

# A Tale of Red and Black: Reconstructing Transfer of Knowledge in Late Chalcolithic Cyprus

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## **Abstract**

This paper focuses on the interactions between communities in Late Chalcolithic Cyprus (c.2900/2700–2400 BC), when several red and black burnished pottery types were produced across the island. The aim is to investigate what that interaction can tell us about the sharing of technological knowledge between communities in western Cyprus, and about knowledge-scapes connecting communities of practice and sites.

This paper builds upon studies on mobility, technology, and the social value of technology. A comparative macroscopic study of red monochrome pottery from three sites situated along western Cyprus is conducted to shed light on the intensity, nature and degree of contacts between these communities at the time. Specifically, the local variants of Red and Black Stroke Burnished Ware from Lemba-Lakkous, Kissonerga-Mosphilia and Chlorakas-Palloures are examined.

## **Introduction**

Contrary to the Middle Chalcolithic (3600/3400–2900/2700 BC), when a pottery *koine*, with some regional variations, is observed across Cyprus, Late Chalcolithic pottery production was characterized by regional variation (Bolger 2007, 2013). However, several similar red and/or black burnished pottery wares appear across the island, which according to scholars belong to one common red monochrome pottery tradition (Bolger 2013; Peltenburg 1991). One of these wares is the Red and Black Stroke-Burnished Ware (hereafter RB/B). This paper focuses on the RB/B assemblages from three well-investigated sites in the Ktima Lowlands region in Paphos, Lemba-Lakkous, Kissonerga-Mosphilia and Chlorakas-Palloures. The westernmost site, Kissonerga-Mosphilia, is c.1km away from Lemba-Lakkous and c. 1.5km away from Chlorakas-Palloures (fig. 1).

The method used here is based on theoretical and methodological frameworks which argue that a systemic comparative analysis of different aspects of

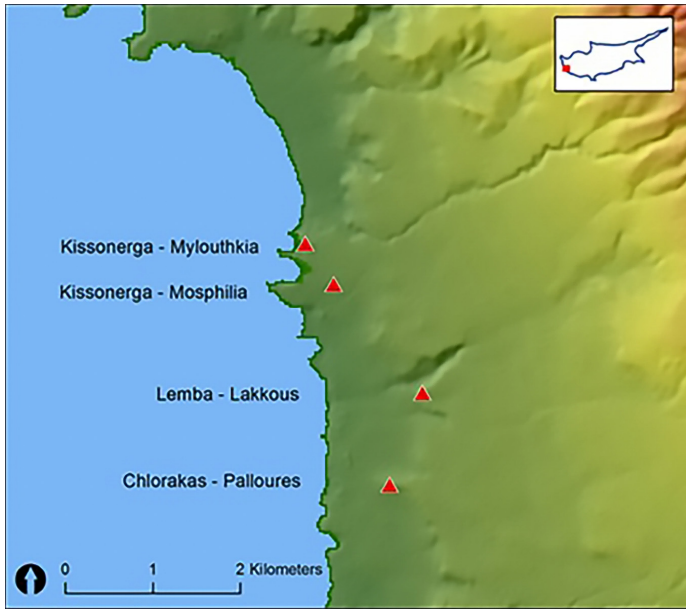


Figure 1 Map showing the sites mentioned in the text (after Düring et al. 2018: 12, by Victor Klinkenberg, reproduced with his permission).

pottery production and technology, also known as the *chaîne opératoire*, can indicate different degrees of interactions and knowledge transfer between communities (Roux 2019: 306). Additionally, the framework of knowledge-scapes is employed in an attempt to understand how communities, producers and sites were interconnected (Matthiesen 2009; Meusburger 2017).

### **Late Chalcolithic pottery in Cyprus**

Most of the currently known Chalcolithic sites are situated in western and south-western Cyprus (Knapp 2013: 197). The period was first defined by Dikaïos in the early 1930s, when he excavated the site of Erimi-Pamboula (Dikaïos 1936: 1–89). Initially, Dikaïos divided the Chalcolithic into two sub-periods, Chalcolithic I and Chalcolithic II. Later, when more sites were excavated, the Chalcolithic was further sub-divided into three phases: Early Chalcolithic (c.4000/3900–3600/3400 BC), Middle Chalcolithic (c.3600/3400–2900/2700 BC) and Late Chalcolithic (c.2900/2700–2400 BC) (Dikaïos 1962: 184–189; Steel 2004: 13, 83–118).

To contextualize the innovative pottery technologies of the Late Chalcolithic, an overview of the Early and Middle Chalcolithic pottery is required. The most popular ware of these periods is the Red-on-White Ware (hereafter RW). RW fabrics are medium to hard (core hardness), yellow buff in colour, and clays are often calcareous with a variety of organic inclusions. Vessels have buff to off-white slip and are decorated with red to brown linear, geometric, curvilinear and lattice-like painted patterns (fig. 2). Surfaces are occasionally polished. The popularity of geometric decorative designs increases over time and more vessel shapes are introduced, such as new types of bowls (Bolger 1991: 170; Bolger and Webb 2013: 41, 45). It is worth noting that relief and incised decoration occur only on anthropomorphic and zoomorphic vessels, the uncommon ‘bunch of grape’ vessels from Souskiou and a house-shaped vessel from Kissonerga-Mosphilia (Bolger 2019: 190; Bolger and Webb 2013: 41).

Several innovations characterize Late Chalcolithic pottery: clays are mostly non-calcareous, better levigated and tempers are more uniform in size and density, indicating some degree of standardization in paste preparation. There is not much variability in vessel surface colour, indicating better control over the firing process. Fabrics are harder, and new vessel shapes occur, especially bowls and platters, which are often standardized shapes to some degree (Bolger 2007: 174; Wallace 1995). The RW is replaced by red monochrome pottery types with finer fabrics, thinner walls, and novel surface treatments (Bolger 2013: 4; Bolger and Peltenburg 2014: 188; Bolger and Webb 2013: 45). Notably, new decorative techniques are employed on these wares, like relief decoration (primarily linear and in small applique knobs), deliberate mottling, and distinct burnishing strokes (Bolger and Webb 2013: 45). New vessel shapes are introduced, such as thin-walled bowls with tab handles, jars, and other closed vessels with long narrow spouts for pouring, and one unique face pot (Bolger and Peltenburg 2014: 188; Peltenburg 1985: fig. 62.5). The abundance of red monochrome ceramics with occasional irregularly blackened surfaces, due to reduced firing, relief decoration and an emphasis on bowls and pouring vessels is an island-wide phenomenon which was also observed in other sites of the eastern Mediterranean at the time, such as Troy and Karataş in Western Anatolia (Blegen et al. 1950: fig. 413.36; Warner 1994: plate 165g). Thus, it has been interpreted within the contexts of local developments along with influences from Anatolia and the Levant, and the introduction of new culinary traditions (Bolger 2007: 179–181; Peltenburg 2007: 144–146).

In western Cyprus, the prevalent red monochrome ware is RB/B. One can easily distinguish it due to its red to pink colour and highly burnished surfaces with visible burnishing strokes (fig. 3). The burnishing is so heavy that it sometimes results in surface crazing. It occurs in several types of bowls, jars and spouted vessels (Bolger and Webb 2013: 42–44; Steel 2004: 113). Research has shown that the RB/B vessels demonstrate standardization in shape, vessel dimensions and fabric composition (Bolger and Webb 2013: 45; Wallace 1995). Finally, potters seem to have experimented with clays and slips, since a variety of burnishing, slips and wash treatments are observed; there seem to have been advances in production skills and maybe even a shift to a more specialized production instead of the household production of earlier periods (Steel 2004: 113; Wallace 1995).

### **Pottery and knowledge transfer between communities**

Mobility of ceramics and of technological knowledge of pottery production has been central to discussions about interactions between communities (Gosselain 2017; Webb and Frankel 2007). This paper argues that a comparative study of similar pottery assemblages from different sites within one region can shed light on the nature and degree of interactions between societies which produced and used these assemblages.

### ***Technological mobility, style, interactions and change***

The movement of people and objects was a fundamental element of ancient societies (Dommellen and Knapp 2010: 1; Knappet and Kiriati 2016: 1). The notion of mobility encompasses the movement of objects, ideas, knowledge and technology. If mobile humans were accompanied by their artefacts and their technologies, thus by their expertise in different activities, the study of the transfer of technological knowledge within or across regions can help us understand diverse mobility phenomena. Technologies can be transmitted through various kinds of human interaction. For example, metallurgists traveling to find exploitable ores, or a technology that a group carries to a new location, can be described as phenomena of technological mobility (Knappet and Kiriati 2016: 8–9).

Traditionally, technology has been seen as “a distinctive sphere of materiality grounded in pragmatic behaviours separate from, underlying and implying upon politics, social organization, beliefs and value systems—[and which] is built on a materialistic and rationalist edifice” (Dobres 2000: 10). In other words, people make sense of the world through the production of objects, as argued also by



Figure 2 Red-on-White sherds from Chlorakas-Palloures (photograph by Ian J. Cohn taken for the Palloures Archaeological Project, reproduced with permission of the project director Dr Bleda S. Düring).



Figure 3 Red and Black Stroke-Burnished sherds from Chlorakas-Palloures (photograph by Ian J. Cohn taken for the Palloures Archaeological Project, reproduced with permission of the project director Dr Bleda S. Düring).

Marx and Engels (1970: 42). According to them, people are what they produce, and how they produce it. Therefore, technological processes have social, political, and personal significance and are essential to understanding social values and norms (Dobres 2000: 97). Several concepts from social theory of technology draw from the principle that technology is a total human phenomenon (Dietler and Herbich 1998; Dobres and Hoffman 1994; Mauss 1936). In archaeology, Childe (1956: 1) was amongst the first scholars to recognize the social aspects of technology and argued that objects could be interpreted as “concrete expressions and embodiments of human thought and ideas”.

The distinct ways in which different groups make artefacts which are determined by both cultural and functional factors can be described as “technical (or technological) behaviour” (Dobres 2000: 161). This is based on ‘technological style’, a concept rooted in ethnographic research whereby there are different ways to achieve the same result. The choices of the artisan result from the social context in which they learn and practice the craft. The techniques used are usually practised as unconscious or automated behaviours. So, technical style is rooted in the social identity of the artisan. Therefore, a systematic comparison of technological traits can help archaeologists identify cultural interactions (Gosselain 1998: 79–83). Knowledge has been interpreted as the “capacity to act” (Matthiesen 2009: 14). With an emphasis on the notion that technology is knowledge, Wobst (1977: 321) viewed style as a tool for ‘information exchange’ and defined it as “that part of the formal variability in material culture that can be related to the participation of artefacts in processes of information exchange”. Taking this a step further, Lechtman (1977) interpreted technological style as a bundle of activities accompanied by specific rules, which are learned and transmitted within the community. Therefore, technological knowledge is transmitted through knowledge-scapes, which are built and sustained by communities sharing knowledge (Matthiesen 2009; Meusburger 2017).

### ***Communities of practice and the chaîne opératoire as an interpretative tool***

When it comes to pottery technological knowledge transfer, a popular framework is that of ‘communities of practice’, conceptualized by Lave and Wenger while studying apprenticeship as a way of learning (Lave 1991; Lave and Wenger 1991). Essentially, communities of practice are groups of people who share common skills and ways of doing things, exchange knowledge and better their craft (Wenger 1998). Knowledge is transferred and absorbed by doing

and it inspires a sense of belonging to the community. A functional concept for identifying technological behaviours is the *chaîne opératoire*, which describes the life cycle of the production of an artefact, from the collection of raw materials to the various stages of production, often including its use and discard (Creswell 1976: 13). As a term, it was coined in the 1960s by Leroi-Gourhan (1964: 164), to describe “techniques [that] are at the same time gestures and tools, organized in sequence by a true syntax which gives the operational series both their stability and their flexibility”. Therefore, it describes all the steps in the production of an artefact along with the gestures and movements conducted during the production process. When it comes to ceramics, the *chaîne opératoire* mainly comprises the selection of raw materials, the preparation of the clay, the formation of the vessel, the surface treatment, the firing, but can also include the use and the re-use of the vessel, as well as its discard (Roux 2016: 101).

Ethnographic studies have contributed greatly to the studies of the ceramic *chaîne opératoire* and have displayed that spaces, social relations, and communication strategies are the learning context of communities of potters (Albero Santacreu 2014: 205–8). Gosselain (2018: 9–12) has proposed three types of relations between potters, that relate to different stages of the *chaîne opératoire*:

1. Clay extraction, processing, and firing are usually conducted on a communal basis and according to shared norms and knowledge. Therefore, similarities between them in different areas may point towards cooperation networks. They indicate casual, short and non-formal interactions that take place in shared practice settings such as clay sources and firing places, where potters can learn from one another about raw material procurement, processing recipes or tool usage.
2. The shaping and roughing out of the vessel, tool handling, or sensorial appreciation of materials, are processes that require specialized skills gradually acquired by learning from an experienced potter for an amount of time. According to ethnographic research, potters rarely change their techniques used during this phase, since they are based on motor habits (Gosselain 2017). Moreover, these motor habits are not visible on the final product, so they cannot be mimicked without long-term direct interactions between the potters themselves.
3. Pre-forming, decoration, pre-firing, and post-firing are processes visible on the finished pot, and the techniques to achieve them seem to be easily acquired and changed by ephemeral interactions. In other words, a potter can mimic the decoration of a vessel he saw elsewhere much easier than its shape. For



the shaping, the potter needs to know how another potter achieved it, while decorative motives can result from different techniques that require a certain degree of specialization. This type of contact is called mediated interaction.

## Methodology

Building upon the frameworks explained above, this paper investigates these types of interaction by comparing the steps of the *chaînes opératoires* of the RB/B wares at the three sites in question. For this, the RB/B sherds from the pottery reference collections of Lemba-Lakkous and Kissonerga-Mosphilia along with RB/B diagnostic sherds from Chlorakas-Palloures were studied. Excavations at Chlorakas-Palloures are currently ongoing, hence future finds may build upon the results of this research. Because of the nature of the dataset, which is comprised of numerous mainly small-sized sherds, a complete reconstruction of the *chaîne opératoire* for each site is not possible. Instead, all macroscopically visible traces of technological behaviours are recorded and combined with information from existing publications (Bolger et al. 1998; Hadjigavriel 2019; Peltenburg 1985).

## Results: Interactions between the Ktima lowlands' sites

### *Investigating casual interactions: Clay procurement and processing*

By macroscopically comparing the fabrics of the three assemblages in question, an insight into the first stages of the *chaîne opératoire*, such as clay procurement and processing can be attained, indicating sporadic interactions between the sites. To begin with, the fabrics of RB/B from Lemba-Lakkous are very distinctive due to their dark red to lighter red to brown colours, characteristic inclusions and brickly fracture. Inclusions include medium to coarse sized red and grey chert, sparse limestone and some angular voids. It has been argued that a standardized clay recipe was used for this ware, employing coarse-size red and grey chert and organic inclusions, as well as sparse limestone inclusions (Stewart 1985: 262).

Similarly, RB/B fabrics from Kissonerga-Mosphilia point towards a highly standardized clay recipe with red mudstone and often distinctive small and distinct blue-grey chert inclusions. Results from studies of comparable pottery from Kissonerga-Mosphilia and Souskiou-Laona suggest that a smectite/bentonitic clay or iron-rich clay source was most likely used (Bolger 2019: 171; Robertson 1989). Fabrics are orange to pink and have a sharp brickly fracture.

Lastly, in Chlorakas-Palloures, RB/B has a very characteristic hard fabric resulting from a highly standardized clay recipe and firing process. The clay is



in shades of red to pink. The author of this paper has macroscopically observed blue grit and red chert inclusions as well as small sparse limestone, quartz, and coarsely-chopped vegetal filler (also C. Paraskeva, pers. comm.) (table 1). The above point to the use of similar paste recipes and sources in all three sites. However, petrographic analysis is needed to further investigate this.

	Lemba-Lakkous	Kissonerga-Mosphilia	Chlorakas-Palloures
Fabric Colour	Brick-red and lighter red-brown	Orange-pink to brick red	Orange-red to bright pink
Fabric Hardness	Hard with sharp bricky fracture	Hard with sharp bricky fracture	Hard to very hard with sharp bricky fracture
Inclusions	Medium to coarse sized chert, red and grey. Sparse limestone and some angular visible voids	Coarse sized angular blue and red chert filler	Small sized sub-angular white quartz, rounded limestone and grey mineral. Small to large sized angular grey-blue and red chert and sparse coarsely chopped vegetal filler
Surface Treatment	Highly polished, occasional crazing and irregular reduction	Highly polished, occasional crazing and irregular reduction A variant with a white wash applied on the surface	Highly polished, occasional crazing and irregular reduction. A variant with a white wash applied on the surface
Decoration	Relief decoration: knobs and linear cordons. Here also the "Face pot"	Relief decoration: knobs and linear cordons	
Firing	Firing in very steadily rising high temperatures (650-800°C). Sometimes irregular diffuse core margins and irregularly blackened surfaces are observed. These may result from imperfect control of oxygen flow and rapid increase of temperatures at the beginning of the firing process, or intentional reversion of the atmosphere from oxidizing to reductive during firing.		

Table 1 Comparing RB/B variants from Lemba-Lakkous, Kissonerga-Mosphilia and Chlorakas-Palloures (after Bolger et al. 1998, Hadjigavriel 2019 and Stewart 1985).

### ***Investigating direct long-term interactions and shapes***

The vessel forming techniques and the repertoire of shapes are stages of pottery production that require specialized skills that can be transmitted and learned through long-term personal contact (Gosselain 2018). When similar, they point towards direct long-term interactions. Three techniques of vessel forming are observed in the Chalcolithic: (1) vessels directly modelled from a lump of clay, (2) vessels constructed through the use of coiling, and (3) vessels built with the help of other tools, such as moulds (e.g. baskets) (Stewart 1985: 267). Tracing these techniques macroscopically can be challenging. However, studies have concluded in several distinct traces which can be attributed to diverse techniques (Roux 2019: 168–202). For example, the first technique, where a lump of clay is slowly pressured and rotated in the potters' palm, can be observed when thumb marks are traced in the interior of the vessel. For the second technique, several coils of clay are stacked one on top of the other to form the vessel's walls (fig. 4). This technique can be recognized by touching the interior of the closed vessels and feeling whether there are alternating thick and thin bands (Roux 2016: 108).



Figure 4 Vessel forming techniques used in the Chalcolithic: vessels directly modelled from a lump of clay (upper) and vessels constructed with coiling (lower) (photographs reproduced with permission of Souzana Petri Crafts©).

In the case of RB/B sherds from the three sites in question, the first two techniques are the most prevalent. Sherds of small open thin-walled bowls seem to have been modelled from one lump of clay since thumb marks can be observed in a number of bases, and no traces of coiling have been recorded. On the other hand, when examining sherds of larger vessels such as jars, mainly rims and bases, evidence of coiling such as alternating irregular interior surfaces has been recorded by the author. In principle, in all three sites medium sized vessels were built with coils, while spouts, lugs and bases were added afterwards (Bolger et al. 1998: 144; Stewart 1985: 267).

Concerning the vessel shapes, RB/B wares from all three sites were mostly used for bowls, jars, platters, flasks, and spouted vessels. Several shapes, such as platters and flasks originated in the Middle Chalcolithic, but some are new, like thin-walled bowls with handles or lugs, various types of jars, and closed vessels with spouts (Bolger and Peltenburg 2014: 188; Bolger et al. 1998: 95, 121–122; Stewart 1985: 262). Overall, these three assemblages have more similarities than differences. Notably, almost every type of vessel is present at all three sites (fig. 5). However, there are also some rare vessel forms, such as the ‘pinch pots’ of Lemba-Lakkous which have not been recovered at any other site so far. At Lemba-Lakkous and Kissonerga-Mosphilia, thin-walled bowls are produced with standardized wall thickness and rim diameter. This increased standardization suggests a more organized pottery production, and it is even possible that the production developed out of a household production and demand for small-scale specialization. In this case, pottery was not made by everyone but by specialized artisans (Bolger 2007: 174; Wallace 1995). It is worth noting that a vast amount of RB/B vessels were found in the Pithos House in Kissonerga-Mosphilia, a building which may have had some hierarchical function or have been a communal storage space, due to its large size and the vast amount of pouring and eating vessels discovered there (Peltenburg 1998: 213–214, 253). Therefore, the production of the RB/B pottery might have been connected to social changes and transformations during the Late Chalcolithic and organized pottery production and specialization may have been part of the knowledge-scape of the region.

### ***Investigating mediated interactions: Surface treatment and decoration***

Surface treatment and decoration are aspects of pottery production which indicate mediated interactions between potters. The wares in question are all highly burnished, a process conducted after painting and/

or slip or self-slip treatment, using several tools like smooth stones or ceramic sherds with smooth edges. Such burnishers have been found in Chlorakas-Palloures and Lemba-Lakkous (e.g. Peltenburg 1985: cf. LL1026 and LL489).

At Lemba-Lakkous, RB/B pottery has distinct highly burnished surfaces and its colour varies between shades of red and brown. Burnishing marks are visible

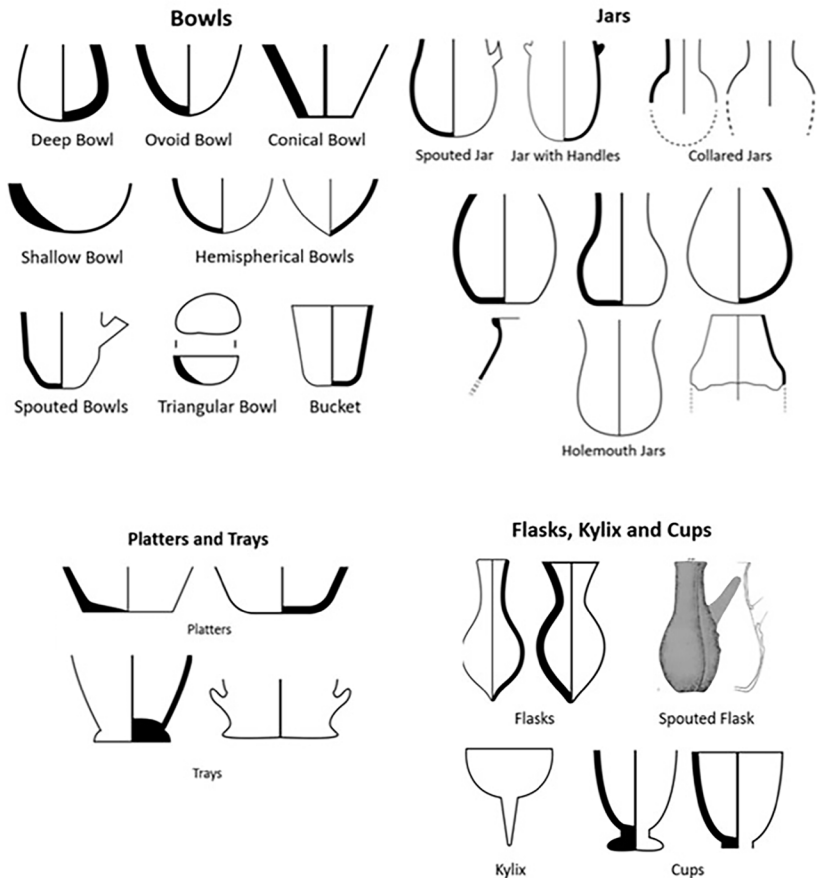


Figure 5 The most popular shapes of RB/B vessels at the sites in question (illustration not to scale; by Maria Hadjigavriel and Ermina Emmanuel after Stewart 1985 and Bolger et al. 1998).

and extreme burnishing often leads to surface crazing. The surface of the vessels is affected by the firing conditions as well. Limestone inclusions may spall on the surface. Irregular black marks are often observed on the surface, probably resulting from deliberate reduction during the firing process (Stewart 1985: 262). The RB/B assemblages from both Kissonerga-Mosphilia and Chlorakas-Palloures demonstrate the same surface treatment characteristics (Bolger et al. 1998: 121). It is worth mentioning that at both Kissonerga-Mosphilia and Chlorakas-Palloures an RB/B variant with white wash applied on the surfaces is present (D. Bolger and C. Paraskeva, pers. comm.).

RB/B pottery has relief decoration occasionally, an innovative decorative element. Relief decoration does not occur often in RB/B from Lemba-Lakkous, and the most popular patterns are relief linear cordons and knobs. Interestingly, on the so-called 'face pot' from this site, two relief linear cordons and two relief knobs were used to create two schematized eyebrows and eyes (Stewart 1985: 266). At Kissonerga-Mosphilia, a wider variety of relief patterns is attested, including relief ovals, thin bands, curvilinear bands and converging bands. At Chlorakas-Palloures, excavations so far have yielded some sherds with linear relief decoration and relief knobs.

The highly burnished and often reduced surfaces and the occasional relief decoration patterns occurring on all the relevant wares indicate mediated communication and exchange of technologies and knowledge among the potters of these sites. Moreover, the author has spotted one sherd from the Ktima Lowlands sites in the assemblage from Ambelikou-Agios Georghios, a site in the northern part of Cyprus, and several sherds that seem to belong to the red monochrome wares of the north and central Cyprus at Chlorakas-Palloures (C. Paraskeva, pers. comm.). This suggests that this kind of contact concerned other parts of the island as well. Therefore, landscapes of shared knowledge are diverse throughout the island, but are all characterized by intense influence and exchange of technologies.

## Conclusions

What can a comparative macroscopic study of the local variants of RB/B from these sites tell us regarding the nature and degree of contact and knowledge transfer between these communities? First, it is highly possible that the RB/B assemblages from the three sites belong to the same ware and share the same technologies of production, indicating close links between the three

communities. When it comes to casual interactions, the fabrics of all three assemblages seem to have been produced with clays from similar, or the same, sources and processed in comparable ways, resulting in unique fabrics that are only found in these sites. It is then possible that the potters from these sites were using the same clay sources, where they would meet, observe each other's work, and exchange knowledge and expertise. Additionally, potters may have been using similar clay recipes, methods, and raw materials. However, to understand the diverse fabrics and recipes in detail, petrographic analyses are needed.

Similarly, the almost identical repertoire of RB/B shapes leads to the conclusion that the inhabitants of these three sites were in close contact with each other, maintaining long term personal connections. The sharing of both vessel forming techniques and repertoires of shape are aspects of pottery production that would require great expertise and long-term, direct interaction between potters to allow enough time for learning processes to occur. The results of this research indicate strong affinities between the vessel forming techniques and vessel shapes of Lemba-Lakkous, Kissonerga-Mosphilia and Chlorakas-Palloures. Although the processing of the pottery from Chlorakas-Palloures is still ongoing, so far it seems that the vessel repertoire of the local RB/B variant agrees with the ones of the two neighbouring sites, although it is not identical.

Lastly, similarities in surface treatment and decoration point towards mediated social interactions between potters. In other words, potters would move around the island, or their finished products would be exchanged to other sites. In this way, they would encounter ceramics produced by other potters, and mimic certain stylistic characteristics that could be replicated. These stylistic influences do not require extensive shared technological knowledge and expertise, in particular for reproducing surface treatment and decoration. As it has been stated before, red and/or black burnished wares are present throughout the island at the time. These include Red Lustrous Ware and Red and Black Lustrous Ware from sites in the north, such as Ambelikou-Agios Georghios, and Fabrics A and E from Politiko-Kokkinorotsos in central Cyprus (Dikaïos 1962: 143; Webb et al. 2009: 189–237). Additionally, circulation of pottery across the island is evident in the material record, as Red and Black Lustrous Ware has been found in Chlorakas-Palloures, and at least two RB/B sherds in Ambelikou-Agios Georghios (Hadjigavriel 2019: 79). Hence, the occurrence of the RB/B variants is part of an island-wide process. However, the similarities of these variants show strong inter-site relations in western Cyprus.

Pottery in the Late Chalcolithic was produced on a household level with some evidence for a low-level specialized production in a workshop context. Therefore, we are not dealing with the mobility and interaction of one group of artisans but rather with the mobility of several people within the different communities. Such social interactions would include travelling for trade purposes, and to procure natural resources. Therefore, the Ktima Lowlands region in western Cyprus can be seen as a knowledge-scape within which communities of practice from different sites interacted and exchanged technological knowledge and know-hows to produce distinct variants of a clearly local ceramic tradition.

To conclude, the framework of knowledge-scapes is useful in examining the sharing of technological knowledge between the three sites in question. Even though there are differences, it is possible to suggest a shared knowledge-scape between the three sites, especially building on clay sources, recipes and techniques.

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