The social landscape of Upper Mesopotamia: a preliminary overview of the Late Chalcolithic evidence from the Eastern Upper Tigris region

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ABSTRACT

The present contribution discusses a small sample of Late Chalcolithic sites that have been identified during the survey carried out by the Land of Nineveh Archaeological Project (LoNAP) in the area of the River Tigris. Via a preliminary analysis of the settlements, of their positions as well as of their ceramic material cultures, an interpretation is proposed of the settlement strategies and the socio-economic relationships that might have characterised the existence of these sites. At the same time these considerations are used in a broader way to explore the regional dynamics that shaped the Chalcolithic societies of Upper Mesopotamia across the late fifth–fourth millennium BC.

KEYWORDS

Society, Late Chalcolithic, Uruk, Upper Mesopotamia, settlement pattern
1. Introduction

It is beyond any doubt that the Neolithic and Chalcolithic of Upper Mesopotamia are the prehistoric periods that witnessed some of the most important phases in the development of prehistoric human communities. From the seventh millennium onwards, human societies started to change at increasing speed and with an unprecedented rate of growth – the way they lived in this region, the way they adapted to, and, at the same time, exploited, it. To summarize in one sentence, they radically transformed their social and economic interaction with other communities and with the surrounding environment. In particular, at the turn of the sixth/fifth millennium BC, that is at the transition between the Neolithic and Chalcolithic, human communities experienced significant changes in their social structure and subsistence strategies that led to transformation touching both the inner organization of societies and the execution of economic activities. Generally defined (and perhaps oversimplified) as “socio-economic complexity”, this process has involved significant changes, with repercussions that created the bases for the big centralised societies of the following epochs.

The path that led to these changes touched several aspects that have been explored by archaeologists especially in excavations. Three of these may be considered of major relevance by archaeologists. The first is the emergence of social hierarchy, i.e. the emergence of social inequalities that resulted in a stratification of society into different groups characterised by different levels of access to power. Such differentiation had substantial repercussions on – and indeed concrete consequences for – a number of aspects of everyday life, from different access to food surpluses to control/possession of prestigious materials/items. Ultimately, all of these elements have been considered as indicators of different levels of “authority”, i.e. the emergence of leadership and the subsequent capacity of individuals to influence and/or address a number of socio-economic activities of the society.

The second element is labour specialization. Craftsmanship and methods of production in a number of different fields changed significantly and improved throughout the Late Neolithic and early Chalcolithic. This concerned several types of craft, among which copper working has indeed attracted the attention of archaeologists, though one may say that pottery production is the craft activity that showed the most significant changes, thanks to the introduction of new kilns, new form types and new fabrics, such as Chaff Faced Ware during the Early (=Northern Ubaid) and especially the Late Chalcolithic.

A third factor was the spread of urbanization, i.e. the emergence of usually large sites that exploited a wider region around them and that hosted a significant concentration of people, organised in accordance with the above-mentioned social differentiation. This phenomenon, initially observed in South Mesopotamia, has also been investigated in depth in Upper Mesopotamia thanks to a number of survey projects carried out especially in the Syro-Iraqi Jezirah. These have focussed both on single sites e.g.

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1 For example, Chapman (2003, pp. 76-79) has demonstrated that different kinds of inequalities exist and that these occurred both in “simple” (e.g. hunter-gatherer groups) and “complex” (e.g. states) societies.

2 This is again a simplification that attempts only to highlight some outcomes of this transformation that are more relevant for the purposes of this paper; it does not imply the existence of a linear evolutionary trend which might simply lead to misunderstanding of the multidimensional character of the complexity concept (Verhoeven 2010).

3 Stein 2012; Frangipane 2016.

4 Stein 2012, p. 128.

5 D’Anna, Guarino 2012, p. 59; Al-Quntar 2016; Arroyo-Barrantes 2016, pp. 139-142.

6 D’Anna, Guarino 2012, pp. 73-74.

7 The correlation Northern Ubaid – Early Chalcolithic is largely based on the association between emerging socio-economic complexity and spread of the Ubaid material culture in Upper Mesopotamia, which has gained a general consensus among archaeologists (Forrest 1996, pp. 53-55; Frangipane 2007; Akkermans, Schwartz 2003, p. 154). However, it must be stressed that a reassessment of the chronology of the early and middle phases of the Chalcolithic seems increasingly necessary (the definition of the Middle Chalcolithic remains in particular an open question). The new datasets produced by the ongoing projects in Iraqi Kurdistan might change the current picture and perhaps lead to reconsideration of the Halaf Ubaid Transition as the true formative phase for the beginning of the Chalcolithic epoch (Campbell, Fletcher 2010; Karsgaard 2010).

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Greater Zab Reconnaissance – UGZAR directed by R. Kolinski, the Erbil Plain Archaeological Survey – EPAS directed by J. Ur and recently the Boston University Soran Survey – BUSS directed by M. Danti) that are currently making available an unparalleled body of data which is literally transforming our knowledge of the settlement dynamics shaping Upper Mesopotamia. Altogether these projects cover an area of more than 13,500 sq km that roughly corresponds to half of all Upper Mesopotamia (fig. 1). Among these projects, after 5 years of investigation LoNAP stands out for having gathered a substantial amount of particularly significant data regarding the Neolithic and Chalcolithic regional settlement. This has been possible especially because of the adoption in the last two survey seasons of more intensive survey strategies for the identification of prehistoric sites, which had been un-

Figure 1
Map of the archaeological survey projects currently ongoing in Iraqi Kurdistan (Iraq)

13 Algaze, Hammer, Parker 2012.
noticed due to their elusive evidence: the number of surveyed sites dating to the seventh–fourth mill. BC has thus grown considerably and this permits the exploration of specific trends characterising prehistoric occupation in the LoNAP area.

Though much of the data analysis is still ongoing and in particular the study of the finds has only begun to enter a more detailed phase, the evidence to hand permits some observations to be made concerning especially the nature of the LC settlements in the region. The aim of this paper is to present a specific study that may help our understanding of the LC settlement dynamics that characterise Upper Mesopotamia. In more detail we discuss here a few selected case-studies from the LoNAP area, for which – since the finds collected there are in a more advanced phase of study – a more precise reconstruction of the local settlement dynamics is possible. The final target is to provide a “social perspective” of the surveyed evidence, i.e. we aim to explore the level of social cohesion, that is the “social force” that stimulates discrete groups of people to cooperate and share knowledge and/or information, as this manifests itself at a regional level in the survey evidence (settlements and pottery).

Though this kind of topic is usually investigated at intra-site level, we propose here – experimentally – a method based on the analysis of the occurrence of settlement patterns characterised by significant site clustering and the presence of a significant level of ceramic types in common. A similar approach has already been successfully adopted on a broader scale: here we propose a more limited analysis based on a selection of seven sites analysed with regard to the two above-mentioned indicators (settlement pattern and pottery).

1. The body of data and regional traits

LoNAP is a survey project investigating an area of 3000 sq km, mostly concentrated in the province of Dohuk (fig. 2).

It has thus far identified 196 settlements dating to the Chalcolithic period, more or less evenly distributed in the LoNAP area. The following analysis focuses on the western sector of the LoNAP area where a group of sites (7 in total, see fig 3) has been surveyed along two wadis that flow directly in the River Tigris (now in the Eski Mosul Dam): this discrete cluster of sites shows an interesting pattern that, albeit local in size, may offer insights also for the wider regional patterns found in the Tigris Valley.

According to a preliminary classification of the LoNAP area under investigation15, the group of sites analysed here falls in the river basin sector, distinguished by the presence of permanent water courses (the River Dohuk) and, more frequently, seasonal ones crossing the plain and eroding the surrounding terrain. As a result, the landscape is now frequently characterised by deep, narrow gullies that divide the region into separate terraces. Both permanent and seasonal drainage features have thus shaped the landscape creating a terraced region, especially in proximity to the Tigris. Further away from the Tigris Valley the erosive activity has been less strong: the surface is more regular, with an undulating profile due to gently sloping hills near the water courses. Here fluvial deposits (mostly clay and silty layers) have significantly raised the level of the surrounding surface, influencing the visibility of ancient sites – and thus also the local settlement dynamics. This depositional and erosive river activity that shaped the ancient landscape also to some extent determined (or at least influenced) the settlement pattern that, as we will see, depends upon local conditions.

The seven sites surveyed (sites nos. 1046-1050, 1052 and 1053) are small mounds that are mostly located along two main wadis. With one exception (site 1049 that covers more than 6 hectares), the settlements are very small in size, ranging from 0.5 to 4 h. They might therefore have been rural in character, although it should be remembered that in the region under investigation very large sites – comparable to big LC urban settlements of the Syro Iraqi Jezirah (e.g. Tell Brak and Tell al Hawa, both covering areas of 50-70 hectares)16 have not so far been found.

15 Iamoni 2016, p. 70; 2018.
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Figure 2
LoNAP area with all the archaeological sites surveyed

Table 1
Site dimensions (the areas refer to the general size of the mounds, which sometimes comprise different occupation periods)

<table>
<thead>
<tr>
<th>Site n</th>
<th>Settled areas in hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1046</td>
</tr>
<tr>
<td>2</td>
<td>1047</td>
</tr>
<tr>
<td>3</td>
<td>1052</td>
</tr>
<tr>
<td>4</td>
<td>1053</td>
</tr>
<tr>
<td>5</td>
<td>1048</td>
</tr>
<tr>
<td>6</td>
<td>1050</td>
</tr>
<tr>
<td>7</td>
<td>1049</td>
</tr>
</tbody>
</table>
This aspect may suggest the occurrence of local trajectories towards complexity (and ultimately urbanization?) that may differ substantially from what is currently known\textsuperscript{17}: the formula urban settlements=large sites, small settlements=rural sites might not work well in the region of the eastern Upper Tigris.

An interesting aspect is that most sites show a settlement chronology that does not seem to start earlier than the Late Chalcolithic period. Though this might have been affected by the river activity mentioned above, which might have hidden the Neolithic levels, it may somehow really reflect a settlement pattern that started locally only in the fifth millennium. Two other sites (not included in this analysis) are located along a wadi further east and date to the Early Chalcolithic (Northern Ubaid) but did not show any evidence of LC occupation. This situation may be a consequence of the radical settlement increase that characterised the region during the LC\textsuperscript{18} and that may depend on a significant demographic growth that occurred in the region across the late fifth and the fourth millennium BC. This picture, albeit partially corrected by recent survey results, is still valid and represents one of the most striking aspects of the prehistoric occupation in the LoNAP survey area.

\textsuperscript{17} Iamoni 2016.

\textsuperscript{18} Morandi Bonacossi, Iamoni 2015.
At the same time, as discussed below, this might suggest the occurrence of settlement patterns during the Late Chalcolithic period that may be a consequence of new economic and subsistence strategies – corroborating preliminary hypotheses proposed previously\(^{19}\). From this perspective, the body of data presented here may thus help us to understand better the dynamics that shaped Late Chalcolithic regional settlement, especially in an area that until a few years ago had been only marginally touched by systematic archaeological investigations.

3. Analysis of the data: the LC 1-2

The following analysis attempts to identify the occurrence of possible settlement patterns by breaking the Late Chalcolithic into two major periods LC 1-2 and LC 3-5, in agreement with a subdivision commonly adopted in analyses of survey evidence in the Near East\(^{20}\).

The LC 1-2 sites (fig. 4) show a linear distribution along the wadis which confirms one of the general trends observed especially in prehistoric periods, that is the position of settlements in proximity to water courses\(^{21}\). This may point to a more specific need for the constant and reliable presence of water in the neighbourhood settlements, if not for the whole year at least for a significant part of it. However, the distribution of the sites, though based on a small sample, manifests another noteworthy feature: most settlements are located at a regular distance from one another (table 2). Aside from sites 1047 and 1046, whose nature has still to be fully understood, as they might either represent a case of cyclical settlement in the same area\(^{22}\) – possibly similarly to what has been recently observed in the near site of Muqable\(^{23}\) – or part of a unique LC settlement whose limits have yet to be fully recognised, the other sites are located at an average distance of 1521.8 m, with an SD of 493.6 m (both decrease if one removes sites 1047/6: average 1358.2 with an SD of 322.05). This short distance does not seem to occur by chance: a similar pattern has been observed elsewhere – though located in a different area of the LoNAP survey area, the plain south of Ba’dreh\(^{24}\).

LC 1-2 is considered to be a period during which the dynamics of socio-economic complexity accelerated. Compelling evidence of this has been found in crucial LC sites such as Tell Brak and Tepe Gawra. In the first, recent excavations in Operation TW, Levels 21-18 (more precisely 21-19 are dated to the LC 2, whereas LC 18 to the early LC 3), showed evidence of workshop areas specialised in the production of artefacts in hard stones (obsidian flints and cornaline) under the supervision of the local elite/bureaucracy\(^{25}\). The latter might have dwelt in an adjacent public building, characterised by a large entrance and massive, thick walls\(^{26}\). In the second, older (though still crucial) excavations carried out by the Pennsylvania Museum of Archaeology demonstrated the occurrence of increasing social hierarchy through the discovery of buildings with uncommon features, such as the so-called White Room of Level XII, and a number of tombs containing grave goods characterised by the presence of luxury items such as copper and electrum artefacts from tombs 109, 110 and 114 of Level X\(^{27}\). The absence of these precious raw materials in Upper Mesopotamia suggests that a solid long distance network was established during the mid-late fifth millennium and that this was vital for the development of the early LC societies of Tepe Gawra.

The limited body of data analysed here cannot add definitive supporting evidence – which only a wider view based on the results of the LoNAP survey can give. Yet, the regularity of the site distribution might mirror the emergence of new settlement strategies derived from new exigencies, among which the necessity to strengthen contacts between all communities would seem to be a plausible contender. A second question concerns their occur-

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\(^{19}\) Iamoni 2018.

\(^{20}\) Ur 2010.


\(^{22}\) Bernbeck 2013, pp. 57-58; Akkermans 2013a, pp. 69-70; 2013b, p. 29.

\(^{23}\) Pfälzner et al. 2017.

\(^{24}\) Morandi Bonacossi, Iamoni 2015.


\(^{26}\) Oates 2012, pp. 171-176.

\(^{27}\) Tobler 1950, pp. 25-30; 89-92.
**Table 2**
Distance among sites expressed in metres

<table>
<thead>
<tr>
<th>Distance (m)</th>
<th>Average</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1053-1052</td>
<td>1521.8</td>
<td>493.6</td>
</tr>
<tr>
<td>1050-1049</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1049-1048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1048-1053</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1049-1052</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1048-1047/6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 4**
Distribution of LC 1-2 sites
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The later phase of the Late Chalcolithic spans approximately 700 years according to the recent periodization in use for Northern Mesopotamia. Although covering such a significant timespan, the evidence to hand in the region under analysis is apparently controversial (fig. 5). The number of sites decreases substantially, with only five sites that now look to be settled. These too are located near the watercourses, thus suggesting that the importance of local natural resources, in particular water, was still important during the LC 3-5. The diminished number of sites is, on the contrary, a somewhat unexpected trend. Given the preliminary character of this paper, only a provisional and hypothetical explanation is suggested for these trends. The abandonment of two sites along the water courses – which were among the smallest in the sample analysed – might depend on the emergence of new dynamics leading towards settlement centralization. Although, as mentioned above, the region surveyed by LoNAP does not seem to show the occurrence of large LC 3-5 centres covering about 50 hectares or more – typical of neighbouring regions, such as Tell Brak and Tell el Hawa in the Syro-Iraqi Jezirah – it is noteworthy that the sites still settled during the LC 3-5, in particular sites 1050 and 1049, are the largest in the area under analysis. The position of nos. 1049 and 1050, which are significantly farther north than the other group of sites located on the same wadi (1048 and 1047), might suggest some kind of “centralization” or perhaps nucleation of the settlement emerging in the area. This information, when combined with the presence of Southern Uruk pottery on site 1049, may indicate the occurrence of new settlement strategies based on a model of increasing economic complexity – influenced or perhaps triggered (?) by long distance contacts, especially with south Mesopotamian societies. The latter may well have wanted to achieve access to raw materials sources or to establish direct contacts with local settlements that were in a position to facilitate such access. Investigation of the mines of the Jebel Zawa and relative circulation of flint artefacts derived from those mines is still in progress and thus the evidence reviewed here still needs a more robust examination; however, it seems likely that the Jebel Zawa flint source might have played a role in these dynamics.

On this point it must be stressed that evidence of Uruk sites in the LoNAP region has been thus far quite elusive. Survey pottery material of Uruk inspiration or tradition had previously been sporadically identified and the number of settlements – especially when compared with other regions of Iraqi Kurdistan located further east such as in the area of Erbil and Sulaymaniya where significant phenomena of interaction have been identified – was significantly lower. This substantial discrepancy represents one of the most intriguing distinctive traits characterising the region under analysis.

4. The LC 3-5 settlement

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References

29 Rothman 2001a; Stein 2012.
30 Iamoni 2016.
31 Ur, Karsgaard, Oates 2011; McMahon 2013.
33 Algaze 1993; Rothman 2001a.
34 Conati Barbaro et al. 2016.
35 J. Ur pers. comm.
37 This consideration refers mainly to evidence from the 2012-2016 survey seasons; more recent investigations, whose results are not discussed in the present paper, have been carried out during the 2017 and 2018 seasons and have slightly changed the picture under analysis, although it must be said that the general scarcity of Uruk sites is still valid.
5. The pottery evidence

The study of the ceramic data is still ongoing and as a consequence a detailed report of the diagnostic traits of the pottery cannot be given in this work. However, a preliminary classification of the LC pottery was performed using the Ceramic Working Typology (hereafter WT) originally devised by Wilkinson and Tucker for their North Jazira Survey\textsuperscript{38} and later expanded by J. Ur for his Tell Hamoukar Survey\textsuperscript{39}. Currently the WT has been adopted by LoNAP itself as well as by three projects carrying out surveys in neighbouring areas (EHAS, UGZAR and EPAS) with the goal of coordinating the results achieved and obtaining a homogeneous view of the archaeological landscape of a large portion of Upper Mesopotamia. The use of WT in the Eastern Upper Tigris region will also serve to increase the number of diagnostic types available – and consequently its chronological accuracy, as well as its regional applicability over an area much wider than that for which it was originally devised (and on which its diagnostic types are based).

The classification of the ceramics retrieved during survey (tab. 3) shows a discreet agreement with types already known from previous investigations located in the Syro-Iraqi Jezirah. The traits characterising the ceramic assemblages are three. As far as the early period of LC is concerned (fig. 6: 1-9), this is dominated by two well-known types, jars with flaring necks/rims (T4/5) and bowls with in-
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Figure 6
Selection of LC sherds surveyed in the sites analysed; n.1-9 early LC (LC1-2) n.10-14 late LC (LC 3-5)
ternally thickened rim (T4/18)\textsuperscript{40}, which suggests the occurrence of a rather standardised ceramic production, characterised by the predominance of a few specific form types. This aspect may reflect (and indeed also be the consequence of) the distribution of settlements, the regular and close spacing of which may have strengthened social interaction and sharing of similar material culture, such as the use of standardised set of vessel types. Somewhat unexpected is the apparent absence of the so-called “Sprig Ware”, a painted decoration that appears on open as well as closed forms and that is typical of the early LC (and perhaps also late Northern Ubaid) period\textsuperscript{41}. The retrieval of a significant number of Sprig Ware fragments in the site of Shelgiyya, on the western side of the River Tigris, suggests that this area was the centre of production of this pottery type\textsuperscript{42}: its absence in the sites discussed here is thus a point which requires further investig.

\begin{table}
\centering
\caption{Classification of surveyed Late Chalcolithic pottery: types T4 represent the LC1-2, whereas types T5b represent the LC 3-5}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline
\textbf{Type} & \textbf{T4/1} & \textbf{T4/2} & \textbf{T4/4} & \textbf{T4/5} & \textbf{T4/6} & \textbf{T4/13} & \textbf{T4/15} & \textbf{T4/18} & \textbf{T4/19} & \textbf{T5b/1} & \textbf{T5b/4} & \textbf{T5b/5} & \textbf{T5b/4} \\
\hline
\textbf{Percentage} & 25.00 & 20.00 & 15.00 & 10.00 & 5.00 & 0.00 & 0.00 & 0.00 & 0.00 & 0.00 & 0.00 & 0.00 & 0.00 \\
\hline
\end{tabular}
\end{table}

tigation. Similarly, the low presence of another hallmark of the early LC, the so-called Coba bowls (T4/1)\textsuperscript{43}, is an aspect that stresses the likely occurrence of a ceramic tradition slightly different from neighbouring regions. At the same time, the rare occurrence of the second type – the Coba bowls, which have been connected to the organization of communal meals and ultimately to the existence of local elites\textsuperscript{44}, may also suggest a functional differentiation of the surveyed sites. Some settlements may lack the Coba Bowls simply because they were rural in character and thus devoid of any ceramic types related to social hierarchy\textsuperscript{45}.

\textsuperscript{40} Tobler 1950, fig. 142: 349, 351; Matthews 2003, fig. 3.13:2; Pfälzner et al. 2017, pl. 2: 41-48; Gavagnin, Iamoni, Palermo 2016, pp. 128-129.

\textsuperscript{41} Tobler 1950, p. 149; Rothman 2002, p. 57.

\textsuperscript{42} Ball 1997.

\textsuperscript{43} Baldi 2012, 2016a; Balossi Restelli, Helwing 2012.

\textsuperscript{44} Baldi 2012, pp. 401-405.

\textsuperscript{45} I am deeply indebted to one of the two anonymous reviewers for this consideration, which will require a thorough examination of the area surveyed by LoNAP for a full confirmation of this intriguing interpretation, since the survey evidence (i.e. the ceramic types scattered on the surfaces of sites) might differ from excavation data (i.e. pottery assemblages from excavated contexts). The “visibility” of the first might be completely different from the second.
The later period of the LC (represented by types T5b in Tab. 3) is on the other hand constituted by a smaller number of ceramic types (fig. 6: 10-14). Among these, the internally hollowed rim jars (T5b/1) are the most frequently occurring types and represent a good chronological indicator for the later period of the Late Chalcolithic46. Other types are, however, present in similar percentages; noteworthy among these is the presence of Grey Ware (T5b/3), a distinctive pottery of the mid-late LC period47 that frequently occurs with bowls characterised by externally swollen rims. The latter are well known in the region as their presence in the late fourth millennium levels of the “Deep Sounding” of Nineveh attests48. In general, the later period of the LC seems to be characterised, at least in the sites under examination, by a paucity of pottery. This is mirrored by the more restricted number of recognised types, especially when compared with the preceding early LC. Such an apparent anomaly may suggest the occurrence of a more variegated horizon of – thus far – unrecognised ceramic types that differ somehow significantly from the Syro-Iraqi Jezirah tradition, upon which much of the WT is based. In more detail, the rare presence of two major diagnostic types (casseroles and hammerhead bowls) – if not their apparent absence, as seems to be the case for the casseroles – from the assemblages of the sites discussed here seems to confirm the hypothesis proposed in preliminary work of a ceramic horizon characterised by local traits49.

6. Conclusions

The data sample discussed above show the occurrence of micro-dynamics that have shaped the settlement pattern in the Upper Tigris Valley. Albeit local in extension, this analysis seems somehow to reflect the occurrence of patterns that are evident on a larger scale.

The following traits look to be of specific relevance:
1. Settlements seem always to be located on water courses
2. Settlements seem to be spaced at regular distances
3. A possible reduction in site numbers in favour of larger (?) centres
4. A rather distinct standardization (= prevalence of only a few ceramic form types within the surveyed pottery assemblages) – especially during the LC 1-2- in the ceramic culture

The limited body of data does not allow to conclusive considerations to be put forward, yet the trends highlighted show some points of convergence that may offer hints for future explorations of the LC body of data in Upper Mesopotamia. In more detail, the four marking traits may offer evidence in support of a changing level of interaction, a concept that has been used more and more widely by archaeologists to explain the different types of contacts emerging between North and South Mesopotamia during the Chalcolithic/Ubaid-Uruk periods50. Traditionally, this topic has been investigated at site level – that is, via analysis of settlement sequences whose material culture may help to provide insights into the nature of the Chalcolithic in the north as well as on its dynamics, with thus a particular regard to long distance contacts. Little attention has been given to its possible repercussions on the regional settlement pattern.

It is indeed clear and widely accepted that major changes characterised human communities across the Chalcolithic, with some of the most visible socio-economic transformations occurring more clearly – or at least more visibly in the archaeological record – during the latter part of the period. New organizational models shaped societies, with specialization, hierarchy, and new economic strategies, whose repercussions might have also affected the regional settlement pattern. Full analysis of the LoNAP data – given its coverage of 3000 sq km – will provide more significant and definitive re-

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46 Schwartz 1988, fig. 60: 5.
50 Stein 1999, 2010; Carter, Philip 2010.
sults: the LoNAP evidence analysed here, being local in size, may offer some hints of the macro-trends that will probably be clearer and more visible at the end of the full analysis.

The regular distribution of sites in combination with the occurrence of a standardised ceramic tradition seems to reflect a higher degree of interaction among communities. This interaction may have been still local in its reach, especially during the late fifth and early fourth millennium BC; the analysis of the ceramic corpus has not highlighted any "foreign" imported types, i.e. any pottery forms that may belong to neighbouring (but different) ceramic regions. However, the early LC communities interacted in different ways in comparison to previous periods: their linear and regular distribution seems the continuation of a trend identified in a previous analysis carried out on the late ceramic Neolithic (Halaf) and early Chalcolithic (Northern Ubaid) settlement based on the data provided by the Northern Jazira Survey51. In that analysis, a settlement pattern changing from a rather clustered to a more linear distribution was observed in area north of the Jebel Sinjar: the evidence here observed suggests a continuation of this trend. The position of sites along watercourses was indeed determined by the necessity of water; at the same time, the linear pattern may indicate a strategy aimed at a major involvement and/or exploitation of these communities in the regional circuits of exchange and/or contacts. Ultimately they might have not only aimed at being more strictly part of a supra-regional net, but might also have been (consciously or unconsciously) engines for a widening of this network.

The decrease in number of settlements and the apparently less standardised ceramic horizon that occurred during the latter part of the LC, on the other hand, seems to be a consequence of the expansion of networks of contacts that ultimately must have caused (or been derived from?) such an interaction. The concentration of settlements in specific and more distant areas and the possible emergence of – at least – one of these as a larger settlement (though not comparable in size to the large urban centres located farther west) suggests a higher degree of centralization that may have resulted in a different and probably more coordinated level of interaction. It would be tempting to interpret this as the result of the so-called “Uruk intrusion”52 and the consequent impact of “more developed” societies from South Mesopotamia on Northern Mesopotamian groups. Such vision assumes that local polities, albeit characterised by traits at the basis of the “Urban Revolution”, had not triggered the full mechanisms of economic complexity that emerged only via the contact with south Mesopotamian urbanised sites53. However, recent investigations have revealed the occurrence of similar processes in Upper Mesopotamia – with evidence of labour specialization, centralised control of crafts by local elites that demonstrated the independent path followed by Northern Mesopotamian societies in the emergence of socio-economic complexity54 and, ultimately, of urbanization55. Recent research has consequently focussed on the identification of which elements are more relevant to the formation and constant stimulus for growing levels of complexity, identifying “trade/contact” and “control/management of food surplus” as key factors in this path56. The evidence analysed here would seem to support the contact model as a major element in changes characterising local (and possibly regional) interaction57: thus far this result concerns the settlement pattern, although we suspect that it may also somehow mirror internal social changes that characterised the single settlements. To explore this relationship and to find fuller support for the hypotheses proposed above a wider data set of is necessary. The final results of the ongoing survey projects in Iraqi Kurdistan58 and the contemporaneous archaeological investigation of Chalcolithic sites in Iraqi Kurdistan may offer decisive evidence in this respect.


53 Algaze 1993.
54 Frangipane, 2012.
55 Stein 1999; Oates 2002; McMahon 2013; Frangipane 2016.
57 Rothman 2001b, p. 399
58 For the purpose of this article, see in particular the latest results achieved in the Rania Plain (Balci 2016b).
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