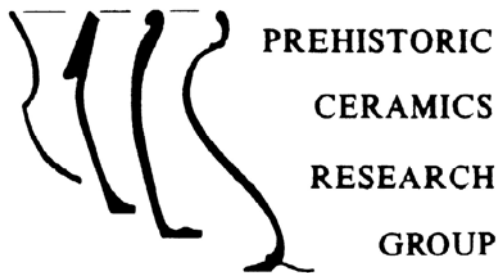


Prehistoric Ceramics Research Group: Occasional Paper 6

Breaking the Mould: Challenging the Past through Pottery

Edited by

Ina Berg



BAR International Series 1861
2008

This title published by

Archaeopress
Publishers of British Archaeological Reports
Gordon House
276 Banbury Road
Oxford OX2 7ED
England
bar@archaeopress.com
www.archaeopress.com

BAR S1861
Prehistoric Ceramics Research Group: Occasional Paper 6

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ISBN 978 1 4073 0344 4

Printed in England by Alden HenDi, Oxfordshire

All BAR titles are available from:

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THOUGHTS AND ADJUSTMENTS IN THE POTTER'S BACKYARD

Olivier P. GOSSELAIN

Abstract: This paper explores the dynamics of modern pottery traditions in southern Niger through the analysis of three steps of the chaîne opératoire: clay selection, clay processing, and shaping. Although technical knowledge is essentially transmitted between kin, and more specifically from parents to offspring, pottery traditions are far from being governed by mere inheritance. They are in fact strongly influenced by the context within which knowledge is put into practice and thus liable to be deeply and constantly readjusted by practitioners. I will show that the geographical space within which potters carry out their main activities and develop social interactions is dependant upon the dynamics of pottery tradition in both channelling the spatial diffusion of knowledge and influencing the symbolic meaning of technical practices.

INTRODUCTION

In this paper, I want to illustrate what has become a truism in technological and material culture studies: technical practices or objects are not intrinsically or univocally meaningful. Meaning is always situational – that is, heavily dependant on the context within which things, knowledge and know-how are acquired and put into practice (e.g. Bonnot 2002; Dobres 2000; Hoskins 1998; Jeanjean 2006; Keane 2005; Keller & Keller 1996; Knappett 2005; Lave & Wenger 1991; Tisseron 1999). Since what people think about their actions weighs heavily on decision-making, and, consequently, on the evolution of techniques and material culture, one cannot hope to understand such cultural elements, or exploit them in historical studies, without seeing them in their broader context.

Most pottery specialists would probably agree with the above. Yet, there still exists a tendency to consider pottery remains in isolation, and/or to confine pottery analysis to a restricted number of parameters, as if such elements were liable to tell complete and accurate stories about past people. As we all know, this may be far from true. In a famous paper on Nubian ceramics, Adams (1979) demonstrated how vessel forms and decors evolved independent of major historical changes through a whole millennium (for a similar example about Mauritania, see van Doosselaere 2005). On a different level, the techno-functional studies of the 1980s illustrated how over-reliance on a limited set of concepts and experiments borrowed from ceramic engineering led to interpretations that had more to do with modern western views of technology than actual history (as an illustration, see the recent re-examination of Mississippian shell-tempered pottery done by Pauketat 2001). In these cases, as in many others, taking a broader perspective would probably have helped to draw more (and better) information from pottery remains, or, at least, reach a more accurate picture of the past.

The complexity of potting practices has become especially apparent to me since I started new fieldwork in Niger.¹ In this region of Africa, pottery traditions display an amazing fluidity and are often tangled, without clear-cut relationships to social boundaries such as those I was confronted with during previous fieldwork in southern

Cameroon (e.g. Gosselain 1998, 2001). In fact, one cannot make much sense of Nigerien pottery traditions without considering the multiple facets of the potters' social identity, the historical processes that affected the area in the recent and more distant past, and the movements of individuals as a result of environmental and economical constraints.

Here, I will give a glimpse of the complex relationships between technical behaviour and social context, in focussing on the first stages of pottery *chaîne opératoire*, namely clay extraction, clay processing, and shaping. My main objective is to show that while technical knowledge is essentially transmitted between kin, and more specifically from parents to offspring, pottery traditions are far from being governed by mere inheritance. They are in fact strongly influenced by the context within which knowledge is put into practice and thus liable to be deeply and constantly readjusted by practitioners (the theoretical implications are discussed in Gosselain 2007).

FIELDWORK IN NIGER

Research in Niger started in February 2002 and has been pursued since then with one field season per year. So far, some three hundred and fifty pottery producing villages have been visited in the southern half of the country (where the larger part of the population resides), an area about 1,500 km long and 500 km wide (Figure 1). So far, more than six hundred potters belonging to a dozen of the main ethno-linguistic groups have been observed and interviewed. Data collected include biographical accounts, tools characteristics, materials and gestures involved at every stage of the *chaîne opératoire*, features of the finished products, technical vocabulary, potters' knowledge of local and exogenous traditions, and learning modalities.

ENVIRONMENT AND ECONOMY

The climate in southern Niger is of a Sahelian type, with a short wet season from May to August, and dry and rather hot weather during the remaining part of the year. Excessive dryness is recorded from February to April, a period during which the grassy vegetation disappears in

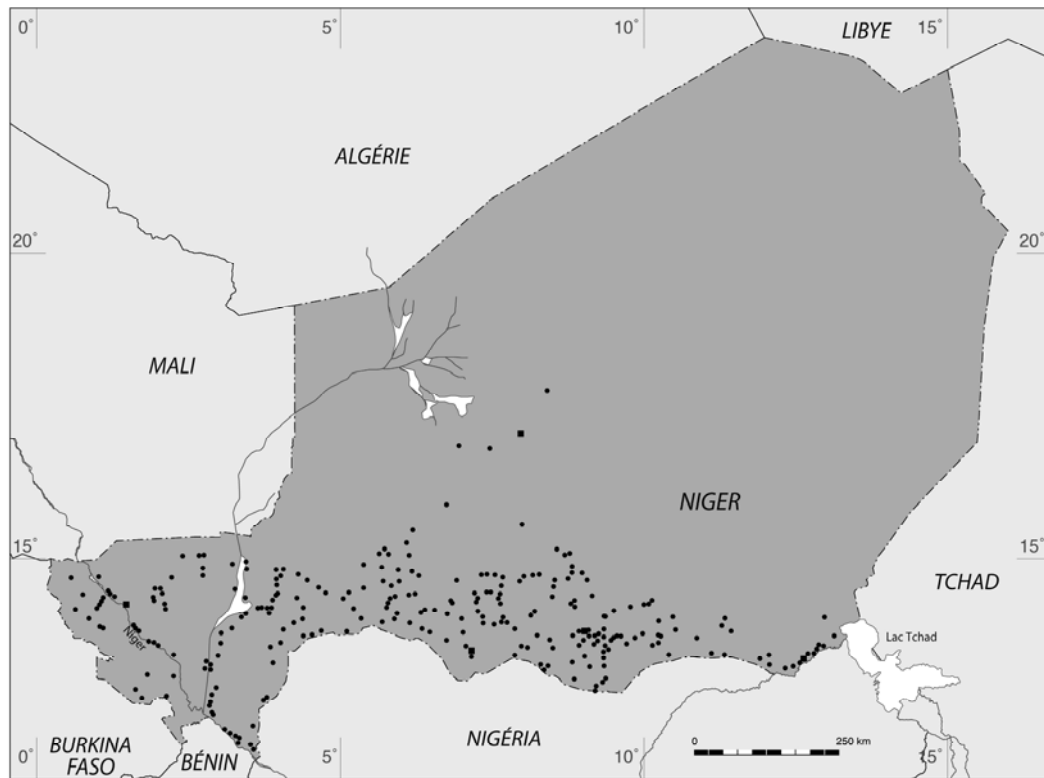


Figure 1: Research locations, Niger 2002-2007.

most regions of the country. In the south, the environment is mainly constituted of shrub savannah crossed by wadi and surrounded by hills. Much of this land has been colonized by farming communities for at last five centuries (Haour 2003; Sutton 1979), with settlements clustering around water resources. In the west, the Niger River was formerly exploited for fishing, but the main activity in the area is now irrigated agriculture (rice, tomatoes, cabbage, and lettuce), a branch of economy that has been booming in Niger for the last 20 years (Bastin & Fromageot 2007). In the east, water resources are scarcer as one approaches the Lake Chad area. Sand dunes progress southward, covering parts of the arable land. Yet irrigated agriculture is also developing, especially near the Nigerian border.

Apart from these areas or in the vicinity of large localities, cereal growing is the main resource in southern Niger. Millet and sorghum dominate the picture as they grow under dry conditions and in poor soils. Yet no crop cultivation is possible where annual rainfalls remains lower than 150 mm; that is, the northern two thirds of the country where people rely on mobile pastoralism (cattle, sheep, goats, and camels), and trade milk and meat for cereals. Alternatively, cereals may be acquired through the trading of other products, such as salt or craft goods.

Living conditions and economy are rather fragile in the Sahelian environment. Droughts, in particular, may cause severe damages, not only because of possible famines (as in 1973 and 1984), but mainly because they hamper the

production of food surplus, thus disrupting the economic equilibrium between communities. Yet even under normal climatic conditions, food surplus remains limited. Moreover, as cereals may only be sown during the wet season, production cycles are interspersed with long periods of time during which economic opportunities are scarce for local farmers. As a result, Nigerien populations have developed several coping strategies: the first is seasonal migration of regional or trans-national scale, usually undertaken by young males. Regional migrations consist especially of short-term sojourns into the southern regions or along the Niger River, where irrigated agriculture has become a major activity. Migrants also move to other communities in order to practice specialised activities such as teaching the Koran, aluminium smelting or pottery making (Gado 2000). Sojourns to the same localities are usually repeated throughout the years, and sometimes result in permanent relocation. Trans-national migrations concern longer sojourns to some of the main West African capitals (Abidjan, Accra, Lomé, Cotonou) where people usually find work through informal networks run by individuals of similar origin and/or ethnicity (e.g. Agier 1981; Rouch 1956).

The second strategy is trade, especially long-distance trade. For centuries — even millennia — Sahelian people have been engaged in commercial exchange across the northern part of the continent, trading gold, ivory, salt, clothes, iron ore, or leather goods (Devisse 1990). Trade is still a flourishing activity among some populations,

with large-scale importation of products such as enamel and plastic containers, TVs, radios, toys and foodstuffs from neighbouring countries (e.g. Grégoire 1991) as well as China and Dubai.

Craft specialization is the third strategy observed among Sahelian population, although this specialization should be viewed as the result of a long and complex history rather than a strict survival strategy (see contrasting views in McIntosh 1998 and Tamari 1991).

Finally, the adoption of irrigation techniques allowed the development of market gardening in several regions. Along the river Niger, for instance, market gardening has sharply increased during the last twenty years (Bastin & Fromageot 2007), leading to the colonization of new lands, migrations from communities situated inland and the emergence of a new destination area for seasonal migrants.

SOCIAL BACKGROUND

Drawing a language map is a near impossible task for southern Niger, as up to three or four languages may overlap in several regions, so that linguistic boundaries display blurred and shifting outlines.² Besides, most people speak at last two or three languages, including French and/or Hausa, a *lingua franca* for daily interactions. Hausa is currently spoken by twenty-five million people in West Africa. It has been constantly gaining ground in Niger, especially in the east — where it replaces the Kanuri language — the west and the central region. In these areas, the language shift may be accompanied by a shift in social identity (Salamone 1975). Hausa is indeed both a language and a powerful identity in West Africa, associated with Muslim orthodoxy, urbanity and wealth (Nicolas 1975).

A striking element regarding the linguistic situation is that languages are not a reliable index of identities. Besides the widespread adoption of Hausa by non-native speakers, distinctions may be made among people who share a similar language. This is the case of the Songhay, Zarma, and Dendi of Western Niger, who all speak Songhay but think of themselves as different peoples (Olivier de Sardan 2000).

Regional affiliation can also act as a salient expression of identity. For example, several populations designate themselves according to the name of the region where they live: Zarma of Zarmaganda, Hausa Aderawa, Hausa Gobirawa, Hausa Kanawa, Kanuri Damagaram, etc. Such designations not only serve to highlight cultural and historical differences within linguistically homogeneous groups, but may also be used to underline cultural affinities between different linguistic groups. This is the case of the Mawri population (Piault 1967), which includes Hausa- and Songhay-speakers of various origins.

Social status constitutes another form of identity in southern Niger, and is probably the most salient one in

some areas. Here again, the situation is quite complex. Among Hausa, for instance, numerous activities used to be hereditary and associated with distinct clans; nowadays, however, social stratification is essentially based on wealth (Nicolas 1975). Among other groups, such as Songhay and Zarma, social distinctions are often based on occupations, with nobles, farmers and craft peoples — especially blacksmiths, potters, weavers and carpenters — clearly separated from one another. These socio-professional subgroups practice strict endogamy, live in distinct districts or villages and have a specific social rank. They usually suffer from a low status and may be referred to as ‘slaves’ by nobles and farmers. In most instances, women potters are associated with blacksmiths; yet they can also be associated with weavers and bards in some regions.

Among Tuareg people, social classes comprise ‘nobles’, ‘warriors’, ‘craft peoples’, and ‘slaves’ (Bernus 1981). Each status is hereditary; the last two are the lowest, and are often confused in the mind of non-Tuareg people. Indeed, Zarma and Songhay refer to craft people and slaves alike as *Bella*, while Hausa call them *Bouzou*. In most of the Hausa country, and in several areas of the Zarma country, Tuareg settlers are neither stigmatized nor segregated. They are just jokingly referred to as “former slaves” and considered to be neither very wealthy nor rigorous in religious matters. However, marriages with the Hausa are not prohibited, and some Tuareg communities are currently engaged in a process of Hausaization by adopting Hausa language, dress, architecture, and even elements of the technical repertoire. Among those who practice social segregation, such as some Zarma and Songhay, the situation of Tuareg settlers is quite different. They are considered mere ‘slaves’, and only few ties exist. Paradoxically, they are also viewed as ‘masters of pottery’, their vessels and potting techniques being highly valued in the area, even in non-Tuareg potting communities.

CONTEXTS OF POTTERY PRODUCTION

In contrast with other regions of Africa, only a few potters practice the craft as a secondary activity in Niger. In most instances, pottery making is the main source of income for women scattered across the landscape or grouped in particular villages or town districts. The activity is mainly practiced during the dry season (January to April). Potters explain that this time of the year is more appropriate, as there are no agricultural works, clay sources are accessible and the fuel for firing vessels is drier. Many clarify that they may also work at other times, albeit on a purely casual basis.

Products are typically sold at local markets by the potters themselves, or distributed by middlemen in areas of up to 100 km range. With demand is still very high, especially for water jars and decorative pieces, some production centres have developed into small industries, either under compulsion from the government or NGOs, or following the development of lines of communication and the

progressive building of a regional distribution network (e.g. Mirria in eastern Niger; De Plaen 2006).

A different scenario is observed among Hausa Katsinawa. Here, male itinerant potters from Nigeria (e.g. Leoni & Prichett 1978; Nicholson 1929) have gradually settled in a dozen villages near the border, where ten to fifty individuals currently work year round in individual workshops. These potters produce a standardized type of water jug (tulu) generally bought wholesale by middlemen.

As regards access to the craft, I have already mentioned the frequent existence of socio-professional subgroups in southern Niger. In this case, pottery is only practiced by those born or marrying into the group that carries out such activity. In other instances, access is theoretically open to anyone, but one observes an overall tendency for intra-familial transmission (learning modalities are detailed in Gosselain 2007).

ASPECTS OF POTTERY TRADITIONS

Clay selection

At first glance, clay selection strategies in Niger are similar to those observed elsewhere in Africa (Gosselain & Livingstone Smith 2005), or in the world (Arnold 1985, 2005). First, extraction sites are very close to manufacturing sites (Figure 2): of the 206 clay sources that could be pinpointed accurately during fieldwork, one third lies within 1 km walking distance, two thirds within 3 km, and three quarters within 5 km. The maximum distance is 25 km. Second, transport is only on foot when distances are short: above 2 km, many potters use donkeys, carts, or cars; above 5 km, transport on foot has only been documented once. Third, sources tend to be located in areas used mainly for other purposes. For instance, extraction sites are usually established next to dwelling places, wells, gardens, or watering places. Above 2 km, most extraction sites lie in the vicinity of fields, fishing sites, marketplaces, or main roads.

A similar situation has been observed in southern Cameroon, where the correlation of extraction sites and other production areas was interpreted as arising from both the context through which clay sources were discovered, and a shared will of subordinating clay collection to other, more important activities (Gosselain 1998). In Niger, however, pottery making does not clash with other activities, as most potters work full-time during the dry season when farming is interrupted. That extraction sites are nevertheless located primarily next to fields, gardens and dwelling places must thus be related to contexts of discovery, and as such it is a clear indication that clay selection strategies are embedded in a web of other practices. The space within which clay is located and fetched (what Arnold (2005: 17) calls the “resource area”) should be viewed as part of a potter’s

‘space of experience’; i.e. the territory within which potters and/or members of their communities live, carry out activities, and develop social interactions. Having acquired an intimate knowledge of the area through experience, potters easily locate appropriate sources, either through hearsay (by far the most common situation), or through prospecting and testing. Continued use of the same environment reinforces the ties between people, specific resource areas and specific materials.

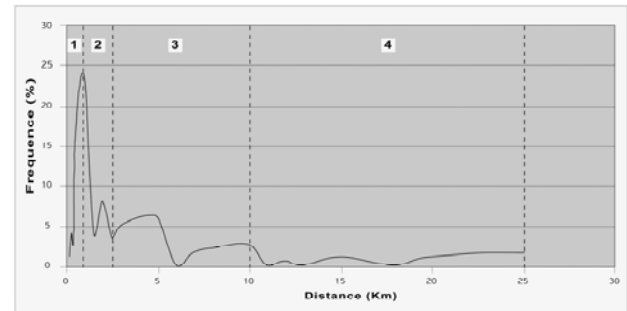


Figure 2: Distance between potters’ workshops and clay extraction sites (n=206) in relation to living and activity areas. 1) Dwellings; 2) gardens and wells; 3) fields; 4) peripheral markets and village communities.

As demonstrated above, resource areas are normally rather small in Niger — primarily because transport remains a strenuous task, even with donkeys. Yet, resource areas may extend considerably when connections exist with specific places or people. For example, several of the sites lying farther than 10 km are located next to villages where potters formerly lived and still have kin who they visit regularly. At the same time, distant sites are often the locus of inter-village exploitations: while only 15% of the sources situated below 3 km are shared by potters of different villages, this number increases to 25% for sources situated between 3 and 5 km distance, 44% between 5 and 10 km, and 62 % above 10 km. Such situations may result from potters’ willingness to pursue clay extraction at particular places after having relocated (see above). However, it may also be due to the reputation acquired by particular sources at a micro-regional level, and their subsequent adoption by potters living outside their ‘normal’ range of exploitation. Here, an increase in the time and energy spent for fetching clay would be compensated for by the quality of the finished products and, above all, the reputation acquired (or maintained) at market places (see a detailed example in Gosselain & Smith 2005: 33-4).

The last aspect that needs to be mentioned is the relationship between clay location and the scale and intensity of production. Some of the pottery centres visited in Niger stand out in this regard. Dozens or hundreds of potters work full-time during the dry season, producing hundreds or thousands of pots on a weekly basis that are sold on local markets and/or distributed by middlemen in more distant locations. In all these



Figure 3: The main steps in clay processing among Nigerien potters: 1) crushing, 2) drying, 3) soaking, 4) tempering, and 5) kneading. Steps 1, 2 and 3 are optional, 4) is undertaken in most cases and 5) is mandatory.

instances, clay is extracted within a walking distance of 0.2 to 1 km from the workshops, which would indicate a possible relationship between clay availability and craft intensity. It needs to be remembered, however, that one third of the sources visited in Niger lie within a 1 km range and are normally associated with less intense contexts of production. Thus, if clay availability is one of the factors favouring craft intensification, it is obviously far from being the overriding one (see also Costin 2000; Nicklin 1971).

Clay processing

Broadly speaking, clay processing involves five steps in Niger (Figure 3) - some of them optional: crushing, drying, soaking, tempering, and kneading. Here, I will focus only on tempering.

Of the eight types of tempering materials used in Niger, four are particularly mundane: grog (sometimes sieved into 'coarse' and 'fine' particles), cereal husk (millet, sorghum, rice), dung (donkey, cow, camel, horse) and a second clay (usually crushed and sieved). The other materials have a more limited use: *sa'kwa* (a sandy sediment), sand, fruit pod liquid, and ashes. All may be used independently or combined — which allows, in the field, for more than twenty different recipes.

In southwest Niger, sixteen different recipes have been recorded in fifty-four villages. These recipes are based largely on the use of grog, millet husk and dung (Figure 4). At a macro-level, the spatial distribution does not say much about existing social boundaries. For example, grog is used in nearly all villages and millet husk, whilst less widespread, has a spatial distribution that conceals local boundaries - be they associated with language, ethnicity, or geographic affiliation. Dung proves to be more ambiguous, as it is especially used in the northwestern part of the area by Songhay-speaking potters of the blacksmith sub-group. The use of this tempering material would thus constitute a form of technical signature for a specific social group. Dung additions, however, are also

recorded in two other areas among potters who have nothing in common with Songhay-speaking blacksmiths.

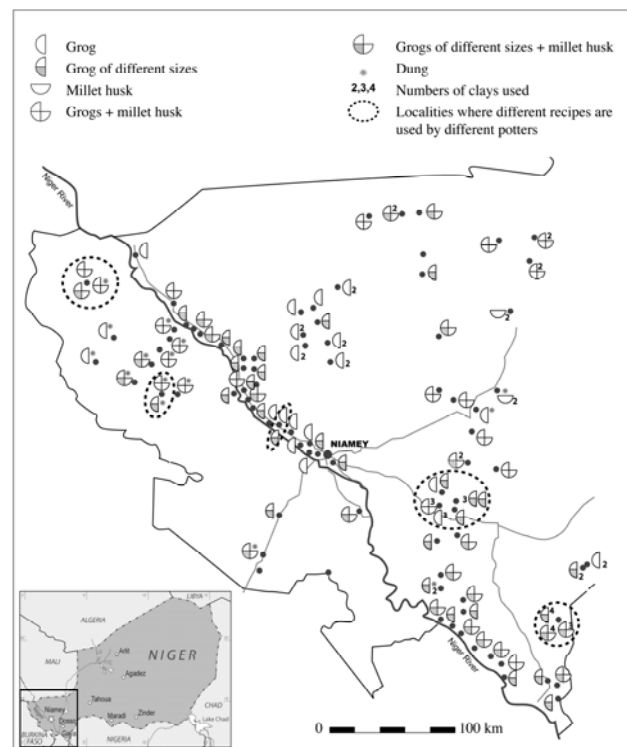


Figure 4: Spatial distribution of clay processing recipes in southwest Niger. Symbols indicate tempering materials either used separately or in combination.

To make sense of the distribution, one has to shift the scale of analysis and consider patterns at the level of micro-regions or even communities. In several villages (see dotted areas in Figure 4), for example, two or three different processing recipes are in use. This is especially puzzling, since potters exploit a similar clay source in each locality, and produce similar vessels. In each instance, however, those who use different recipes belong to different sub-groups: blacksmith, slaves, and farmers. When asked about this situation, they simply answer: "it

is only normal that we do not process clay in a similar way, since we are different”.

In-depth interviews show that many potters are actually aware of differences in clay processing recipes, and keen to relate them to specific social identities. Interestingly, such knowledge rarely concerns local people but, rather, members of other communities living in a radius of some fifty km. Besides revealing ‘who does what, and where’, field enquiries also show that knowledge acquisition has a strong spatial orientation: what is ‘known’ is not simply known from neighbours, but from frequenting (or hearing about) areas with which one has developed various kinds of ties (see below). What is important, is that knowing about other ways of doing often acts upon local practices. First, ‘foreign’ recipes may be incorporated as alternative repertoires which potters make use of for technical or social reasons. Confronted with a shortening of millet husk, for example, some will use rice husk or content themselves with grog, since they know that fellow potters use such materials with success. Also, newcomers in a potting community may be ‘gently pressured’ to adopt local norms, especially in contexts where people of low social status work together and try to distinguish themselves from one another. Lastly, processes of homogenization are observed around reputed pottery villages that seemingly act as ‘reference centres’ for neighbouring communities. As in the case of clay selection, adopting processing recipes associated with such centres would allow potters to acquire (or maintain) a good reputation at market places — a notion that was made explicit in several instances.

Thus, in southwest Niger, clay processing recipes seem to be widely perceived and used as technical expressions of social and/or communal identity. However, since the knowledge from which symbolic meaning and practices develop is built through experience within the very space where people construct their sense of identity and belonging, processes of technical homogenization operate at the micro-scale; that is, within a space considerably smaller than that traditionally considered in archaeology (see similar examples in Bowser 2002; Livingstone Smith 2000).

Let us turn now toward eastern Niger where a different situation prevails. With regard to tempering, similar materials are in use, except that grog is no longer sieved into ‘coarse’ and ‘fine’ particles, and two new materials — *sa’kwa* and *Acacia nilotica* pod pulp — make their appearance.

In east Niger, several regional groupings stand out clearly when mapping the use of these tempering materials (Figure 5). However, the ways in which these groupings correspond to aspects of social identity is less clear as their spatial distribution bears no relationship to linguistic boundaries. One must remember, however, that a large part of the area has been subjected to a process of ‘Hausaization’, with the consequence that the Hausa language distribution may obscure ancient and potentially

salient linguistic boundaries. Neither is correspondence observed with other types of boundaries, such as self-definition of ethnicity, social status, or geographical affiliation. Contrary to what was observed in western Niger, here only few people associate processing practices with specific social groupings. Finally, if there exist several pottery ‘reference centres’ in the area, their sphere of influence remains much smaller than in areas where tempering recipes achieved a certain degree of homogeneity. Other factors are clearly at work here.

To test the influence of knowledge circulation as related to the ‘space of experience’ of the potters (see above), I mapped the kinship network of all potters interviewed (Figure 6a). The places shown are frequently visited, meaning that the lines should not be read as directional arrows, but rather as actual reciprocal ties between communities. Four distinct clusters appear on the map: one to the east, one to the north, one in the centre, and one to the west. When comparing these clusters to the spatial distribution of tempering materials, one is faced with an amazing overlap (Figure 6b).

In eastern Niger, evidence thus shows that clay processing recipes tend to homogenize through kinship networks within large and bounded areas. These areas correspond to an aggregation of individual ‘spaces of experience’ structured through kin relations and interconnected through marriages and individual displacements. Seasonal migrations, in particular, appear to be a key factor in creating strong ties between distant communities and, ultimately, conditioning the orientation and developmental rate of family networks. While some of these migrations have been caused by climatic crises, others are intimately connected to the craft itself (e.g. potters settling for months in villages where nobody makes pottery) or to activities led by members of the potter’s family (e.g. Kanuri women married to Muslim scholars following their husbands on teaching trips that may last months or even years).

Unlike southwest Niger, no local or micro-regional processes of technical homogenization seem to be at work here, a fact that probably makes sense when considering that only a few potters belong to socio-professional sub-groups.

Shaping

Only two main shaping techniques are used in Niger: 1) moulding on a convex mould — usually an upturned vessel — with subsequent addition of coils (Figure 7.1); 2) pounding with a clay pestle on a mat-covered depression or a wooden mould, with subsequent addition of coils (Figure 7.2). With such a limited number of variants one should not expect to find exact correlations with social boundaries, as in other places of Africa (Gosselain 2000) or elsewhere in the world (e.g. Degoy-Thotakura 2005; Lefferts & Cort 2003; Pétrequin & Pétrequin 1999; Reina & Hill 1978). Indeed spatial distribution of shaping techniques does not seem to be

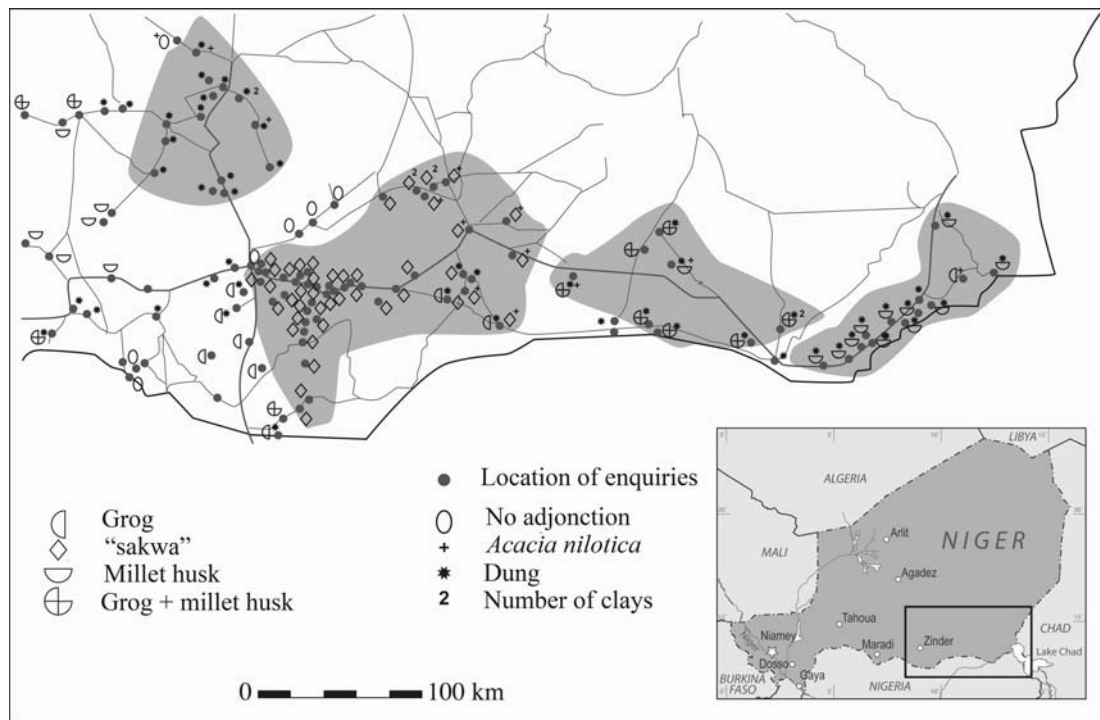


Figure 5: Spatial distribution of clay processing recipes in southeast Niger. Symbols refer indicate tempering materials either used separately or in combination. Shaded areas correspond to regions where a specific processing recipe is used consistently.

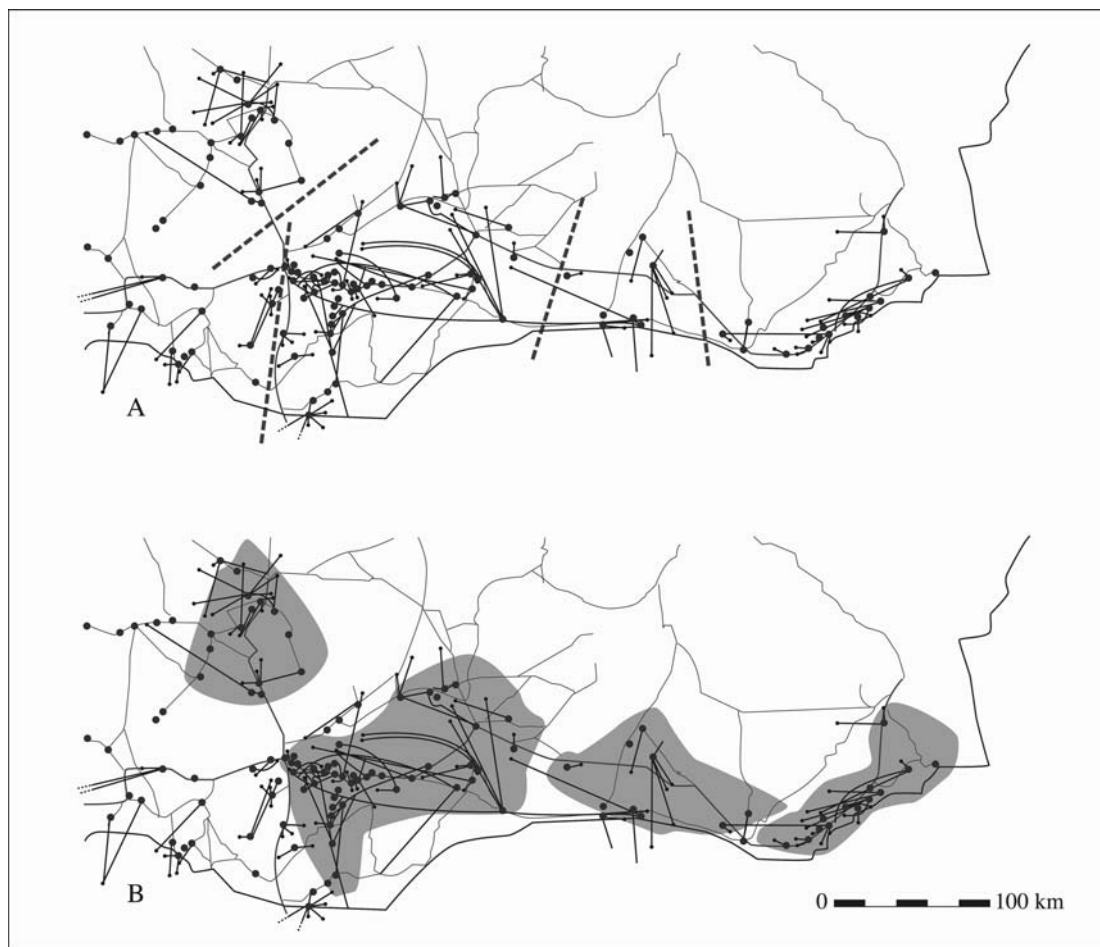


Figure 6: Family networks of the potters interviewed in southeast Niger (A), in relation to the four areas of homogenous distribution of clay processing recipes (B).

meaningfully patterned when considered at a macro-regional scale. In the western part of the study area, the only visible pattern is a strong connection between the pounding technique and Tamasheq-speaking potters. On the one hand, however, some Tamasheq-speaking potters use the moulding technique whilst many Songhay-, Zarma- and Hausa-speaking potters also use the pounding technique.



Figure 7: The two shaping techniques used in southern Niger: 1) moulding on an upturned vessel (note the use of the wooden paddle); 2) pounding with a clay hammer on a mat-covered depression.

As for clay processing, one must zoom into the map and consider what people do with and think about techniques to start examining practices. In the southwest, for instance, shaping techniques can be found in widely dispersed clusters, or are slightly mixed in some areas (Figure 8). One interpretation of such distribution is to reconstruct post-learning displacements of the potters currently active, or those of their teacher and teacher's teacher. These movements have apparently contributed either to the spatial expansion of a technique, or to its introduction in places (or areas) where another technique was already in use (Gosselain 2007). Considered alone, such evidence would thus indicate that shaping traditions spread mechanically across the landscape through peoples' displacements and marriages, and are reproduced mechanically from one generation to the next. Yet this is far from true. Actually, shaping techniques may be heavily invested socially, which has great consequences for their evolution.

The social significance of forming techniques becomes apparent when considering the passive or active knowledge that potters have of techniques other than theirs. This affects about one third of the individuals interviewed in southwest Niger (Gosselain 2007). Surprisingly, the technique of which they have only a passive knowledge is often assessed in very positive terms: it is a "better and faster technique", allowing one "to build the upper part of the vessel directly, instead of waiting for the lower part to stiffen", and "to produce lighter vessels". It is important to note that both the moulding and the pounding technique may be referred to

in those terms, so that what we are confronted with here are merely preconceptions. Also, the technique known passively is nearly always associated with specific populations. It is thus not simply conceived as 'another way of doing', but as a socially connoted tradition. The fact that the populations associated with the 'other technique' are often those that one also considers particularly skilled may explain why the technique has such positive connotations.

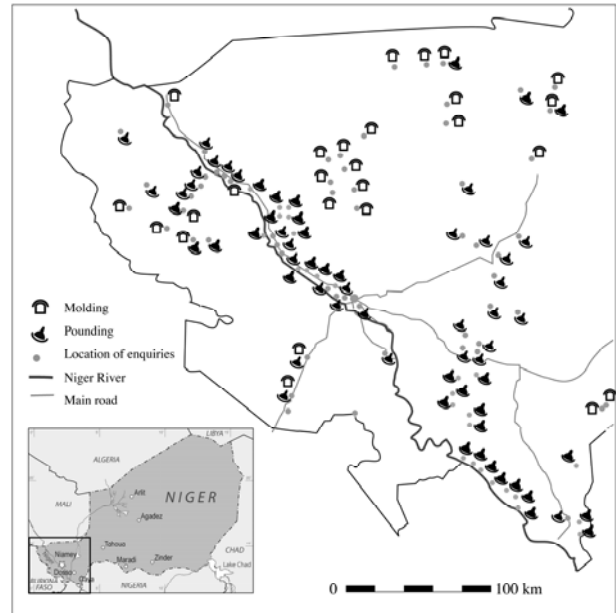


Figure 8: Spatial distribution of moulding and pounding techniques in southwest Niger.

This combination of technical and social value judgements leads to contrasting situations. The first example comes from Songhay communities where potters belong to the blacksmith groups and use the pounding technique. In one village, some women have borrowed the moulding technique from itinerant Bella potters (i.e. Tamasheq-speakers known as former slaves). They consider moulding to be both easier and faster than the pounding technique. Yet, they seem uncomfortable with that shift in technology. During field enquiries, they solely shaped pots through pounding, and did not make any mention of the moulding technique in interviews. It is only when asked about the presence of large vessels with characteristic moulding use wear marks that they admit to using this technique on a daily basis. Later, one of them explains that pounding "is the true Songhay technique". She adds: "This is the technique that I will teach to my daughters, as I learned it from my parents". Interestingly, another potter beats most of her moulded vessels on a mat during the last shaping stage. She explains that this allows her "to obtain a nice, rounded form". But the main consequence is the formation of mat impressions on the wall of the vessel, a feature that even non-potters associate with the pounding technique.

The above illustrates how shaping techniques may have consciously invested in them expressions of particular

identities; and these techniques are used for maintaining such identities from one generation to the next. Furthermore, potters may herald them in daily interactions, or — perhaps more importantly — allow them to contribute to the construction of the self in shifting from routines to reflexive actions (see Kaufman 2004: 173-87). However, if such identities conflict with the one born with and/or claimed by the artisan (as in the case of Songhay blacksmiths and Bella), the technological borrowing may be seriously hampered, despite perceptions regarding technical efficiency (see Gelbert (2001) for a contrasting situation in Senegal).

Another example comes from the Zarmaganda, east of the river Niger. In this area, moulding is the main shaping technique, but most potters know about the pounding technique (used by Bella potters along the eastern bank of the river), and many explain that they would adopt this technique if they could. In a village, a woman explained that her maternal aunt, already an experienced potter, settled for three years in a Bella village near the river, where she learned the pounding techniques. When she came back, in the early 1970s, she continued to shape vessels in that technique, but was unable to transmit her knowledge to other women in the village “despite all their efforts”. This may indicate that the time spent on learning was sufficient for her to master the technique, but not to become an efficient teacher.

Besides this attitude toward a foreign technique — in a context, it must be underlined, where potters do not suffer from a low status — what matters here is the spatial orientation of knowledge. Clearly, knowledge acquisition is not related to spatial proximity, but, once again, to the space within which people actually travel and develop social interactions. In the Zarmaganda, nearly all of those who know about the pounding technique say that they gained their knowledge while staying in Bella villages situated along the river during the dry season, or through discussions with individuals who (had) lived there. Here, the seasonal migration of inland farming populations, and the increasing habit of people to settle in river area plays a leading role in the circulation of knowledge. It explains why potters of the Zarmaganda are more familiar with the techniques used by potters from the west, rather than from the east, regardless of the distances between communities. Also, as Bella potters are considered as ‘masters of the craft’ and the makers of particularly valued products, one may understand why technical knowledge is associated with notions of ‘efficiency’ and ‘appropriateness’.

This connection of the shaping stage with various social strategies is one of the main conclusions arising from field observation. In my opinion, it helps to explain the temporal stability of shaping techniques and the frequent overlap with social boundaries in a more convincing way than factors such as motor habits and the spatial extension of matrimonial networks previously emphasized (Arnold 1981; Gosselain 1998, 2000). In most instances, stability appears to be deliberately sought by potters, which does not mean that shaping traditions

are frozen in space and time: like any other stage of the manufacturing process, they may also be modified through borrowing and innovation (see more examples in Gosselain 2007).

South-central Niger, an area where the distribution of shaping techniques tends to coincide with that of linguistic boundaries, provides an example of these processes (Figure 9). Here, Hausa-speakers systematically use moulding, while Tamasheq-speakers employ pounding. Yet, this pattern of distribution appears too clinical given the local intricacy of languages and social identities, and above all, the numerous and important processes of change that have happened during the 20th century. It is in this area, notably, that populations of Tuareg origin have been transforming themselves into Hausa — an ongoing process to this day.

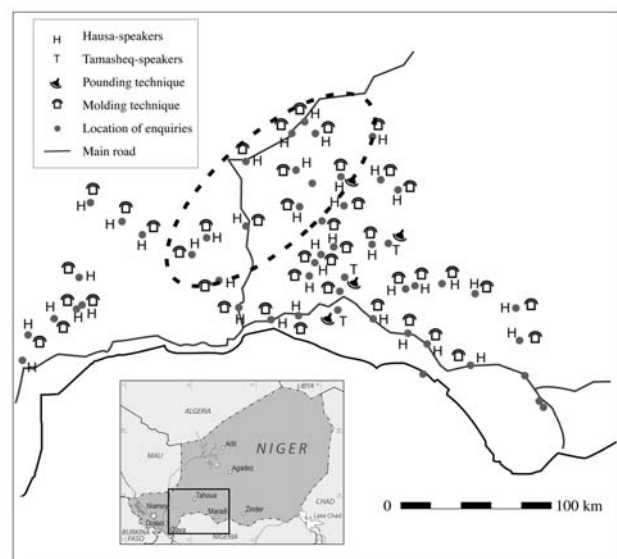


Figure 9: Spatial distribution of moulding and pounding techniques in south-central Niger. Symbols refer to technique(s) used in the localities under study; letters refer to languages spoken by the potters interviewed. Villages situated within the dotted area are those where potters are thought to have shifted to a Hausa identity.

More importantly, several potters reacted strangely when asked what they knew about shaping techniques other than their own. Throughout the area, the official opinion was that “moulding is for Hausa people, while Tuareg beat the clay in a hole” (that is, use the pounding technique). Yet not everybody was willing to evoke such a relationship, especially among potters who claimed to be “100% Hausa”. In a dozen communities (see dotted area in Figure 9), some potters became very evasive — even nervous — when questioned about the existence of the pounding technique, or that of clay hammers, a tool closely associated with the pounding technique. In short, it is my impression that among the social changes that took place in those communities, one of these changes concerns craftspeople of Tuareg origin who had shifted to a Hausa identity in order to improve their social position and consequently modified parts of their technical behaviour. This change would have been a way of

solving possible dissonance between a newly acquired identity and former technical practices. The problem is how to validate such a hypothesis empirically in a context where the people concerned vehemently deny having any ties with Tuareg communities.

Initially, I had hoped that clay hammers could provide the answer. As mentioned above, these tools are closely connected with the pounding technique. Yet, they are not exclusive to it. Several potters who shape pots through moulding use clay hammers instead of their hands, flat stones or wooden beaters for pressing the clay on the mould (note that the wooden beater is widely associated with both the moulding and the pounding techniques, but generally used during the later stages of the shaping process). My guess was that clay hammers could be the remains of a formerly used pounding technique. Looking at the distribution of the villages where clay hammers are used in association with moulding (Figure 10), a coherent picture emerges: with only one exception, all of the clay hammers are situated to the east of the study area within a zone that appears both bounded and rather homogeneous. Unfortunately, it is not the area where potters are reluctant to evoke the existence of the pounding technique, or where people are supposed to have shifted identity.

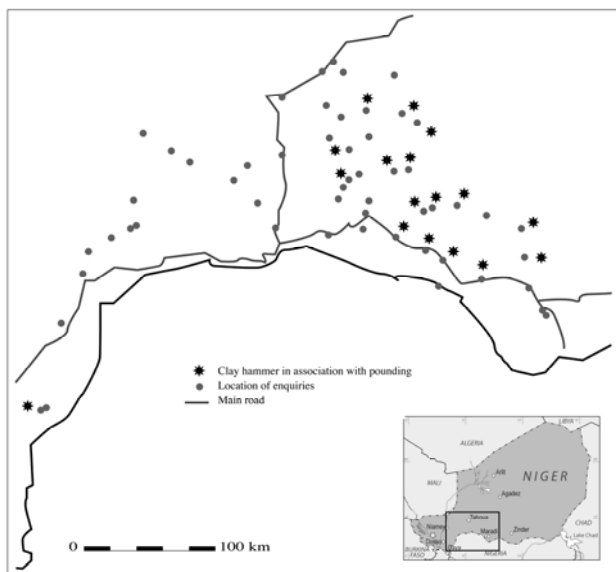


Figure 10: Spatial distribution of localities in south-central Niger where a clay hammer is used in association with the moulding technique.

Linguistic data provides a further confirmation of this lack of coincidence. Indeed, Hausa potters call clay hammers *dindinge* or *dundunge*, while Tuareg potters consistently use the word *dubum duba*. This name is also recorded among Tamasheq-speakers along the Niger River and inland, together with the more common word *dugum dugum*. Within the whole study area, the words *dindinge* and *dundunge* are exclusively associated with Hausa-speakers. As far as geographical or linguistic data are concerned, therefore, clay hammers cannot be

considered as remnants of a formerly used pounding technique.

A more telling picture emerges when considering another tool used in the shaping process, either in association with moulding or pounding: the wooden paddle. This tool is so mundane and widely distributed that people do not have much to say about it and rarely mention it spontaneously in interviews. As seen in Figure 11, several vernacular names are used for wooden paddles throughout the study area, the commonest being *fillim fillim* /*fullum fullum*, and *mèha:di/mèhèrha:di*. The first pair has a well-bounded distribution, located in the heart of the study area; that is, precisely where potters are believed to have shifted identity. It is also the sole example of a name shared by both Hausa-speakers and Tamasheq-speakers. Even more interesting is the fact that in other regions of Niger, and notably in the southwest, *fillim fillim* /*fullum fullum* is systematically used by Tamasheq-speaking potters – potters whose origin can be safely reconstructed as Tuareg. The name given to wooden paddles by potters claiming to be “100% Hausa” is thus likely to have a Tamasheq origin, a fact that contradicts the absence of any ties with that population, as vehemently claimed by local Hausa potters. Further evidence is provided by the rounded stones used as hammers/anvils by potters who shape vessels with the moulding technique. In the centre of the study area — where the term *fillim fillim* /*fullum fullum* is also in use — this stone is called *tabelalia*, a word that cannot be translated into Hausa, but is very close to the Tamasheq word *tablalt*, designating a rounded stone (A. van der Veken, pers. com., October 2006). It seems very likely, therefore, that the word was borrowed from Tamasheq and transformed into Hausa.

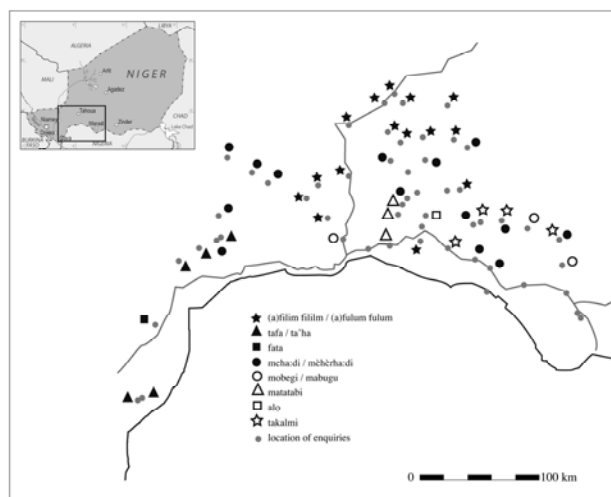


Figure 11: Spatial distribution of vernacular names given to wooden paddles in south-central Niger.

Whilst all I have so far is a limited number of clues, pertaining mainly to technical vocabulary, I believe that in villages situated in the centre of the area, many (if not all) potters descend from Tuareg families engaged, for several decades, in a process of Hausaization. Social value judgements attached to technical practices have led

them to modify parts of their technical behaviour, and, seemingly, the technique used for shaping vessels. This shift would have been caused by a shared willingness to eradicate a possible technical stigma, and acquire a powerful media for shaping/broadcasting a new identity through daily practice.

CONCLUSION

The above case studies clearly show the remarkable fluidity and embeddedness of Nigerien potting traditions. As with any technical activity, pottery making in Niger consists of an organized chain of 'situated actions', during which knowledge is put into practice in a specific social and environmental setting (Lave 1988). If the nature of such knowledge is important, so is the context within which it is 'materialized'. Individual perceptions and value judgements, the physics of materials, the nature of social interactions, and environmental parameters are all likely to bear upon 'what is done' and, consequently, to alter to a greater or lesser extent 'what was known' before the technical action took place (see Keller & Keller (1996) for an outstanding example of the dynamics of knowledge arising from the daily interaction of mind and body in blacksmithing).

Here, given the nature of the technical actions under consideration and that of the data gathered in the field, I placed the emphasis on a particular element of context: the 'space of experience' — that is, the space experienced by individuals through daily chores, seasonal migrations, family network, economic exchanges, travels, etc., around which a sense of identity and belonging is built, together with knowledge and representations pertaining to the activities that take place within it. We have seen, for instance, that clay extraction sites lie in places already exploited/frequented for other purposes, and may only subsequently become a primary cause of attraction if the villages they are associated with become reputed pottery centres. Such an embeddedness of clay extraction sites channels the knowledge that potters have of their environment, and may even transform what was initially simply a convenient location into strong and focused perceptions regarding both the type of materials exploitable for pottery making and the environment where such materials are likely to be found.

As the next stage of the manufacturing process we investigated tempering recipes. Here we saw that knowledge of non-local tempering recipes leads to them being invested with expressions of social identities, and subsequent adjustments and borrowings in materials. Of particular interest here is the effect that socio-professional status and its spatial distribution have on the dynamics of processing recipes. Where pottery making is constitutive of the potter's identity, individuals take great care to avoid blurring social boundaries through using inappropriate processing recipes. They do so according to what they know about other ways of doing and what they perceive as meaningful boundaries in their space of experience. These two phenomena occur at a micro-scale

and consequently translate into very localised processes of technical homogenization. Conversely, where potters' identities are not at stake — because pottery making is just a source of income — processes of homogenization occur at a larger scale, as a by-product of potters' interactions within their individual spaces of experience. In southeast Niger, such an aggregation is achieved through kinship networks, but other structuring forces could be envisioned.

Finally, at the next level of the manufacturing process — shaping — we saw how these practices were related to the personal biography of potters (they are explicitly perceived as a family or group inheritance) and to the social setting within which the work is carried out. Here again, what potters know about other ways of doing and the possible relationships between techniques and social identity impacts on the dynamics of shaping traditions, but does so in contrasting ways. The spectrum in south Niger ranges from Songhay potters of the blacksmith group who hide practice of a technique borrowed from 'slaves' who they perceive to be of a lower social group, to Zarma potters who seek to borrow a technique associated with artisans viewed as the 'masters of pottery' in the area, and to former Tuareg potters whose shift in identity could have implied the deliberate borrowing of a technique associated with Hausa. What matters here is that self-awareness about technical procedures has the ability to turn a routinized and mundane activity such as 'shaping a pot' into a powerful tool for defining oneself and expressing group identity.

More than the technical dynamics, however, set in motion, what I want to underline here is the broader significance of the phenomena. First, archaeologists should be happy to see that the importance given daily to mere pots and pans may actually be shared by the people who made these pots. Indeed, if potters are inclined to see manufacturing techniques not just as 'ways of doing', but as 'social signatures' that must be either carefully reproduced, adjusted, or forged according to circumstances, so should archaeologists. A lot of information may be drawn from a combined examination of various levels of the *chaîne opératoire*, which should compel us to explore technical parameters in a more systematic way. As illustrated here, such an exploration should be done in consideration with other elements of the archaeological context, among which the space experienced by individuals throughout their lives — and, hence, the scale at which social interactions develop — occupies a prominent position.

Second, the Nigerien example demonstrates the fallacy of the usual dichotomy between modern western societies, where self-reflection and self-identity is said to dominate the picture (e.g., Giddens 1991; Kauffman 2004), and traditional societies', supposedly governed by an "infraconscious social memory" and inherited group affiliation. This tacit division is one of the funding elements of ethnoarchaeology (Lane 2005) and one of the reasons why this research program has failed so spectacularly — to quote Cunningham (2006). Potters

observed in Southern Niger clearly *think* about what they do in daily practice, and do not reproduce mechanically what they were taught when initially socialized into the craft. Moreover, they exploit techniques in order to position themselves socially or economically and, occasionally, build new identities — just as modern westerners do. We should keep this in mind when considering the archaeological record, and avoid maintaining a fictitious link between prehistoric and exotic societies.

AUTHOR'S ADDRESS

Olivier P. GOSSELAIN
 Centre d'Anthropologie Culturelle CP 124
 Université Libre de Bruxelles
 44 av. Jeanne
 1050 Brussels
 Belgium
 olivier.gosselain@ulb.ac.be

NOTES

1. <http://dev.ulb.ac.be/crea/AccueilFrancais.php?page=Niger> provides details.

2. http://www.ethnologue.com/show_map.asp?name=NE for details.

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