Introduction

The aim of the LoNAP1 is to reconstruct the formation and evolution of the cultural and natural landscapes of the important region of northern Mesopotamia, which straddles the provinces of Ninawa and Dohuk (Northern Iraqi Kurdistan), and to ensure their development and protection in innovative ways. The investigated region consists of the area bordered by the plains of Dohuk and the foothills of the Zagros to the North, the lake formed by the Eski Mosul dam to the West, and the Navkur plain that extends from the Jebel Maqloub to the Al-Khazir river valley and beyond to the South and East (Fig. 1). This vast region, which had so far never been explored by means of a holistic and interdisciplinary approach, played a key role in the cultural dynamics that have affected Northern Mesopotamia from prehistoric times until the Islamic periods.

497 sites were visited during the first two years of survey and approximately 19,000 diagnostic potsherds dated from the 7th millennium BC to the Islamic period have been collected from 286 of these (Fig. 2).2

About 1350 potsherds dated to the Early Bronze Age were identified. They are subdivided into two main groups: 9% of them belong to the Ninevite 5 period, while 91% dated to the Mid-Late 3rd Millennium BC.

Ninevite 5 Period

This earliest period is very sparsely attested, with about 130 potsherds. The low presence of Ninevite 5 specimens is a somewhat unexpected because our survey area is located in the core of this ceramic production that developed around and to the North of the site of Nineveh at the beginning of the 3rd millennium BC. The ‘heartland’ of the Ninevite 5 province is located between the Wadi Jaghjagh to the west, the middle reaches of the Khabur to the south, the eastern bank of the Tigris to the east and the Tur Abdin to the north (Grossmann 2014, 81). In the later phase, characterised by the incised/excised Ninevite 5, this ceramic production expanded to include all the Upper Khabur Basin to the west (Rova 1988; 1996; Milano and Rova 2000), with the westernmost limit at the site of Tell Chuera. To the south, sporadic Ninevite 5 attestations have been recovered at Mari in Syria and Tell al Naml in Iraq; the northern limit remains the Tur Abdin (with few attested site in the Cizre-Silopi Survey: Algaez 2012, 22-5) while the eastern limit is less defined: Ninevite 5 specimens have been recovered in north-eastern Iraq, on the Upper Diyala River near the Iranian border (Grossmann 2014, 81-2).

Painted Ninevite 5 is represented in the survey material by only 24 potsherds (Fig. 3), mainly decorated with geometrical patterns (triangles, grids, ovals, wavy-lines, etc.) in black colour. A few purple/dark-red specimens are also attested (Fig. 3: 5). Concerning forms, almost all the retrieved rims belong to carinated cups and they are mainly beaded (Fig. 3: 2, 4-5).

The majority of the potsherds are unpainted (Fig. 4). Ribbed fine ware, identified through horizontal ribs or grooves on a grey/greenish fine fabric that usually occurs in the upper part of the vessel, is most common (Fig. 4: 2-3, 5).

Incised patterns (e.g. simple triangles, zig-zag or wavy lines, herring-bone pattern, etc.) seems to be more frequent (Fig. 4: 1, 4) than incised/excised ones – mainly broad excisions creating the appearance of raising panels (Fig. 4: 6, 10). As for painted Ninevite 5 types, sherds mostly belong to carinated cups with in-turned beaded rim and pointed base (Fig. 4: 1-2, 4-5, 9).

LoNAP specimens found parallels3 at several sites both in Northern Iraq (Nineveh; Gut 1995; Tell Mohammed Arab: Roaf 1983; Killick 1986; Killick and Roaf 1987; Bolt and Green 2003; Tell Fisna: Numoto 2003; Tell Jessary; Numoto 1990; Tell Karrana 3; Rova 1993; Telul eth-Thalathat V: Fukai et al. 1974; Tell Kutan: Bachelot 2003 etc.) and in Northern Syria (Tell Leilan: Schwartz 1988; Tell Brak: Matthews et al. 1994; Matthews 2003; 3 More detailed information on the comparisons for this period could be found in Gavagnin, Iamoni and Palermo in press.)

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1 The Land of Nineveh Archaeological Project of the Udine University is directed by Prof. Daniele Morandi Bonacossi to whom I am deeply grateful for the opportunity of joining the team as one of the mission’s ceramicists.

2 For a detailed description of the sites and settlements patterns see Morandi Bonacossi and Iamoni 2015; Morandi Bonacossi 2012-2013; 2014.

3 More detailed information on the comparisons for this period could be found in Gavagnin, Iamoni and Palermo in press.
Tell al-Raqa‘i: Curvers and Schwartz 1990; Tell Barri: Biscione 1998; Valentini 2008; Tell Khazna I: Munchaev and Merpert 1994 etc.): they thus perfectly fit into the pottery production of the Ninevite 5 ceramic region.

At this preliminary stage of study, it seems that no specimen of the Terminal Uruk and Transitional, or of the Late Excised phase is attested, and that Ninevite 5 potsherds mainly belong to the middle part of the period,
Figure 3. Ninevite 5 painted potsherds.
Figure 4. Ninevite 5 incised and incised/excised pottery specimens.
It is important to consider, however, that these oldest phases have been rarely found and moreover that just a few sites yielded a complete Ninevite 5 sequence. The ‘Terminal Uruk’ phase is attested at Tell Karrana 3 and Tell Mohammed ‘Arab in Northern Iraq and at Tell Brak in Syria, while the ‘Transitional Ninevite 5’ phase is present just at Tell Karrana 3, Tell Jigan, Tell Fisna and in TW sounding at Tell Brak (Grossmann 2014, 82).

Given that at this preliminary stage of study we decided to consider the Late Chalcolithic as a whole, and not to subdivide it into different sub-phases (Morandi Bonacossi and Iamoni 2015), it is not possible to understand well the transition between 4th and 3rd millennium BC. In the LoNAP area the number of settlements decreases dramatically, from 96 sites in the Late Chalcolithic to 29 sites in the Ninevite 5 period: is not possible to know, however, if all the sites were inhabited in the latest part of 4th millennium BC (Late Chalcolithic 4-5 and Late Uruk), and so whether there is a real decrease in sites number or rather if the decrease happened before, and the Ninevite 5 period being the beginning of a new occupation expansion. The trend of diminishing site number is also attested in other surveys: around Tell Hamoukar (Ur 2004, 157-8), Tell Brak (Eidem and Warburton 1996, 55) and Tell Leilan (Arrivabeni 2010, 45), and in the Cisre-Silopi Plain (Algaeza et al. 2012, 22-5) the number of settled sites also diminished, even if less markedly. In the North Jazira survey (Wilkinson and Tucker 1995, 49-50) and in the survey around Tell Beydar (Wilkinson 2000, 10) the situation is a little bit different: at the beginning of 3rd Millennium BC the number of larger sites increased while the smaller sites have been abandoned.

Only two of the 29 sites attributed to the Ninevite 5 period were not inhabited in the Late Chalcolithic, and all of these were occupied in the Mid-Late 3rd Millennium BC. The lack of potsherds attributed to the earliest phases of the Ninevite 5 period makes it difficult to assess settlement continuity from the 4th to early 3rd millennium BC. A break in occupation between the end of Uruk period and the beginning of Ninevite 5 phase has been proved at some sites in Northern Iraq (e.g. Tell Mohammed ‘Arab) and it is a known trend in other surveys such as at Tell Leilan (Stein and Wattmaker 1990; Arrivabeni 2010), Tell Hamoukar (Ur 2004; 2010) and Tell al-Hawa (Wilkinson and Tucker 1995). Further study on recovered pottery and data from new survey campaigns could clarify the situation in the LoNAP area.

**Mid-Late 3rd Millennium BC**

The second half of 3rd Millennium BC is one of the most represented phase among the LoNAP materials (the fourth for number of potsherds after the Islamic, Neo-Assyrian and Middle-Bronze Age periods) and occurs with a large number of types: concerning open forms, the most attested rims are the thin-beaded rim (Fig. 5: 3) – for the beakers – and the beaded/flat beaded rim (Fig. 5: 2, 4-6) – for the bowls. The closed forms, mostly small-medium jars, usually have a folded rim (Fig. 5: 7-8; Fig. 6: 3) or an indented rim (Fig. 5: 9), while the lid-seated rim storage jars are less attested (Fig. 5: 10; Fig. 6: 2). The most common bases are flat, often showing a string-cut surface (Fig. 5: 11-12), but also rounded and flat-concave specimens have been recovered. With regard to decoration, abundant examples of comb-impressed and comb-incised sherds (Fig. 6: 1-4) and only few applied decorations – rope, snake relief (Fig. 6: 5-6) – have been noted.4 As was the case for Ninevite 5 materials, LoNAP specimens dated to the mid-late 3rd millennium BC found parallels at several sites of Northern Iraq (e.g. Nineveh: McMahon 1998; Tell Taya: Reade 1968; Tell Jessary: Numoto 1990 and Tell al-Rimah: Postgate et al. 1997 etc.) and Northern Syria (e.g. Tell Brak: Oates 2001; Tell Beydar: Gavagnin and Mas 2014; Tell Hamoukar: Colantoni and Ur 2011; Chagar Bazar: McMahon and Quenet 2007; Tell Leilan: Schwartz 1988; Tell Mohammed Diyab: Nicolle 2006 etc.).

Recently, the ARCANE project in the Tigridian Region stressed that the majority of data from this region belong either to the earliest (phases ETG 2-4, Ninevite 5 period) or to the latest part of 3rd millennium BC (phases ETG 7-9, corresponding to the Akkadian, Post-Akkadian and Ur III periods), while the middle part (ETG 4b-6, corresponding to the EJZ3 phase in the Jezirah region) is scarcely attested (Lebeau 2011; Bielinski and Rova forthcoming). This situation seems, in this preliminary overview, not to have been totally confirmed in the LoNAP materials. In fact, even though the Ninevite 5 and Akkadian and Post-Akkadian phases are well attested there, several specimens dated to the EJZ3 period have also been recognized. As noted elsewhere (Gavagnin et al. forthcoming), the specimens dated to the middle part of 3rd millennium BC are mainly Common Ware potsherds. As the Common Ware types have a long duration – some shapes start in the Ninevite 5 period and persist throughout the mid and late 3rd millennium BC – only a more precise analysis of the material could clarify if we have a real presence of types dated to the central part of the 3rd millennium BC or not.

Concerning the localization of our area in this period, contrary to the Khabur Basin and Northwestern Syria, where the ceramic provinces of ‘Metallic Ware’5 and

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4 More detailed description of the types and their comparisons have been provided in Gavagnin et al. (forthcoming).

5 This term was used for the first time by H. Kühne (Kühne 1976, 33-66) to describe a highly depurated and compact fabric, with a colour range from dark grey-blue to dark red, found at Tell Chuera, resembling the bronze vessels found on the same site. For more detailed studies on the Metallic Ware see Schneider 1988; 1989; Kühne and Schneider 1988; Daszkiewicz and Smogorzewska 1999; 2000; Prüb 2000.
Broekmans et al. 2004; 2006 and more recently Kibaroğlu et al. 2008; Falb 2009; Kibaroğlu and Hartmann 2015.

of ‘Caliciform Ware’

FIGURE 6. AKKADIAN AND POST-AKKADIAN POTSherDS.
Jezirah is more fragmented. In the Iraqi Jezirah the so-called ‘Taya Ware’ \(^7\) seems to replace the Ninevite 5 pottery. This trend has been observed as well in the Eastern Syrian Jezirah, for example a Tell Leilan, with the appearance of the ‘Leilan Ware’, \(^8\) which is different from the Taya Ware, but has several affinities with it. A similar ware was also found at Tell Brak and in the neighbouring sites together with ‘Metallic Ware’ (Rova 1996, 23-4).

In the LoNAP survey material, several fragments of this kind of greenish-yellowish very fine wares have been recovered, but at this moment it is not clear whether they belong to one of these above-mentioned types, or if they could constitute another local ware, similar to the others.

The second half of the 3rd millennium BC represents a phase of extraordinary flourishing of occupation in the LoNAP region, with a four-fold increase in the number of settled sites with respect to the Ninevite 5 period – from 29 to 125 settlements – and the third peak in the demographic history of the area after the Neo-Assyrian and Parthian periods.

This trend has been recorded also in the surveys around Tell Brak (Eidem and Warburton 1996, 55), Tell Beydaar (Wilkinson 2000, 10-1), Tell Leilan (Arrivabeni 2010, 43) and Tell Hamoukar (Ur 2004, 158-62), even if with lower increase in the numbers of sites. This situation differs profoundly however from the settlement process recorded during the mid-late third millennium in the nearby North Jazira Project (NJP) area and other regions of Northern Mesopotamia, e.g. the Cizre-Silopi area. In the NJP the number of settled sites decreases in comparison with the Ninevite 5 period. The site of Tell Al-Hawa, however, witnessed an intensive urban expansion in the mid-3rd millennium, which resulted in its growing from 24 to 66 ha and in the extinction of small satellite mounds (Wilkinson and Tucker 1996, 50-3). The Cizre-Silopi survey also witnessed a decrease in site numbers, though not a big expansion of any one site in particular (Algaze et al. 2012, 25-6).

Concerning settlement distributions, most of the sites were scattered in the Navkur plain or along the Jebel al-Qosh and Jebel Ba’dreh piedmont belt. The closeness of our research area to Nineveh, an important urban and later also religious centre from the final part of the Late Chalcolithic onwards, might be responsible for the lack of competing urban centres in the region immediately to the north of the city. As mentioned above, all the Ninevite 5 settlements are inhabited in the mid-late 3rd Millennium BC; in relation to the following period, 34 sites were abandoned while 24 new sites were settled in the Middle Bronze Age. All of these sites are small: only a few exceeded 10 hectares, with the majority measuring less than 5 hectares.

Discussion and conclusions

The 3rd millennium BC is well attested in the LoNAP area: the earliest phase, namely the Ninevite 5 period, is represented by a small number of potsherds and of settlements. The retrieved specimens mainly belong to the middle part of the period, namely to the Intermediate, Painted/Early Incised and Incised/Excised phases, whereas the Terminal Uruk, and the Late Excised phases seem, in the current state of research, not to be present. Concerning settlement patterns, in the Ninevite 5 period there is a drastic reduction in the number of sites in respect to the Late Chalcolithic, from 96 to 29, and just 2 of the 29 sites attested for the Ninevite 5 period were not inhabited in the Late Chalcolithic period. At this preliminary stage of the study, however, we were not, due an insufficiency of data, able to ascertain a definite continuity in occupation for the latest phases of 4th millennium BC and the beginning of 3rd millennium BC. With respect to the transition from Ninevite 5 to the Mid-Late 3rd Millennium BC, all 29 Ninevite 5 sites remained settled in the second half of the millennium. Contrary to the transition from the Late Chalcolithic to the Ninevite 5, a certain number of potsherds dated to the middle part of the 3rd millennium BC have been identified, supporting settlement continuity, even though only a more detailed study will be able to determine if all of them are continually inhabited or whether they were rather abandoned and then resettled at the end of 3rd millennium BC.

In the mid-late 3rd millennium BC we witness a fourfold increase in the number of sites – from 29 to 125 – supported also by a higher quantity of potsherds. As said before, this growth in the number of settlements is attested in other surveys in Northern Mesopotamia, but in general it is accompanied by an expansion in size of one or more sites. The LoNAP survey area seems to differ from this trend, with the presence of small settlements ranging from 1 to 5 hectares, with just few exceeding 10 ha. Apparently, where the urbanization of the landscape, resulting from the growth of large urban centres developing out of previous smaller settlements (as in the case of al-Hawa), did not take place, we find instead a flourishing network of rural sites dotting the landscape. The response to the lack of urbanization in the Mid-Late 3rd millennium consisted of a profound ruralisation of the landscape, something which for Northern Mesopotamia can be now grasped for the first time thanks to the LoNAP survey.

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\(^7\) This term was used by J. Curtis (1982) referring to a fine greenish-yellowish ware found at Tell Taya (level IX-VII), usually showing radial burnishing. The term ‘Taya Ware’ was used also to describe a generic type of fine greenish-yellowish pottery, with a fine fabric, found in Akkadian and Post-Akkadian contexts (Ball 2003; Spanos 1992; Wilkinson and Tucker 1995; Orsi 2011).

\(^8\) Senior and Weiss 1992.
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