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A Clay Bullae and Five Tablets From Tepe Sofalin, Rey Plain, Iran

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Abstract: This article introduces six examples out of a larger corpus of evidence for early administration and writing that has been recovered from the site of Tepe Sofalin, which lies on the Rey Plain of the north-central Iranian Plateau. These documents illustrate the transition from tokens and Bullae to numero-ideographic and ultimately early Proto Elamite tablets. The form and content of the corpus of evidence material that has so far been excavated at Tepe Sofalin is entirely consistent with that of late Uruk related/Susa II and early Proto Elamite administrative documents and tablets that have been found in different parts of Iran and are known to date from c. 3500 to 3000 B.C. Here, the site of Tepe Sofalin is introduced, one Bullae, four numerical tablets, and one early Proto-Elamite tablet are described, the chronology of the site is discussed and the broader import of these findings is outlined.

Keywords: Numerical Tablet; Early Writing; Ancient Iran; Tepe Sofalin; Proto-Urbanization

Introduction

The earliest clay tablets from ancient Mesopotamia and Iran display impressions of numerical signs, and they are therefore usually referred to as numerical tablets (Schmandt-bessarat 1981; Nissen 1985). This early writing system was used in Mesopotamia, Iran and Syria between 3400 and 3300 B.C. (Englund 2004: 122), which is a period that generally corresponds to the Uruk IV period, but may also push back to Uruk V[1] at what is effectively the type-site for the earliest writing in Southern Mesopotamia, Uruk/Warka (En-

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1. According to Englund (1994), the earliest phase of the proto-cuneiform system of writing might be pushed back to the Uruk V period and thus possibly a century or earlier than commonly accepted, but this is problematic at best (see also Potts 1999: 60).

glund 1994; 1998). Although Mesopotamia is usually credited with being the homeland of the earliest writing, it is notable that the first numerical tablets to be discovered were found at the site of Susa (South-West Iran) by Jacques de Morgan in 1901–5. These tablets lacked precise contextual information and were mixed together with the earliest discovered Proto Elamite tablets when they were first published by Jean-Vincent Scheil in 1905 (Potts 1999: 58ff).

The tablets that present the earliest attestations of writing mostly bear impressions of seals and have a small number of numerical signs that are sometimes sequentially arranged, while those that are presumably from a slightly later phase of the invention of writing have the addition of one or a small number of non-numerical signs (Nissen et al.

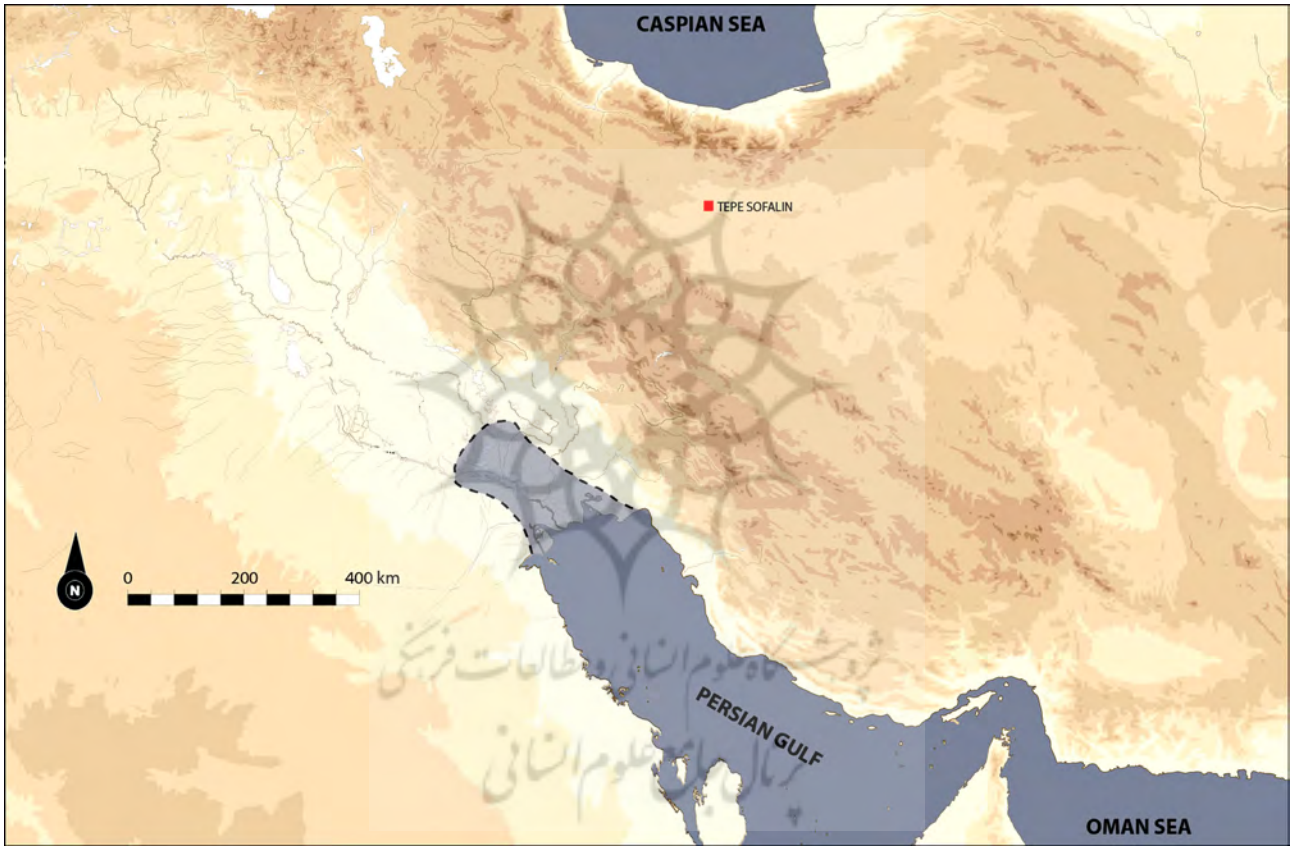

Fig. 1: Map showing the location of Tepe Sofalin.

1993). The emergence of numerical tablets and what appear to be earlier administrative devices such as tokens and Bullae is largely associated with major, well-developed, regional centers in the lowlands like Uruk and Susa.

However, the material remains of early writing, including numerical tablets, have also been found at several sites in Iraq, Iran, and Syria that are at considerable distances from the lowland centers. For instance, in western Iran, the Uruk V or IV related numerical tablet writing system was used over a specific geographical area stretching from tepe

Ghabrestan (Talaei 1999) in the north, to tepe Sialk IV_1 (Ghirshman 1938) in the east, Godin V (Weiss and Young 1975; Rothman and Badler 2011) in the west, and Susa Acropole I: 18–16 (Le Brun 1971; Le Brun and Vallat 1978), Chogha Mish (Delougaz and Kantor 1996: i. pls. 33–40), and Tell Ghazir (Caldwell 1968: 348–55) in the south (Potts 1999: 60; Englund 2004: 114). With the exception of Uruk itself, the majority of extant numerical tablets have in fact come from sites in Iran, including 90 from Susa, 42 from Godin tepe, 13 from tepe Sialk, 5 from Chogha Mish, 1 from Tell Ghazir, and 1 from Tepe Meymunabad (Yousefi et al., Forthcomming) making a total of 152 specimens (Potts 1999: 60; also Schmandt-Bessarat 1981: 325; 1992).[2] Potts (1999: 60) has noted that other sites that have evidence of numerical tablets include Khafaje in Iraq, and Mari, Habuba Kabira, Jebel Aruda and Tell Brak in Syria.

Explanations for the vast geographical spread of this specific type of administrative technology has been varied, and have ranged from it being seen as evidence of cultural diffusion, colonial activity, and/or traders' settlements (e.g. Lamberg-Karlovsky 1971; Alden 1982; Weiss and Young 1975: 8–11). Guillermo Algaze (1989, 1993) has argued that many of the outlying sites with evidence for early administrative technology and other distinctive items like beveled-rim bowls and spouted vessels were located in geographically strategic positions, and has thus argued for the existence of a Mesopotamia dominated world system that incorporated colonies and outposts in far flung areas that played a critical role in obtaining rare and precious raw materials from highland Iran and other areas for the resource starved alluvial plains (Algaze 1989: 593–94; 1993; 2008).

Tepe Sofalin

The site of Tepe Sofalin lies in the eastern Rey Plain of the north-central Iranian plateau, at 51° 44′ 06″ North, and 35° 18′ 58″ East, and a general elevation of 966 m above sea level. The site lies some 35 km South-East of the city of Tehran (fig. 1), and in this location, Tepe Sofalin conforms to Algaze's idea that sites with evidence for Uruk/SusaII contact are located in strategic positions. It lies about 15 km south of the Khorassan road, the major east-west trade route between the lowlands of Southern Mesopotamia, the highlands of the Iranian Plateau, and the regions of Central Asia to the east. The site takes its name from the density of pottery sherds on its surface as 'Sofalin' means pottery sherds in Persian. The extensive remains of Tepe Sofalin cover an area of about 500 m in length and 400 m in width, and the best-preserved parts of the mound are about 10 m high. Excavations have shown that only part of the mound is comprised of occupational debris, and the site appears to sit on a vast natural hill. In plan, the mound is roughly square; the main irregularity is a straight indention on the northern and eastern flank, due apparently to some human construction activi-

2. It is worth noting that after the first Persian Gulf War many new tablets from all periods of Mesopotamian history appeared in the public domain, greatly enriching the known corpus of early writing (Englund 2004).

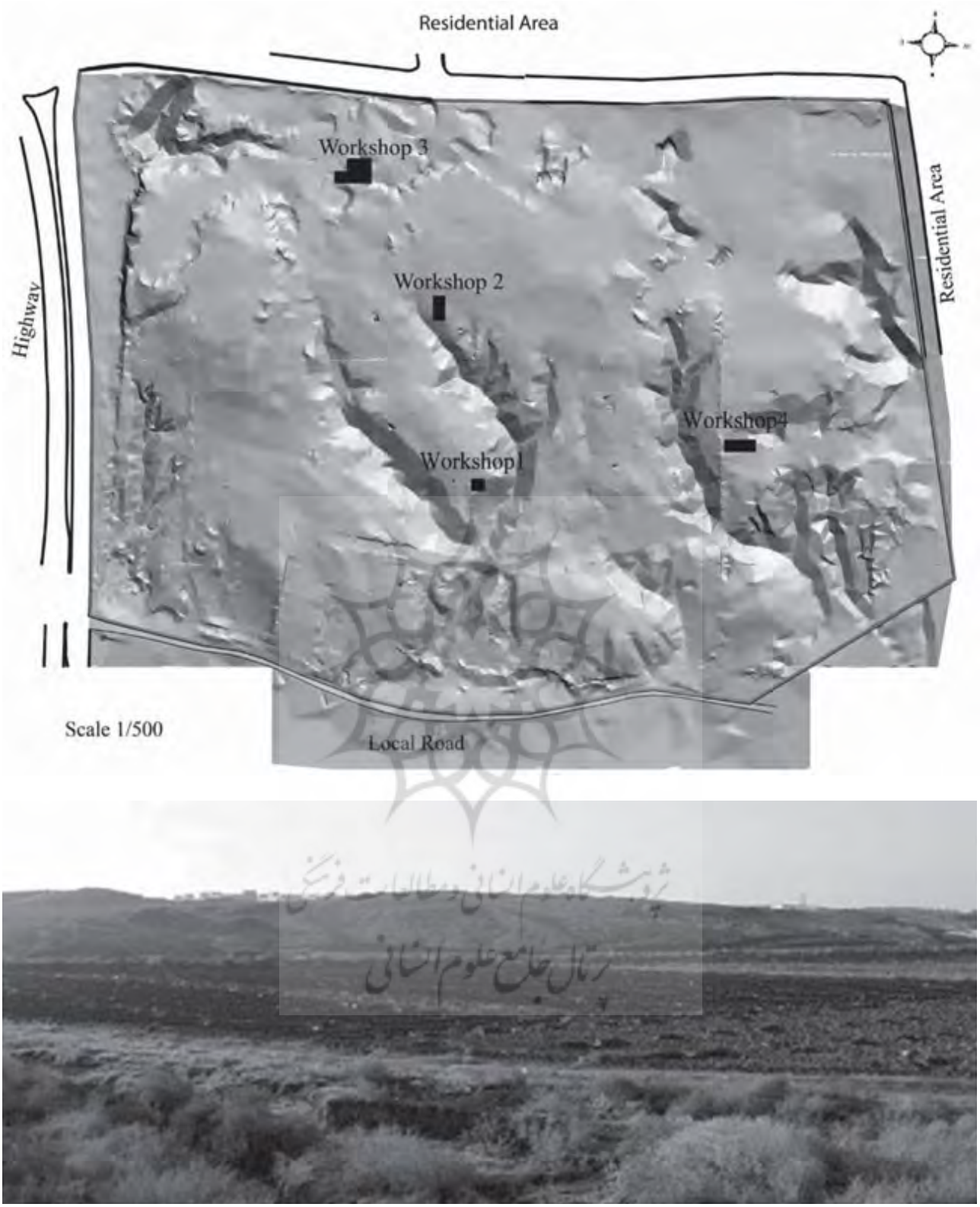

Fig. 2: Plan and photograph of Tepe Sofalin.

ties in recent years (fig. 2). A very small portion of this extensive site, less than 0.05 percent of the total, was excavated during eight seasons of work between 2006 and 2018. The excavation of the Late Fourth Millennium B.C. remains entailed a horizontal exposure in area H14 of 10*5 m (almost 50 m^2), which exposed a single trash area. The excavations in area H14 yielded evidence for early writing that resembles that from the late Uruk/Susa II and Proto-Elamite periods in both form and content (Hessari and Yousefi 2008; Dahl et al. 2012). As will be outlined below, some of the finds from Area H14 suggest that Tepe Sofalin was briefly occupied during the Late Uruk/Susa II period and that occupation continued into the Proto-Elamite period. Furthermore, the systematic survey undertaken by Yousefi and Hessari, indicates that the site was deserted following the Proto-Elamite period and not reoccupied before the Iron Age III period (Hessari and Akbari 2007: 173; Hessari and Yousefi 2008; Hessari et al. 2021). The evidence for continuity at Tepe Sofalin as indicated by the texts is also supported by the discovery of beveled-rim bowls, sealings, and cylinder seals that have parallels with types that date to both the Late Uruk/Susa II and Proto-Elamite periods. Given the relative scarcity of texts from this period (Schmandt-Besserat 1981: 325), the examples presented in this make an important contribution to our knowledge and understanding of the world's oldest attested form of writing.

The Sequence of Late Uruk/Susa II Administration Materials at Tepe Sofalin

The evidence for early writing from Tepe Sofalin can be divided into an initial phase when tokens and Bullae were used, and a subsequent phase when numerical and numero-ideographic tablets were used. A singular Bullae was found at Tepe Sofalin during the 2009 season, in the main trench and at the lowest context, immediately above the sterile soil. Almost all of the evidence for early writing came from this context (table 1, no. A). It is 7.6 cm in diameter, is made from well-levigated clay, and its surface is badly effaced and does not appear to have been sealed or to have any impression of tokens (fig. 3a). Although it was broken when found, it still contained one token of unbaked clay, which was c. 1 cm in diameter. The token is plain and spherical, and the clay from which it was made is very fine and was smoothed to remove all inclusions. The token seems to have been modeled wet since the fingerprints of the maker are visible, and it is identical to tokens recovered from Bullae from other late Uruk/Susa II sites (e.g. Schmandt-Besserat 1979: appendix I, type I, 2nd). Sealed Bullae with impressions of the tokens contained inside have been found previously at Susa (e.g. Le Brun and Vallat 1978: 13ff., figs. 3, pl. III), Chogha Mish (Delougaz and Kantor 1996: i. pls. 39–40), Habuba Kabira south (Strommenger 1980a: 64, figs. 56–57) and Hacinebi (Stein et al. 1996: 231), but this combination has not been found at Uruk (Dittmann 2002). Although it is difficult to be definitive based on one example, it appears that the Bullae from Tepe sofalin has stronger similarities with the known ma-

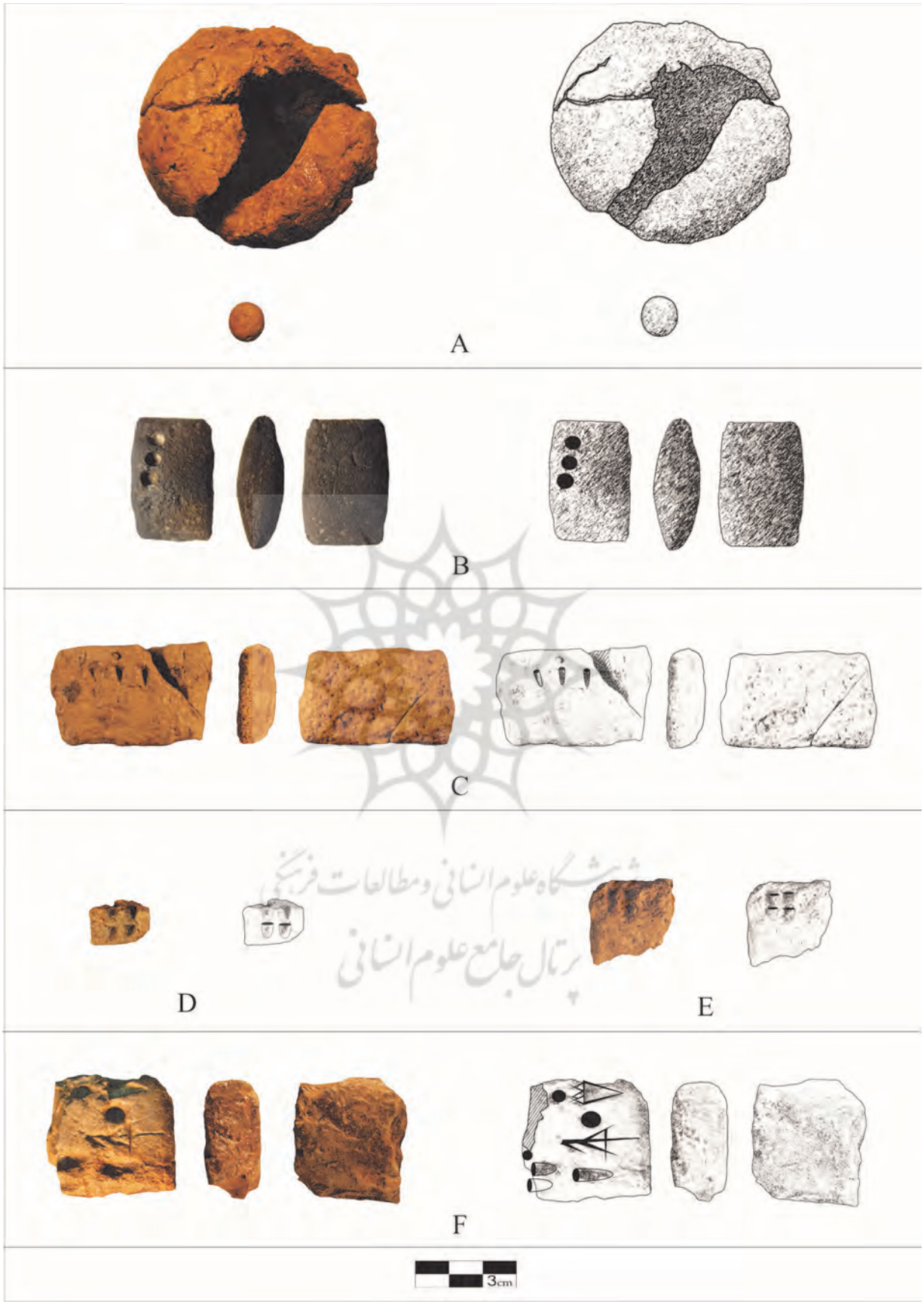

Fig. 3: Fragment of Bullae, numerical tablets and a Proto-Elamite tablet from Tepe Sofalin.

Table 1: Various types of administrative devices applied at Tepe Sofalin

No.	Field no.	Trench No.	Locus no.	Elevation	Find spot	Style	Description
a	tsf.09.5416.b	5	506	463	trash area	Uruk V (bp)	7.6 cm in diameter Bullae, well- levigated clay, reddish-brown (7.5 yr. 6.8) exterior, no visible inclusion, contained 1 token of unbaked clay in size of 1 cm
b	tsf.06.5220.a	5	506	460.8	trash area	Uruk V (nt1)	39 × 26 × 15 mm, very dark grey (Gly 1.3) , no visible inclusion, three deep circular notation, backed clay tablet
c	tsf.09.5009.b	5	502	450.7	trash area	Uruk IVa (nt2)	43.7 × 27.2 × 14.9 mm, reddish-yellow (7.5 yr. 7.8), mid sand inclusion, baked clay tablet, three small wedge cone signs
d	tsf.09.5028.b	5	502	452.1	trash area	Uruk IVa? (nt2 ?)	43.7 × 27.2 × 14.9 mm, reddish-yellow (7.5 yr. 6.6), coarse sand inclusion, unbaked clay tablet, four small wedge coin signs
e	tsf.09.5008.b	5	501	452.8	trash area	Uruk IVa? (nt2 ?)	17.2 × 12.8 × 5.5 mm, reddish-yellow (7.5 yr. 6.6), coarse sand inclusion, unbaked clay tablet, four small wedge coin signs
f	tsf.09.5054.b	5	501	448.8	trash area	Early PE	38 × 35.6 × 18.2 mm, light reddish-brown (5.yr. 6.3), mid sand inclusion, unbaked clay tablet presumably workers and ration, very early proto-elamite tablet

terial from southern Mesopotamia than that from Susa in South Western Iran. Following and perhaps overlapping with the initial phase when tokens and Bullae were used, is a phase when tablets bearing numerical and numero-ideographic signs were adopted (table 1). It is possible that this phase when numerical tablets were used at Tepe Sofalin can be subdivided according to the way the numerical signs were made. For example, there appears to be an initial sub-phase where the tablets are distinguished by their convex and oblong shape, a lack of sealing, and the presence of impressions representing numerical values that were made in the wet clay by tokens or a stylus cut and shaped to imitate tokens (labeled here numerical table phase 1 or nt 1; fig. 3b). This type of tablet has been attested at Susa (e.g. Le Brun and Vallat 1978: figs. 4, pl. IV). In a subsequent sub-phase, the numerical tablets are flat and oblong-shaped, unsealed, and impressed with a stylus to record numerical notations (nt 2; figs. 3B, 3C, 3D, and 3E). The final sub-phase is marked by the appearance of flat or semi-convex oblong-shaped tablets that were either sealed or unsealed and impressed with a stylus to record numerical notations and non-numerical ideograms, which resemble early Proto-Elamite signs (PE; fig. 3f) it appears as though the numerical tablets from Tepe Sofalin record administrative procedures only (following Englund 2004: 122), and it is possible that the period during which numerical tablets were used at Tepe Sofalin was short, as the cultural layers do not exceed 1 m. in depth.

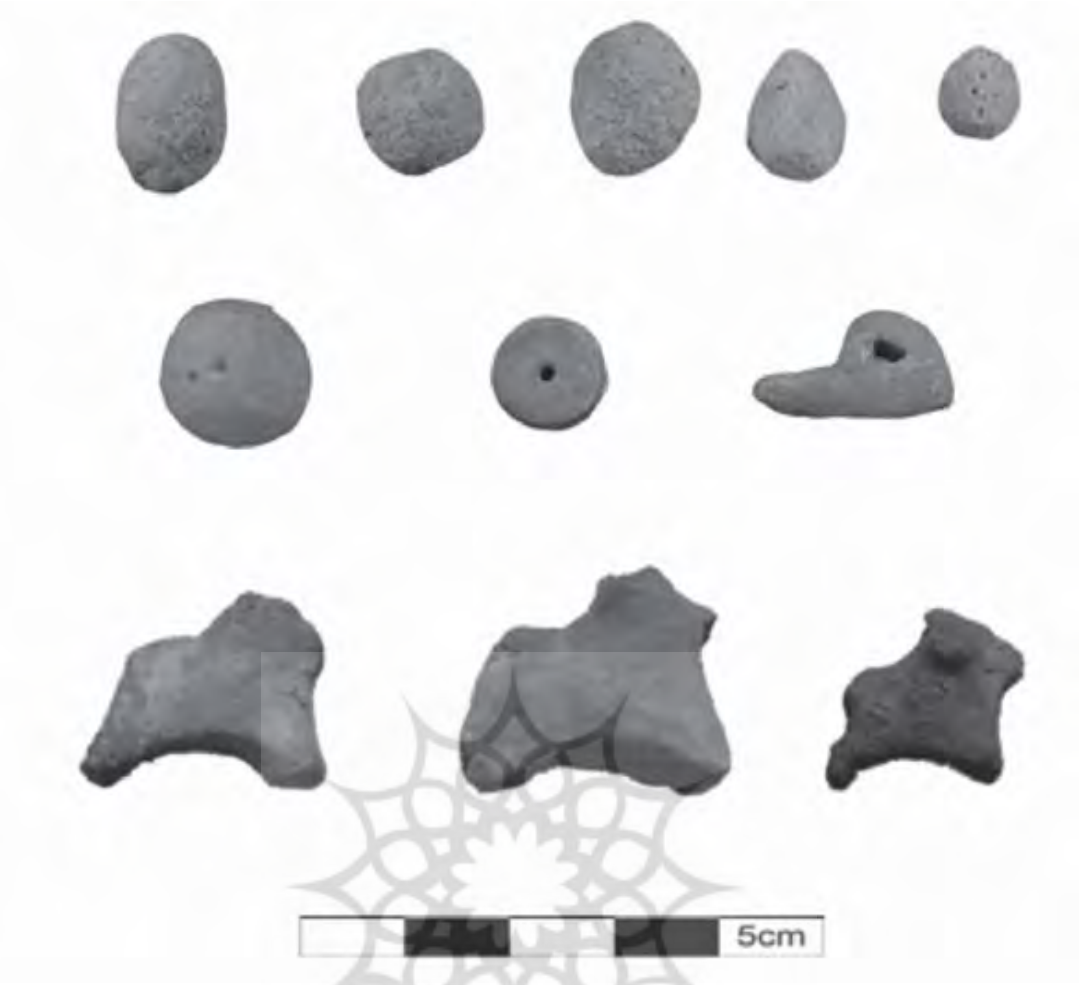

Fig. 4: Various types of administrative devices applied at Tepe Sofalin.

Numerical Tablets from Tepe Sofalin

The numerical texts from Tepe Sofalin will now be described in detail.

IV.1. TSF.06.5220.a (Fig. 3B)

This is a completely preserved oblong, convex, tablet. It is unsealed and with writing on one side only. The tablet is well preserved. The writing consists of only three numerical signs, impressed with a token or with a stylus cut and shaped to imitate a token. As such, it is very similar to other early numerical tablets (e.g. Strommenger 1980b). The tablet is small and measures 39×26×15 mm. The three numerical signs are all circular impressions with a diameter of 0.5 cm and a depth of 0.5 cm. This tablet can be grouped with samples of early writing from Susa Acropole I, levels 18, Godin V, and the tablets from the red temple of Uruk. The tablet appears to have been left unfinished.

IV.2. TSF.09.5009.b (Fig. 3C)

This is a completely preserved flat, unsealed, tablet. Only one surface is inscribed. The

text consists of three numerical signs only that were probably the impressions of a stylus and not actual tokens. The tablet is small and measures 43.7×27.2×14.9 mm. The surface where the numerical signs are found is badly effaced. It can be grouped with tablets from Susa Acropole I, levels 17.

IV.3. TSF.09.5028.b (Fig. 3D)

This is the lower half of a small, flat, unsealed, tablet with writing on one badly effaced surface only. The text consists of four numerical signs: perhaps units of grain. It can be grouped with tablets from Susa Acropole I, levels 17.

IV.4. TSF.09.5008 .b (Fig. 3E)

This is the upper half of a small flat, unsealed, tablet with writing on one badly effaced surface only. The text consists of four numerical signs: perhaps units of grain. It can be grouped with tablets from Susa Acropole I, levels 17.

IV.5. TSF.09.5054.b (Fig. 3F)

Fragment of the upper right corner of a small Proto Elamite tablet with three entries (six signs) preserved. The text most likely recounts the rations for several groups of workers (M124). Of the three preserved entries, the first has only its numerical notation left, the owner sign of the second is incompletely preserved, and only the third is well preserved. This tablet appears to be the earliest Proto-Elamite text from Tepe Sofalin, yet it was found associated with the other numerical tablets that have parallels with late Uruk/Susa II period examples. The Proto Elamite tablet can be grouped with tablets from Susa Acropole I, levels 16a.

[...] , [...]

[...] 1(n14), 2(n01)

[...] m134~h , 1(n14) m124, 1(n01)

Conclusions

The corpus of numerical tablets from Tepe Sofalin presented in this article is too short to allow any conclusion about the nature of the administrative system in this settlement located in the northern part of the Central Iranian Plateau. The Bullae found at Tepe Sofalin are suggestive of direct contact with Late Uruk centers in Southern Mesopotamia, or perhaps indirect contact with them through other centers such as Godin Tepe in the Zagros mountains or potentially the lowland center at Susa. Remains of the entire suite of administrative material culture were also found at Tepe Sofalin, including numerical tablets, ovoid tabs (stretched egg-shaped lumps of clay with the entire

surface impressed with cylinder seals with geometric and flora motifs)[3], Bullae, and seal impressions very similar to those seen at sites with Susa II period occupation. According to estimates of the absolute value of the grain notations recorded with the tokens or on numerical tablets from Uruk V and IV in Susa and Chogha Mish, we can suggest that all of the tablets presented here were concerned with small-scale transactions (Damerow and Englund 1989: 25–26). It is to be hoped that comparisons between these new texts from Tepe Sofalin and those from other sites such as Susa, Chogha Mish, and especially Godin tepe, which have all yielded Bullae, numerical tablets, and numero-ideographic tablets, will help us gain a better understanding of the nature, emergence, and development of administrative technology in what is typically viewed as peripheral Iran, based not only on analyses of contextual sign usages but also on the structure and format of administrative documents. It is possible that the late Uruk/Susa II style administrative documents at Tepe Sofalin indicate that it was an Uruk/Susa II or at least Mesopotamian/Susiana-derived mercantile settlement in the proximity of the major trade route known as the Great Khorassan road.

What does seem clear is that Tepe Sofalin was occupied for the first time in the Susa II period, and this suggests that this particular region had geographical importance and economic significance in this period. The Tepe Sofalin excavations provide an extraordinary opportunity to study the distribution and use of early administrative technologies in highland Iran, and we can hope that further excavations at Tepe Sofalin may help in reconstructing a clearer picture of long-distance relationships in the ancient Near East in the Middle and Late Fourth Millennium B.C. It is apparent that many of the sites with late Uruk-type material culture seem to be situated near strategic trade routes such as the Khorassan road, but there remain many unanswered questions. For example, were Mesopotamian city-states or late 4th millennium settlements in southwestern Iran involved in a commercial expansion that stretched into Northern Iran? similarly, what effects did the import of late Uruk-related material and/or administrative practices have on the socio-economics of northern Iran? the presence of evidence for early writing at Tepe Sofalin on the eastern Rey plain also opens questions about the control of the trade and communication routes further east, where precious stones such as Lapis Lazuli, Agate, Carnelian, and Turquoise and valued metals like Copper could be obtained.

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3. Tepe Sofalin's ovoid tab is a stretched egg-shaped lump of clay and the whole surface is impressed with a cylinder seal of geometric and flora Motifs. Other Late Uruk/Susa II administration tool kits will be published soon.

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