼

| incised | impressed | applied or relief | Stamped or moulded | combined | reticulated and double shell |
|----------------------------------|--|--------------------|--------------------|-----------------------|------------------------------|
| Different shapes of simple lines | Cylinder or band | Applied button | Stamped | Incised and imprinted | Reticulated bi-layered |
| Lines of cereal bunch | Fingernail | Applied string | Moulded | Applied and imprinted | Combined double glazed |
| Checkered Lines | Finger | Band relief | | Applied and incised | |
| Different forms of combed motifs | Different forms of Circles or triangular | String/rope relief | | Stamped and imprinted | |

Decorations with incisions, imprints, application or combination are the most varying styles applied on unglazed wares of Qal’eh Sang. These decoration methods used for the unglazed decorated wares were common during all pre-Islamic and Islamic periods. But some of these samples (Figure 5: 1, 2 & 9) are showing parallels to objects dating to 4th to 7th century AH (10th to 13th century AD) which were found at Qal’eh Kafar (Morgan & Leatherby 1987: Fig. 39). Likewise some buff wares from Qal’eh Sang deriving from 5th to 7th century AH (11th to 13th century AD) contexts are coming with decorations combined of applied, incised and imprinted motifs (Figure 5: 9). Comparable finds were also documented at Ghubayra during excavation (Bivar 2000: 442, N: b71-68).

New quantities of stamped and moulded ceramics with geometric motifs were observed during fieldwork at Qal’eh Sang (Figure 5: 4, 8, 11 & 12) and share slight similarities with 5th to 7th century AH ceramics (11th to 13th century AD) at Jiroft, Ghubayra and Neyshabour (Choubak, 2010: 89; Bivar, 2000: 444; Wilkinson, 1973: 356-357). Hereby, an important point to consider that during middle Islamic times huge quantities of moulded ceramics were produced at Jiroft and Fars province and a few at Sirjan. Williamson already referred to few quantities of mould ceramics production at Sirjan (Williamson, 1987: 22). Besides the already mentioned cases, there are also some vessel of fine wares with buff coloured paste with grooved bodies and incised decorations (Figure 5: 10), fine wares with buff to dark buff and red coloured double-glaze and incised-imprinted decoration (Figure 5: 10) as well as fine ceramics with buff coloured paste, reticulated bi-layered with incised or cut decorations which were observed in scarcely distribution at Qal’eh Sang (Figure 5: 5).

With respect to the production characteristics and the decorations the objects are dated to the period of the 5th to 7th century AH (11th to 13th century AD).



◀ Fig. 5. Decorated unglazed wares in Qal'eh Sang (Authors, 2015).

3) Monochrome glazed wares

Several types of monochrome glazed wares are attested at Qal'eh Sang. In contrast to the pastes used for unglazed wares here we observed a spectrum from clay to frit and porcelain wares. Monochrome glazed wares are subdivided into two groups which separately will be presented in the following paragraphs.

Plain monochrome glazed wares

This first group is subdivided into three sub-groups. The first sub-group is characterized by plain, monochrome glazed wares' pastes varying from clayey buff or dark buff to red, fine and coarse frit and porcelain colouration. The glaze colours are white, light to dark turquoise, light to dark green, azure, thistle and light to dark brown. Most of vessels are coming with shapes of bowls, beakers and cups and rim-shaped or flat bases and round shaped or T-shaped inverted rims and those with orientation toward outside. During fieldwork at Qal'eh Sang large quantities of tripods, kiln plugs, plain deformed ceramics, remains of unused clay waste as well as monochrome glazed wares with turquoise and green glazes were documented (Figure 6: 4, 5 & 6). These examples are showing traces of uncontrolled firing process with cracked, sometimes spotted glazes (Figure 9). These finds are indicating that objects with clayey paste are locally produced. These examples with clayey dark buff to red show also temper with fine sands and share glazes of dark turquoise, brown, dark green and dark green to brownish color. The bases are rim-shaped or sometimes flat and the rims are T-shaped and oriented towards the outside (Figure 6). The wares predominantly have open

bowl-like shapes and according their rim and body shapes and share similarities to 7th to 9th century AH ceramics (13th to 15th century AD) (Watson, 1985). With respect to the high density of monochrome glazed pottery fragments on the surface at site and the historical record of Qal'eh Sang's importance during the time from the 7th to 9th century AH (13th to 15th century AD), a dating of this pottery to this period seems plausible.

The other group of plain monochrome glazed wares is coming with frit paste and turquoise or azure glazes (Figure 6) and appears in comparison to the other group of clayey paste in lesser quantity. Examples of this group also attested at on the surface of Qal'eh Kafar, but have not been mentioned in the published report (Morgan & Leatherby, 1987). Examples of this ware are diagnostic for the period of the 6th to 7th century AH (12th to 13th century AD) and is attested at the contemporary important centres like Jiroft, Moshkouyeh, Zolfabad, and Neyshabour as local products (Choubak, 2012: 109; Mahjoor & Sedighian, 2010: 109; Nemati et al., 2012: 133).

The third subgroup of monochrome glazed wares is characterized by whitish-porcelain to gray coloured paste with varying greenish glazed and known as Celadon ware. At Qal'eh Sang large quantities of plain Celadon ware and Celadon ware with decorations under monochrome glaze is attested which showing a great variety of different open shaped bowls (Figure 6: 13). The ware according to their shapes, decoration, pastes and glaze colours shows many similarities to 8th to 14th century AD ceramic objects of the Yuan-dynasty in China (Barnes et al., 2010: 357).

Monochrome glazed decorated wares

This wares comes with clay, frit or porcelain paste and with glazes of white, turquoise to light and dark green glazes. Few quantities of monochrome glazed wares with clayey paste with decorations under glaze are documented at Qal'eh Sang. The glazes of this ware are dark green to turquoise with applied rope and moulded decorations. Wares with applied rope decorations concerning technique, composition and glazing are sharing similarities with plain monochrome wares at site. Due to this fact it seems plausible that during the time from the 7th to 9th century AH (13th to 15th century AD) this wares was produced at site too (Figure 6: 3). Though, in regard of the type of paste, glaze colour/quality and decoration elements there are no commonalities with wares deriving from the early Islamic centuries (for further comparison of wares deriving from the early Islamic centuries with wares from 7th to 9th century AH (13th to 15th century AD) see

Priestman, 2013: 693). One example of a bowl-shaped vessel with clayey buff paste and moulded decoration under turquoise glaze was observed at Qal'eh Sang. (Figure 6: 11). It is possible that this objects once had an inscription decoration, but just a few lose fragments are preserved. In general underglazed moulded decoration from the 6th to 7th century AH (12th to 13th century AD) was produced with a frit paste (for example see: Watson, 1985). This ware with clayey paste is to a certain degree distinct and so far comparable wares from contemporary Islamic sites in- and outside of Iran are unknown. But with respect to the decoration characteristics it seems likely that this wares was produced at the same time. Monochrome glazed decorated wares with frit paste were also found in a few numbers at Qal'eh Sang. These wares have turquoise glaze and open bowl-shapes with round plain rims. On the outer surface and around the rims moulded decorations under glaze with geometric patterns similar to inscriptions are visible (Figure 6: 9, 10). Similar ways of decoration realized on wares with different rim shapes is known from a few sites dating to the 7th to 8th century AH (13th to 14th century AD) like for example Arzufud next by Hamadan and Bisotun near Kermanshah (Zare'i et al., 2015: 84; Kleiss & Calmeyer, 2006: 275). But in respect to comparisons on technique, composition and glazing of this ware with plain monochrome wares and due to differences on their rim shapes with wares from Ilkhanid periods it seems like that this wares were produced during the 6th to 7th century AH (12th to 13th century AD).

Quantities of monochrome decorated wares with porcelain paste are more frequently attested at Qal'eh Sang. The majority of these wares are of Celadon type which was imported from China. But under these, there are also some distinct examples of so called Dehua Plain Ware (DPW) identifiable. This ware is attested by remains of a porcelain miniature bowl with white glaze and incised decoration under glaze which in rarity are known from few Islamic sites (Figure 6: 12). This ware was also found at Kush (U.A.E.) and the 8th century AH (14th century AD) dating was proposed (Kennet, 2004: 64, 143). In regard of the production centre at china and the attestation at Kush, at the coast of the Oman Sea, and at Sirjan, the trading routes can be drawn to China. Glazes of Celadon ware includes variations from light green on white, dark green, light green or olive and light green to yellow. The porcelain paste of this ware is of white to grayish colouration, but some examples are coming with small spots of light brown to orange at the base. The use of light brownish to orange paste is usually seen at examples of the 8th century AH (14th century

AD) Yuan-dynasty and especially with the Longquan ware (Barnes et al., 2010: 336). This ware is decorated with incised and stamped or moulded fish or poeny-floral motifs and sometimes comes with grooved bodies (Ibid, 334-335). These decoration characteristics were also observed at some other types of Celadon ware at Qal'eh Sang (Figure 6: 14, 15, 18, 19). Almost identical examples of this ware in special those with grooved bodies and incised decorations under glaze are also attested at some South Iranian sites like on the Island of Kish or at Minab (Mousavi, 1997: 232; Morgan, 1991: 73-77). The Longquan ware was produced almost until the 9th century AH (15th century AD), the reign of the Ming-dynasty. But the colouration of the glaze is darker on these examples as well as incised decoration patterns were used more often (Walenstain, 1989: 203). These characteristics are also attested at some examples which were found at Qal'eh Sang (Figure 6: 17).

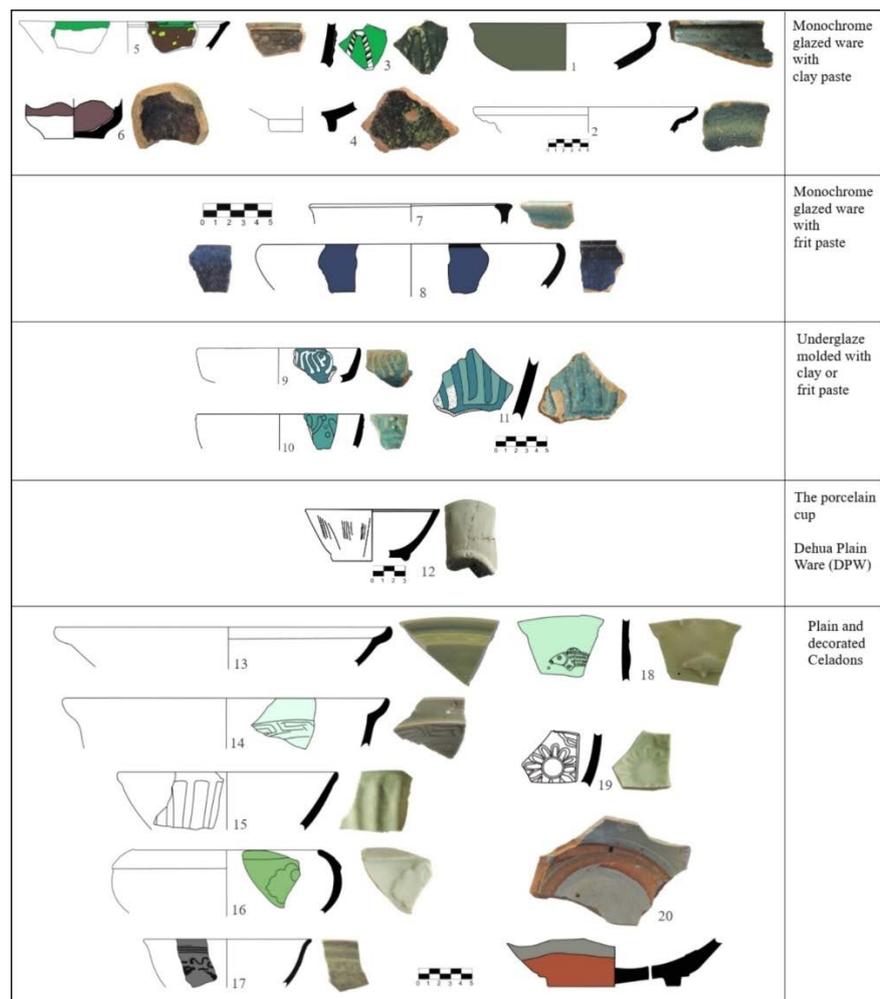


Fig. 6. Monochrome glazed wares with clay, frit or porcelain paste in Qal'eh Sang (Authors, 2018). ►

4) Polychrome glazed wares

Ceramics with polychrome glaze is the most diverse group found at Qal'eh Sang. These wares are coming with clayey, frit or white porcelain pastes and are divided into two groups:

1) Underglaze painting and 2) Overglaze painting.

Underglaze painted wares

Examples of underglaze painted wares at site are characterized by its great variety. They are also the most common group under the ceramic finds at Qal'eh Sang with buff and dark buff to red coloured clayey paste as well as frit and white porcelain pastes. Morphologically they are divided in open shaped vessels like bowls, plates and dishes and 14 different decoration styles are attested (Table 2). In Table 2 polychrome glazed wares based on their paste and background colours are subdivided due to their great variety. The group of "paintings under glaze on clayey paste" is evidencing at great diversity. The paste's colouration ranges from buff and dark buff to red clay with a temper of fine sands. In general open shaped forms in different variations of bowls are frequent and the rim shapes are usually oriented to the outside and of simple, plain shape and footed rim bases are applied to the bodies. The decoration includes geometrical shapes like ribbing and chequered patterns as well as stylized floral motifs and other combinations (Figure 7). Concerning the frequent appearance of these wares on surface at Qal'eh Sang and the comparably weak composition's quality as well as the evidence of tripods and deformed and overfired pottery it seems likely that some of these wares were locally produced. Comparable examples are known from several contemporary Islamic sites and regions like Ghubayra (Bivar, 2000: 417-420), Rey (Treptow, 2007: 38), Al-Mataf (Kennet, 2004: 58, 142), Southern Iran (Priestman, 2013: 624, 702), Malin in Bakhzar (Khodadust et al., 2017: 166) and Zolfabad in Farahan (Nemati et al., 2012: 130-131) and dating to the 7th to 9th century AH (13th to 15th century AD). Among the ceramic finds of Qal'eh Sang one example with clayey dark buff to red paste with "Silhouette"- decoration was found (Figure 7: 10). This decoration method is generally known with frit paste wares deriving from the 6th to 7th century AH (12th to 13th century AD) (Watson, 1985). Therefore it seems plausible the find at Qal'eh Sang belong to the same period.

The other group of underglaze painted wares is made of frit paste with turquoise background and is rarely attested at site just by some shards which are belonging to different open shaped bowls with azure floral decoration on turquoise background. These decoration

Table 2. Various types of underglaze painted wares in Qal'eh Sang (Authors, 2018). ▼

| Clay paste | | Frit paste | | Porcelain |
|----------------------------------|---|------------------------|------------------------|---------------------------|
| White background | Turquoise or dark green background | White background | Turquoise background | White background |
| Black monochrome motif | Black monochrome motif on turquoise background | Monochrome azure motif | Monochrome black motif | Monochrome azure motif |
| Black and turquoise motif | Black monochrome motif on dark green background | Azure and black motif | Monochrome azure motif | Azure and turquoise motif |
| Black, turquoise and azure motif | silhouette | Azure and green motif | | |
| | | Black and green motif | | |

patterns are also frequently observed on blue and white wares (Figure 7: 26). This ware is one of the less known examples for the Islamic periods and therefore its production centre is still unknown. Slightly comparable examples with white ground and sometimes tending to turquoise or azure colouration are products of China belonging to the Ming-dynasty (9th century AH/ 15th century AD) (Barnes et al., 2010: 384). But comparable objects with complete turquoise ground were not produced there and most probably were produced at the same time in Eastern Iran or Afghanistan (Watson, 1985). Another type of few turquoise ground wares is decorated with black coloured paintings. They have open rim-shapes and are decorated with geometrical and floral patterns (Figure 7: 12, 13). In sense of production technique and decoration patterns they share similarities with the so called Kubachi ware dated 10th century AH (16th century AD). This ware was probably produced at Tabriz and traded to other regions from there (Ibid, 462-463). During fieldwork at Khanloq near Rey almost identical ceramics was observed on surface (Mahjoor et al., 2012: 187). Ceramics with frit paste and painting under white glaze are the most frequent and diverse type of this group. Most distinctive types of these are single or two-coloured wares with white and blue colours. Without exceptions all these wares are open shaped vessels and no traces of production have been observed at site and probably are imports. The oldest examples of blue and white ware which share scattered band decoration are attested by a few objects at Qal'eh Sang and belonging to the so called Gorgan ware (Kiani, 1984: 48) (Figure 7: 23). This ware is dated to the 6th and 7th century AH (12th and 13th century AD) and its production is frequently attested at several sites of which Jiroft is the nearest location to Qal'eh Sang (Choubak, 2004: 94). The largest variety of frit paste wares with blue and white colour with floral and arabesque decoration dates to the 8th and 9th century AH (14th and 15th century AD) (Figure 7: 28-32). But their production

is not attested at Qal'eh Sang and therefore it seems like they were imported at site. Comparable finds are attested at many contemporary Islamic sites and their next locations are at the Northern coast of the Persian Gulf (Priestman, 2013: 701-702). The latest example of frit paste ware with blue and white colour at Qal'eh Sang is a ring based fragment with painted geometric decoration and dating probably to the 11th and 12th century AH (17th and 18th century AD) (Figure 7: 28).

Further frit paste wares with blue and white colour, another samples with painting under glaze on white ground are attested at Qal'eh Sang. The oldest examples observed at site are open bowl-shaped vessels with black and azure or green and azure colouration. Due to the rare appearances on site it seems these wares are imports from other contemporary production centres. The diagnostic decoration characteristics are geometrical painting with Naskh-style inscriptions (Figure 7: 16, 19, 20). In general this ware is dating to the 6th and 7th century AH (12th and 13th century AD) and was produced at few contemporary Iranian sites like Kashan and Rey (Pope & Ackerman, 2008: 4c.1839-1840; 9c.734-735; Watson, 1985). The latest examples of this ware observed on surface at Qal'eh Sang are dating to the 7th and 8th century AH (13th and 14th century AD). All on surface observed examples are of lower quality in clay of frit paste with variations of geometrical and floral leaf patterns in black and azure colour (Figure 7: 15, 17, 21, 22). These are known as Sultanabad ware and dating to the 7th and 8th century AH (13th and 14th century AD) (Morgan, 1995: 19; Fehervari, 2000: 223). Comparable finds are attested at Ghubayra (Bivar, 2000: 338, 419, N: 79c-802), Kish (Mousavi, 1997: 222), Kashan (Bahrami, 1992: 206), Arzanfud in Hamadan (Zare'i et al., 2015: 87) as well as from Ilkhanid-dated buildings at Bisotun (Kleiss & Calmeyer, 2006: 353-5). Beyond, many fragments of frit paste wares with paintings under bi-coloured glaze on white ground are documented at site and dating to the 8th and 9th century AH (14th and 15th century AD) (Figure 7: 14, 18). Contemporary finds with comparable characteristics are also attested at Rey (Treptow, 2007: 38). Other examples of blue and white or azure and turquoise coloured underglazed painted wares with white porcelain paste are attested at site by a low frequent distribution on surface (Figure 7: 23-25). These open shaped vessels dating to the 8th to 10th century AH (14th to 16th century AD) are decorated with geometric and floral patterns and were produced in China at Jingdezhen during the Yuan and Ming dynasty (Barnes et al., 2010: 376). Comparable finds are attested at the majority

of contemporary sites at the Northern coast of the Persian Gulf (Priestman, 2013: 711, pl.171).

Overglaze painted wares

Examples of overglaze painted wares with clay and frit paste are also known at Qal'eh Sang and the azure and lustre paints are applied on a white background. Further lustre tiles are attested at site too. During fieldwork only a single fragment of lusterware with buff clayey paste and decorations of golden plain geometric patterns and an azure band around the rim was observed (Figure 7: 34). Comparable finds are attested at Belgheys near Esfarayen (Zare'i et al., 2015:76), Southern Iran (Priestman, 2013: 563), Jiroft (Choubak, 2012: 106) and at al-Huleylah (Kennet, 2004: 41) and a dating for the period from the 4th to 5th century AH (10th to 11th century AD) was proposed. The next contemporary production centre was located at Jiroft due to the evidence of lusterware production at Deqiyanus (Choubak, 2004: 332). There are further examples of frit paste lusterware but due to their different characteristics they seem to be imported from other region (Figure 7: 35-37). According to evidence from archaeological fieldwork at Kashan, Jiroft and Gorgan these wares were probably produced there during the 6th to 7th century AH (12th to 13th century AD) (Choubak 2012: 94; Watson, 1985; Kiani, 1984: 49; Mason, 2004: 123). Similar objects are also known from contemporary contexts at several sites along the Northern coast of the Persian Gulf (Priestman, 2013: 700), Jiroft (Choubak, 2012: 112) and Ghubayra (Bivar, 2000: 413-415). In Figure 8 sections of the site and in Table 2 the number of ceramic pieces in each section are compiled. According to Table 3 the majority of comparable finds at Qal'eh Sang are belonging to the groups of "plain, without glaze", "incised decoration without glaze", "combined elements without glaze", "plain monochrome glazed" and "underglazed painted". Their distribution is more frequent at the sections B1-B4 and B6 and the highest rate of "underglazed painted" is attested in particular at B1 and B2.

b) Cultural interactions with other contemporary Islamic sites

For the explanation of cultural-societal relationships and interactions it is necessary to compare many elements and factors. Therefore, "pottery (can be seen) as an inseparable element of humankind's daily life, to investigate the different communal relationships and to enlight the different degrees of interaction" (Khodadoost et al.,

| | |
|--|--|
| | <p>Painting under white or turquoise glaze with clay paste</p> |
| | <p>Silhouette decoration</p> |
| | <p>Painting under turquoise glaze with clay or frit paste</p> |
| | <p>Painting under white glaze with frit paste</p> |
| | <p>Blue and white wares</p> |
| | <p>Overglaze painted ware (Lusterware)</p> |

◀ Fig. 7. Different types of poly chrome glazed wares in Qal'eh Sang (Authors, 2015).

2017: 168). From another point of view the existence of similarities between ceramics of different region during the Islamic periods are showing the range of formal and standardized wares and can provide proof, if f.e. wares like incised monochrome underglazed ware, moulded ware, blue and white wares, etc. were produced at specialized centres and traded to other areas or locally produced with lower quality to copy or imitate a certain ware types (Ibid: 169). Hence, “the imitation of certain ceramics and their production in

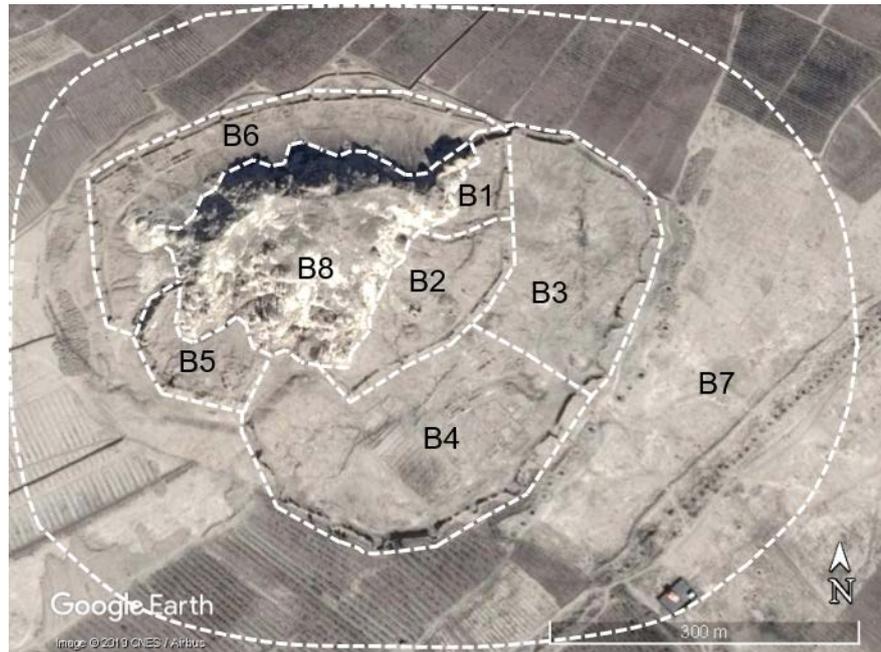


Fig. 8. Eight section of Qal'eh Sang according to the natural and architectural features (Authors, 2019). ▶

lower quality” or “the transfer of ceramics by trading contacts” can tell us a lot about intercultural and economical exchange between different societies. Further, the exchange of some precious ceramics in sense of gift can give evidence about socio-political relations (Amirhajloo and Saghæe, 2019: 216). Therefore, the comparison of ceramics deriving from fieldwork at Qal’eh Sang with examples from other sites can help to increase our knowledge about the cultural, economic and political relationship of Old Sirjan.

Furthermore, the cultural relations between two or even more societies are due to geographical locations and their connections to trading routes. In mind that the communication routes lead

Table 3. Total and selected number of ceramic types in each section of Qal’eh Sang. ▼

| Type | Section B1 | | Section B2 | | Section B3 | | Section B4 | | Section B5 | | Section B6 | | Section B7 | | Section B8 | | |
|-------------------------|--------------------------|-------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|----|
| | Selected samples | total | Selected samples | total | Selected samples | total | Selected samples | total | Selected samples | total | Selected samples | total | Selected samples | total | Selected samples | total | |
| Unglazed plain ware | 10 | 34 | 21 | 67 | 7 | 31 | 3 | 22 | 9 | 66 | 6 | 32 | 0 | 12 | 0 | 14 | |
| Unglazed decorated ware | Incised | 12 | 36 | 25 | 71 | 2 | 26 | 3 | 12 | 2 | 20 | 8 | 44 | 0 | 8 | 0 | 6 |
| | Impressed | 1 | 1 | 5 | 8 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 1 |
| | Applied or relief | 0 | 1 | 3 | 11 | 0 | 7 | 0 | 5 | 0 | 2 | 1 | 8 | 0 | 3 | 0 | 0 |
| | Stamped or Molded | 0 | 0 | 7 | 14 | 4 | 7 | 2 | 3 | 0 | 1 | 3 | 3 | 0 | 3 | 1 | 1 |
| | Combined decoration | 8 | 22 | 20 | 73 | 9 | 25 | 3 | 3 | 1 | 2 | 1 | 4 | 0 | 1 | 0 | 0 |
| | Pierced and Double-shell | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Monochrome glazed | Plain | 14 | 33 | 16 | 41 | 5 | 17 | 7 | 22 | 3 | 8 | 8 | 19 | 0 | 9 | 0 | 3 |
| | Decorated | 5 | 13 | 4 | 6 | 2 | 4 | 4 | 12 | 1 | 3 | 0 | 15 | 0 | 4 | 0 | 1 |
| Polychrome glazed | Underglaze | 27 | 74 | 46 | 104 | 27 | 69 | 20 | 65 | 8 | 17 | 19 | 51 | 2 | 14 | 11 | 23 |
| | Overglaze | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 0 | 0 | 2 | 2 |

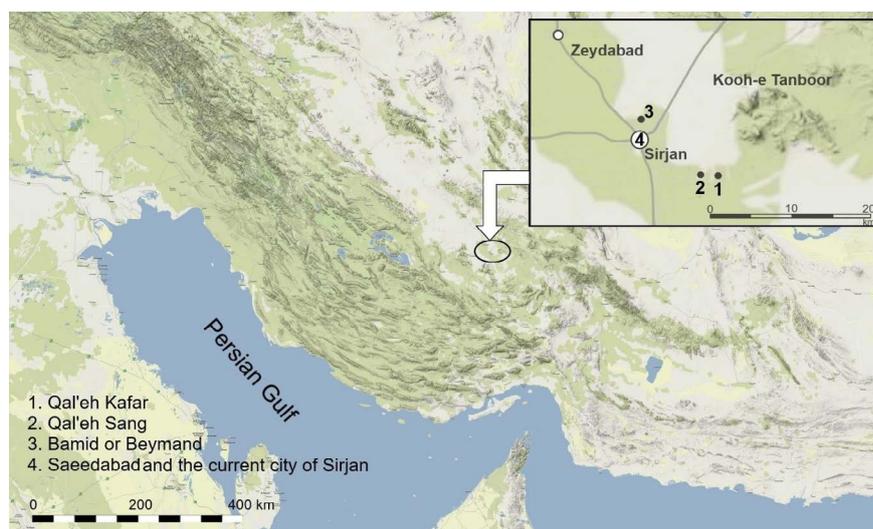
to distribution and expansion of artistic and cultural traditions, Therefore the distribution of ceramics along the trading routes is also an indicator for the communication between different areas (Ibid: 216) and provides answers concerning the parallels of wares from Qal'eh Sang with equivalents from other contemporary sites and about their location and role along the main routes in Southern Iran. As previously mentioned Sirjan was during the time from the 6th to 9th century AH (12th to 15th century AD) an important hub in the economical exchange with the sites along the Northern coast of the Persian Gulf. The overland connection routes crossed Sirjan on their way between India, Sistan and Balouchestan as well as from Southern and Eastern Iran towards Mekka and the administrative and economical centres of the Abbasid caliphate (until the 7th century AH / 13th century AD) and further important Mesopotamian cities (until late Islamic period). Therefore Sirjan was an important place of exchange located at the crossroads interconnecting the areas from all four cardinal directions. By that fact the commonalities of several products/goods from Sirjan and other sites can be explained due to its location on the hub of political-cultural routes for the distribution of trading exchange with the Southern regions. As already mentioned in the sections on typological studies and relative dating there are sites and centres like "Jiroft, Ghubayra, Kashan, Rey, and Farahan" connecting Southern and Central Iran, "Gorgan, Neyshabour, Belgheys in Esfarayen and Lashkari-bazar in Afghanistan" on the roads from South towards North and Northeast and "sites along the Northern coast of the Persian Gulf and the Sea of Oman" which share commonalities with ceramics finds found at Qal'eh Sang and therefore show cultural contacts with Old Sirjan. In this manner maritime trade contacts between Sirjan and centres located on the Southern coast of the Persian Gulf like al-Mataf, Kush and al-Huleylah (U.A.E.) existed too, and further ceramic finds deriving from the Chinese Yuan and Ming-dynasty are attested at Qal'eh Sang.

c) Explanation for the rise and fall of Qal'eh Sang based on the chronology of ceramic finds and historical written sources

Based on written historical sources from the early Islamic era the city of Sirjan was the governor's seat and administrative centre of Kerman province (Ebn-e Khordadbeh, 1991: 38-40), "largest town and a mighty and majestic city" (Ya'qubi, 2002: 62) and the "most famous city in Kerman" in the 3rd century AH (9th century

AD) (Estakhri, 1993: 161). In the 4th century AH (10th century AD) Sirjan was the capital and largest district between the five districts of Kerman province⁴ and was also more extended than contemporary Shiraz (al-Maqdasi, 2006: 681; Abu al-Feda, 1970: 383; Jeyhani, 1989:131), a famous town (Ebn-e Hawqal, 1987: 73, 77) as well as the domicile of the king (Hodud al-Alam, 2004: 368). These information is also confirmed by archaeological evidence for the time from the early Islamic period until the 4th century AH (10th century AD). In the written historical records of the 5th century AH (11th century AD) Sirjan does not appear that often. This is due to the transfer of the capital from Sirjan to place of the modern city of Kerman (Le Strange, 1958: 323). Further the main trade routes were also change to the Hormoz-Jiroft-Kerman road and so Sirjan lost its importance. In the following 6th century AH (12th century AD) Sirjan again gained the attention of several historians and geographers. Afzal al-Din Kermani gives for the first time reference to Qal'eh Sang by mentioning reconstructions during the time of Malek Arsalan (Afzal al-Din Kermani, 1947: 426). According to Yaghout al-Hamawi Sirjan was the second important city in Kerman province during the 7th century AH (13th century AD) (Hamawi, 1990: 296) and during the reign of the Qarakhitai at the transition of the 7th to 8th century AH (13th- 14th century AD) Naser al-Din Monshi Kermani gives account of its prosperity by calling Sirjan "Little Damascus" (Monshi Kermani, 1949: 84-85). During the reign of the Muzaffarid dynasty Qal'eh Sang was a place where many incidents happened which were reported by several historians like during the time of Moulana Shams al-Din Ghazi and his son Amid al-Molk (Vaziri, 1961: 186-187; Khandmir, 1954: 281), at the command of Amir Mobarez al-Din Mohammad Muzaffari (Katbi, 1954: 44) and the reign of Pahlavan Daraki (Khandmir, vol.3, 1954: 282). At this time also Hamdallah Mustawfi gives reference to Qal'eh Sang as an unbeatable city (Mustawfi, 2009: 201). The written historical sources are quiet about Sirjan after Muzaffarid reign due to the siege of Amir Teymur (Tamerlane) at the end of the 8th century AH (14th century AD) which lasted for two years. Tamerlane finally conquered and destroyed the city in the year 798 AH (Yazdi, 1957: 559; Le Strange, 1958: 323-324). But apparently it was not completely destroyed in the first years of the 9th century AH (15th century AD) that Shahrokh, Teymur's son, in 819 AH (ca. 1416 AD) attacked and besieged Qal'eh Sang due to the claim for independence of Sultan Owais ibn-e Idkou (Bakhtyari, 1999: 108), but Shahrokh got deterred and quit the siege according to the

sermons and advices of Seyed Shams al-Din (Hafez Abrou, Vol.4, 2001: 620-623). According to relative dating, the ceramic finds from Qal'eh Sang are deriving from the 6th to 9th century AH (12th to 15th century AD) and types of plain monochrome glazed ware, decorated monochrome glazed ware (incised, applied or cut underglazed), painted under glaze, painted over glaze (lusterware), as well as blue and white ware were documented in abundance at site. After these incidents Sirjan was transferred to a new location called Bagh-e Bamid which is situated in the Northwest of modern Sirjan. According to Hafez Abrou's at this time the site transferred from Qal'eh Sang to a place called "Hamid" or "Homid" (Hafez Abrou, Vol. 3, 2001: 193). During the Qajar period the site was transferred for the last time. Ahmad Alikhan Vaziri (1997: 258) mentions the development of Sirjan's new city centre at a site called Saeedabad (see Map 2).



◀ Map 2. Location of Sirjan city from early Islamic period to now; its transfers (Authors, 2019).

Therefore, according to historical written sources Sirjan saw its largest extension from the early Islamic period until the 4th century AH (until the 10th century AD) and after an interruption in the 5th century AH (11th century AD) a second phase of development was began from the 6th century AH (12th century AD) which continued until the end of the Muzaffarid dynasty at the dawn of the 9th century (15th century AD). Almost all historians and geographers from the 6th century AH (12th century AD) onwards are using "Qal'eh Sang" word by giving reference to Sirjan. Therefore the location of the city was different during the Early Islamic period and from the 6th to 9th century AH (12th to 15th century AD). This transfer from Qal'eh Kafar (located East of to the modern village of Ezzatabad) to Qal'eh Sang (located to the West of Ezzatabad) is also attested

by archaeological evidence and the chronology of surface ceramics. Because the largest variety of ceramics is dating from the early Islamic period until the 5th century AH (11th century AD) according to the archaeological evidence from Williamson's activities (Morgan & Leatherby, 1987:52). While, the majority of ceramic finds at Qal'eh Sang belongs to the period from the 6th to the 9th century AH (12th to 15th century AD) and earlier and later dated ceramics is less frequent observed at site. At the same time, the existence of ceramics from the 4th to the 6th century AH (10th to 12th century AD) at Qal'eh Sang imply that parts of this site might have also been used as a refuge or satellite settlement and resettled during the 6th to 9th century AH (12th to 15th century AD) when the first location of the city – Qal'eh Kafar - was abandoned.

d) Evidence of pottery production at Qal'eh Sang

The pottery products at site are subdivided in two group "local product-local style" and "local product- imitation style". As long as laboratory analyses to investigate the chemical composition of the pastes and glaze are not applied on the ceramic finds from Old Sirjan it is quite hard to distinguish the documented wares between local and imported wares. Until then it is just possible to hypothesize about local production by the identification of surfaces finds like tripods, vitrified pottery fragments remains of pottery kilns, deformed and over fired pottery, negative mould fragments and lumps of unused



Fig. 9. Samples of production evidence from Qal'eh Sang (Authors, 2018). ►

raw clay (Figure 9) (Amirhajloo and Saghaee, 2019: 221).

The identification of some pottery stamps and negative mould bowls as well as a few of stamped and moulded wares fragments which were observed during fieldwork on the surface at Qal'eh Sang are evidencing at least a limited production (Figure 5). Likewise, clay or frit paste ceramics with monochrome green to turquoise and brown coloured glaze with traces of irregular flown or drops of glaze or shards with remains of cracked glaze are evidencing local production too (Figure 6). Further it seems plausible that some examples of the painted under glaze wares was produced at site too (Figure 11-16). A greater quantity of these ware types in comparison to other wares observed at Qal'eh Sang and a temper/texture and decoration of a lower quality in comparison with examples for other regions are showing these wares was produced at the site. Furthermore, the observation of deformed and overfired examples at site are a reason for the local production. For that reason it can be stated that the produced ceramics at Qal'eh Sang seems to be "local product-imitation style". Likewise some examples with stamped or moulded decorations and without glaze, painted underglazed with clay paste, monochrome glaze with clay or frit paste were locally produced at workshops in Qal'eh Sang. But in sense of commonalities in decoration patterns in comparison with that from other sites cannot be called "local style" and it rather seems like be realized in a imitation style. Though in case of the pottery produced at Sirjan, images and patterns were locally imitated from examples of other regions, in special from the Northern and Southern coasts of the Persian Gulf.

Conclusion

The ceramic found at Qal'eh Sang can be subdivided in four primary groups: "plain without glaze", "decorated without glaze", "monochrome glazed" and "polychrome glazed". The decorations on decorated samples without glaze are including patterns that are incised, imprinted, applied or relief, stamped, moulded, reticulated and double shell. Plain monochrome glazed wares comes with clayey, frit or porcelain paste and white, light to dark turquoise, light to dark green, azure, thistle and light to dark brown colours. Some of the decorated monochrome glazed examples have a clay paste and white to turquoise, light to dark green glaze colours with moulded patterns and applied rope pattern under glaze. But often monochrome glazed examples are coming with a frit paste and glazes of turquoise colouration with moulded decoration patterns. Likewise

samples of decorated Celadon wares including variations from light green on white, dark green, light green or olive and light green to yellow colours with incised, grooved and stamped or moulded fish or poeny-floral decoration motifs.

Polychrome glazed wares from Qal'eh Sang are attested in two groups "painted under glaze" and "painted over glaze". "Painted under glaze" ware comes with clay, frit and porcelain paste and often with a white ground and a turquoise or dark green slip. The decoration patterns of this ware is ranging from single-, bi- or tri-coloured painting in "silhouette"-, "blue and white"- or "Sultanabad"-Style. Examples of "painted over glaze" or "lusterware" is made of clay or frit paste and comes with monochrome gold or bicoloured gold-azure painting. Typological comparisons are attested to ceramic finds from Jiroft, Ghubayra, Kashan, Rey, Farahan, Gorgan, Neyshabur, Belgheys in Esfarayen, the Northern coast of the Persian Gulf as well as to al-Mataf, Kush and al-Huleylah in Ras al-Khaimah (U.A.E.). Some examples found at Qal'eh Sang seem also to be imported from Azerbaijan and Afghanistan. Celadon and blue and white wares are also seen to be imports from China and dated to the Yuan-dynasty as well as some few examples to the Ming-dynasty.

Further, the ceramics deriving from fieldwork at Qal'eh Sang is dated to the time from the 6th to 9th century AH (12th to 15th century AD). Historical written records are also confirming that Sirjan during the middle Islamic period was of major importance. Due to the risky situation of the original main trade route from the Persian Gulf to Jiroft and further towards Central Iran, the route was transferred from the Persian Gulf via Sirjan to Central Iranian destinations which had a great impact on the development of Sirjan. The scientific research on local pottery production and imports at Qal'eh Sang shows that some ceramic wares like "unglazed with stamp of mould decoration", "clay paste with underglaze painting" and "monochrome glaze with clay and frit paste" were local products. Tripods, lumps of unused raw clay, stamps and negative moulds as well as deformed and overfired pottery and pottery with cracked and spotted glazes are also evidence of local pottery production at Qal'eh Sang.

Endnote

1. The excavations at Qal'eh Sang-Sirjan were conducted under the supervision of the Saeed Amirhajloo and the deputyship of the Hossein Sedighyan according to the permission no. 943141/00/3173 issued on the 12.05.1394/03.08.2015 by the I.C.A.R and with the financial support of the Gol Gohar Mining and Industrial Company in Sirjan. The scientific results of this enterprise are presented in this contribution.

2. The center of modern Sirjan.
3. There were already descriptions given about pottery deriving from early Islamic contexts at Qal'eh Kafar (Morgan & Leatherby 1987) but without referencing to 6th to 9th century AH (12th to 15th century AD) pottery.
4. Bardsir, Bam, Sirjan, Jiroft, Narmashir (al-Maqdasi, 2006: 681)

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