Chapter 11
Fine if I Do, Fine if I Don't. Dynamics of Technical Knowledge in Sub-Saharan Africa

Olivier P. Gosselain

Introduction

In our "global village," things and practices are currently diffused over such large areas that few, if any, relationships seem to exist anymore between their spatial distribution and salient cultural boundaries. Global products, such as powder milk, canned fish, or digital watches, are found everywhere, from the fringes of Greenland to the heart of the rainforest, as are cities congested with Japanese cars, boys impersonating the football star of the day, or adults greeting each other with a handshake. These elements have given rise to a form of "world cultural landscape," so pervasive in our daily experience that we do not pay attention to it anymore.

Such patterns of distribution have the propensity to make us feel elated or threatened, depending on our political stance. More importantly, it compels us to pay better attention to the way in which we envisage the relationships between material culture and social boundaries. Is this "blurring" really a new phenomenon? And if so, does it really proceed from the large-scale distribution of cultural traits? Are there conditions under which the spatial distribution of material elements would coincide with salient boundaries? After all, the quest for material correlates of social identities may be just another one of those chimeras pursued by archeologists and anthropologists. A quest that feels especially attractive for those who are confronted with material documents, but a groundless quest all the same. Well-advised historians and art historians, for example, have already warned us against the ineptitude of these "tribal styles" that are highlighted in museums or luxury publications (e.g., Bravman 1974; Frank 1998; Ravenhill 1976; Strother 1998). Archeologists and geographers have also underlined the difficulty of trying to connect things, people, and territories (e.g., Bromberger and Morel 2001; Jones 1997; Stark 1998).

Yet, when pushing the question a step further, one gets the feeling that the issue should not be discarded too prematurely. In particular, part of our difficulty in finding

O.P. Gosselain (✉)
Centre d'anthropologie culturelle, Université Libre de Bruxelles, Brussels, Belgium & GAES, University of the Witwatersrand, Johannesburg, South Africa
e-mail: olivier.gosselain@ulb.ac.be

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relevant relationships between material culture and social boundaries could be due to the fact that we tend to consider "objects" and "practices" indistinctly, and pay too much attention to transmission processes in culture dynamics, at the expense of appropriation and practice. Let us consider football, which is an element of the Western "culture" that has been exported all over the world and that casual observers perceive as (boringly) homogeneous. Indeed, the basic modus operandi and rules are the same everywhere, as is the equipment of players, thanks to warlike marketing strategies. When paying closer attention, however, one observes important differences in postures, gestures or the collective construction of the play. These differences allow, for instance, the distinguishing of the Super Eagles of Nigeria from the Squadra Azzurra of Italy or the Red Devils of Belgium. That is they enable us to identify a series of micro "football cultures" whose spatial distribution may match that of national institutions. How these distinct "cultures" arose is a question that may prove more important in historical and anthropological terms than finding the original locus of football practice and the geography of its diffusion. Naturally, things had to be initially transmitted and mastered for the diffusion to take place, which involved interactions between people. As the nature of these interactions, as well as the identity of the people involved, is highly variable, differences occur in the scale and morphology of spatial distributions (see Bocquet-Appel et al. 1996; Zeebroek et al. 2008) that, in turn, inform us about the history of the diffusion process. But the story does not end there. Once introduced, innovations are inevitably submitted to a process of appropriation, which means both inserting them in preexisting logics and generating new logics from their use (e.g., Miller 1997; Wenger 1998; Zeebroek et al. 2008). Of particular importance in that regard, it is the way in which people use the newly introduced elements in social strategies. Tangled in the ever-changing world of social relationships, diffused items start a new "life trajectory" that profoundly alters their nature and allow them, despite large-scale distributions, to become accurate indexes or social boundaries. Studying the dynamics of transmitted elements, therefore, is not only a way to explore historical processes, but also a way to gain a better understanding of the social dimension of technical practices and material culture – as splendidly illustrated by Lave and Wenger (1991).

In this chapter, I illustrate the dual nature of culture dynamics through the example of pottery techniques in Africa. Relying on observations that I have made for the last 2 decades, as well as a considerable database of ethnographic observations made since the beginning of the twentieth century (Gosselain 2008a), my aim is to focus on the context and process of knowledge acquisition. This means, first, documenting the conditions under which people are introduced to craft, and second, the conditions under which the acquired knowledge is put into practice. This second aspect is fundamental. It allows us to shift from a perspective that eschews contingency and reduces the analysis of culture dynamics to that of transmission processes, to one that sees traditions as situated practices that are not just acquired at a precise moment in time but are continuously reassessed as people engage in daily practice (Bowser 2002; Bowser and Patton 2008; Dobres 2000, 149–52; Gosselain 2008b; Lave 1996; Lave and Wenger 1991; Wenger 1998). As we see throughout this chapter, "reflexivity" on technical actions (see Lenclud 1997) is a key to understanding their dynamics.

Acquiring Knowledge and Skills

As is often emphasized, pottery making is mainly a family and female activity in Sub-Saharan Africa (Drost 1968; Gosselain 2002, 21–31). This means that knowledge is handed down first and foremost among female relatives and very often within the nuclear family. Overall, the proportion of people undergoing apprenticeship outside the sphere of the family is minor, but it may turn out to be high among certain populations. This is due to modifications of the socio-economic context within which the activity is practiced (e.g., Gosselain 1999), or to particular social practices. In northern Cameroon, for example, Delneuf (1991, 72) observed that the choice of actors for the transmission of potting knowledge is due to family lifestyles: continuous education with the mother in non-Islamic and non-Fulani ethnic groups, and education outside the family sphere among Islamic women and especially among the Fulani. Among the Luo of Kenya, women generally marry outside the locality where they were born and are subjected to a resocialization process under their mother-in-law's supervision. If the mother-in-law is a potter, the newlywed will learn the trade at her mother-in-law's side to show that she is ready to integrate into her new family (Herbich 1987).

Another characteristic of pottery making is its accessibility to everyone in most Sub-Saharan populations. In theory, those who desire may learn and practice the trade, as long as they find someone who agrees to pass on her/his knowledge to them. If in practice the activity remains in the hands of certain families or certain groups of individuals, it thus takes place outside of any institutional monopoly. The situation differs dramatically in a series of societies from West Africa, the Lake Chad Basin, the Darfur region of the Sudan, and the Horn of Africa. Here, pottery making is the prerogative of a small number of specialists, who practice endogamy and benefit from a particular social and symbolic status (Barley 1984; Drost 1968; Frank 1998; Gallay et al. 1998; Lyons and Freeman 2009; Sterner and David 1991). This type of restriction does not necessarily have an impact on the identity of the people involved in the learning process. As in other societies, the initial transmission generally concerns relatives, and it may not even be mandatory. What matters is that the number of "specialists" is sometimes very low in certain localities or in certain regions, which, due to strict endogamy rules, can force an artisan to travel long distances to find an appropriate spouse. Such a phenomenon obviously has an effect on the spatial dispersion of traditions (e.g., Haaland 1978; MacEachern 1998).

Whatever the social context within which the activity is practiced, apprenticeship most often takes place during childhood, between approximately 6 and 12 years old. Those who acquire their knowledge outside the family sphere generally do so as adults, but field observations indicate that the belated character of the apprenticeship has no fundamental influence on the mastery of knowledge and expertise. People interviewed in the field stress the quality of the relationship between the person passing on knowledge and the apprentice: they must get along with each other to ensure a successful apprenticeship. If this is not the case with the apprentice's mother, father, or close relative, then (s)he will seek somebody else.

Available data indicate that the actual process of learning must be broken down into at least two phases. During the first phase, the apprentice assists established artisans during certain stages of the manufacturing process: clay extraction, clay processing, fuel collection, setting the firing structure, and removing and treating the vessels after firing. If need be, an apprentice may be given responsibility for operations considered tiring but uncomplicated – for example, extracting clay or crushing shards for grog. This participation is important because it allows the apprentice to become familiar with materials, collection sites, recipes, and the physical characteristics of clay. (S)he also becomes acquainted with the symbolic and social prescriptions linked to certain stages of pottery making. Few people, however, consider this participatory phase as a "true apprenticeship," since it is not explicitly directed toward the acquisition of knowledge. They do not know either when it actually begins or ends, and hardly mention it when asked to describe how they learned their trade. Another important aspect of this first learning phase is that the operations that apprentices participate in are usually led on a communal basis, which means that what they learn correspond to the shared norms of a particular group, be it a family, a local socio-professional grouping, the potters of a whole district, etc. Apprentices are thus initially trained to conform to local norms, which may have important consequences at a later stage of their life if they relocate in a new community. Lastly, there is no particular order to what apprentices learn during the participatory phase. As illustrated by Lave and Wenger (1991, 96): "[p]roduction activity-segments must be learned in different sequences than those in which a production process commonly unfolds, if peripheral, less intense, less complex, less vital tasks are learned before more central aspects of practice."

Clearly, the "more central aspects" of pottery making pertain to the shaping operations, usually subdivided into the "roughing out" and "preforming" stages. Here, the acquisition of relevant skills leads the apprentice to enter into a much more formal phase – which many consider as the true *moment* of apprenticeship. Field observations and potters' testimonies indicate that the change first becomes evident in the protagonist's attitude: up until then, the apprentice had a mainly playful relationship with shaping pottery; (s)he played with clay, but did not really seek to make a vessel. If (s)he is sufficiently motivated[1] and "gifted" (notions that crop up constantly in interviews), the teacher redirects the game toward the acquisition of expertise and adopts a much more active role with her/his pupil. There is clearly a shift of status at this stage, which some potters signify by submitting the apprentice to an initiation (e.g., Hauenstein 1964; Knops 1959; Quarcoo and Johnson 1968) or giving her/him an emblematic tool. Among the Nama blacksmiths of Dia (Mali), for example, young female potters receive a terracotta tournette, made by the person who takes them into apprenticeship. They keep it for life. Similarly, female Songhay, Zarma, and Bella potters in Niger, who use the pounding technique for

[1] The notion of "motivation" covers a great number of factors as demonstrated by Wallaert (2000, 2008).

shaping the vessels, often receive a small terracotta hammer when they begin their apprenticeship. They later inherit their mothers' hammers – treasured objects that potters hand down from one generation to the next.

Whatever the context, the apprentice first endeavors to rough out small wares, miniature models of those her/his instructor makes,[2] or wares for particular purposes, such as saucepans, piggy banks, and incense holders. These first attempts rarely meet with success: the walls collapse, the pressure exerted is too weak or too strong, etc. To help the apprentice overcome these difficulties, the instructor must go beyond the role of a simple model: (s)he works alongside the apprentice, correcting errors and ill-executed movements and, quite often, holding the apprentice's hands so that (s)he can physically sense the correct movements and hand positions. Those questioned stress the importance at this level of the relationship between the instructor and the apprentice: for knowledge to be passed on correctly, there must be respect, patience and, from the point of view of the one passing on the knowledge, a mixture of severity and benevolence.

At the end of this phase, which can last from a few months to a couple of years, the apprentice has assimilated all the movements and postures linked to shaping, but it is only very progressively that (s)he goes on to make bigger wares. Most of the people questioned explain that what happens afterward is a "matter of practice." They especially emphasize the stability of their technical behavior: "I do as my mother/father did," they say, no matter where they came to live after learning the craft or what their life trajectory was. Some even stress that change should not occur at all, as any modification in the manufacturing process may jeopardize its outcome.

Scales and Asymmetries in the Distribution of Technical Behavior

The emphasis put by potters on the stability of technical behavior is an interesting situation for archeologists. Indeed, if, on the one hand, the transmission of pottery traditions usually occurs between closely affiliated individuals at a particular moment in their lifetime, and, on the other hand, such traditions are not submitted to postlearning modifications, they should thus propagate as whole packages through space and time, along familial networks and according to individual movements. Given that female individuals essentially move for matrimonial reasons in rural Africa, and that marriage mostly occurs between people who belong to the same social group, the distribution of pottery traditions should then coincide with major social boundaries, such as languages, political units, or socio-professional subgroups.

The problem is that they do not. There are rather few coincidences with such boundaries, be it at the level of techniques, tools, materials, or finished products

[2] These wares are sometimes marketed as toys, which provides an incentive for apprentices to pursue in the learning process (Etienne-Nuge and Saley 1987; Owusu-Ansah 1973; Traoré 1985).

(see illustrations in Berns 1989, 2000; Frank 1998; Gelbert 2001, 2003; Gosselain 2008b; Sall 2001, 2005). Moreover, one does not observe any coherency between the elements that constitute each pottery traditions. In fact, the technical characteristics pertaining to *each* stage of the manufacturing process tend to be distributed according to their own mode and to evolve at their own pace.

Clay extracting and processing techniques differ usually from one region, village, district, or even family to the next, regardless of other existing boundaries. Among Baatonu-speaking people of Northern Benin, for instance, potters knead the clay with a pestle in a raised wooden mortar, as do their Boko- and Pila-speaking neighbors. We are thus faced with a regional tradition whose distribution crosses salient cultural boundaries. Within this area, however, I recorded seven different recipes for preparing the clay paste, some being used in a series of villages, others in a single community or even a single family. A similar situation has been recorded in Yorubaland (Fatunsin 1992), Northern Cameroon (Livingstone Smith 2000), and many other parts of Sub-Saharan Africa (see examples in Gosselain 2002, 75–77). In fact, the spatial distribution of clay processing recipes is seen to operate simultaneously at two scalar levels (see discussion and examples in Gosselain 2010; Gosselain and Livingstone Smith 2005; Livingstone Smith 2000). The first pertains to the ingredients used as "temper," such as grog, cereal husk, dung, crushed stones, etc., or basic processing operations, such as drying and crushing, sieving, foot tramping, or hand kneading, etc., whose variations are seen to spread over areas that generally exceed several hundred kilometers. The second scalar level pertains to the singular combination of particular "tempers" and processing operations, that is, the actual processing "recipes." Here, variations may be regional or subregional, but they mainly develop within micro spaces, such as a district, a village, or a string of villages.

In regard to firing and postfiring operations, technical variants are also distributed in a very heterogeneous way. Potters from the same district, village, or string of neighboring villages may use similar fuel materials, structures, and/or tools, while others who speak the same language and belong to the same subgroups use other materials, structures, and tools. In the Hausa village of Jiratawa, Southern Niger, for example, male potters of the Roumawa district fire the pots with millet stalks in large ovens, while those of the Dakawa district fire them in the open with a combination of straw, dung, and wood. Interestingly, they all produce the same highly standardized water pots and use similar techniques at other steps of the manufacturing process. Other examples of intra-village variations exist in the ethnographic literature (e.g., Kientega 1988; Manessi 1960; Schott 1986). But variations may also occur at a micro-regional level, such as the "elevated bonfire" in the northern part of the Great Lakes region (Gosselain 2002, 157–158), within ethnolinguistic boundaries (e.g., Lawton 1967; Priddy 1971; Strybol 1985; Thiam 1991), or according to gender (e.g., Kientega 1988; Kreamer 2000; Zouré 1999).

Ornamental traditions are even more complex in terms of spatial distribution. Some motives may be the consequence of a small number of individuals or neighboring communities (see the classical examples of Balfet 1965 for North Africa or Herbich 1987 for the Luo of Kenya) while design structures and tools are usually shared by a larger number of people and sometimes distributed at a subcontinental level.

Tools, such as fiber roulettes, for instance, are used in around a half of African populations in a geographically bounded area extending throughout the Sahelian belt from Senegal to the horn of Africa, and southward into the Great Lakes region (Gosselain 2000; Livingstone Smith 2007). Within this huge area, which does not coincide with existing cultural boundaries, even at a macro level, roulettes are used to make a variety of motives which are themselves organized according to local design rules. Although large-scale comparisons of other ornamental techniques still have to be made, a similar situation seems to prevail for painting, incising, or impressing. As in the case of clay processing recipes, we are faced with a repertoire of techniques and motives that may spread over very large areas, but whose particular combination allows for the identification of more salient boundaries, such as language or grouping of communities that share a common history (see Berns 2000 for an illustration of a meaningful regional distribution of pottery designs in Northern Nigeria). One must note, however, that the sharing of a similar ornamental repertoire does not necessarily blur social boundaries. In his comparative study of two neighboring pottery-producing centers in the Cameroonian Grassfields, Argenti (1999) shows that diverging representations have developed in each community regarding the meaning and use of shared figures. As a consequence, differences are recorded in the way they are executed, the size and morphology of the vessels to which they are associated, as well as the gender and status of the individuals to whom they are associated.

The sole step of the manufacturing process whose variations do more frequently and obviously coincide with salient boundaries is shaping – or, more precisely, the rough out operation. At that level, variations in gestures and in the way clay elements are deformed and/or joined together may coincide closely with ethnolinguistic boundaries, linguistic groupings, ancient political boundaries, or the spatial extension of socio-professional subgroups (among many examples, see Frank 1998; Gallay et al. 1998; Gelbert 2001, 2003; Gosselain 2000, 2002; Kanimba 1996; LaViolette 2000; Nicklin 1981; Pinçon 1997; Pinçon and Ngoie-Ngalla 1990; Priddy 1971; Sall 2001, 2005; Thiam 1991; Woods 1984). This does not mean that variations in shaping techniques always match that of meaningful boundaries in Africa, far from it. As already observed at other levels of the manufacturing process, particular variants may be distributed over huge areas, independently from language and/or social affiliation (e.g., Gosselain 2002; Huysecom 1994; Sterner and David 2003), or over areas that, although much smaller, cross salient boundaries (Gallay et al. 1998; Gelbert 2001, 2003; Langlois 2001) or do not seem to bear any relationship with them (Gosselain 2008b; Lyons and Freeman 2009. They may even vary according to the gender of the potter (e.g., Kreamer 2000; Priddy 1971; Roy 1987). The fact remains, however, that when comparing the spatial distribution of shaping techniques to linguistic, social, or political boundaries, including ancient ones (see Gallay 1994; Livingstone Smith and Van der Veken 2009, one usually gets a better match than for any other step of the manufacturing process. As I previously concluded at the outset of a cross-continental comparison, shaping techniques *tend* to reflect those most rooted and enduring facets of identity in Sub-Saharan Africa, and hence to give us information on a category of social networks built upon cultural or even kin affiliation (Gosselain 2000, 210).

This all indicates that pottery traditions correspond to a heterogeneous collection of elements whose spatial and temporal evolution follows different lines, and whose variations allows us to approach different facets of people's identity. This is already an interesting conclusion, but we need to go a step further in exploring the underlying reasons of this phenomenon. Why is there such a distortion between what potters say about the origin and development of pottery traditions and the picture that one gets when comparing those traditions at a micro or macro level?

Between Practice, Socialization, and Economy

In order to understand the situation described above, we must go back to the moment when individuals complete what they describe as the actual process of learning; that is, when they have mastered the skills required for fashioning the vessels. Regardless of the time at which they have completed that learning, many potters continue to practice the craft within the same social and spatial context. The youngest stays under the supervision of their relatives, while the oldest, who entered the craft at a later stage of their life, may work more casually with their former teacher, but nevertheless practice the craft under the same conditions as the ones that prevailed at the time of learning.

Yet, most apprentices do not spend their life where they have learned the craft. They go to live in other places, some nearby and some more distant according to marriage, divorce, or for a series of economic and personal reasons. Some artisans also set themselves up seasonally in regions where they may be confronted with other traditions (Simmonds 1984; Gelbert 2003; Gosselain 2008b; Tobert 1988). Whether permanent or temporary, these moves have several implications from the point of view of the dynamics of potter cultures (for a few case studies see David and Hennig 1972; Frank 1998; Gallay 1994; Gosselain 2002, 2008b, 2010; Huysecom 1994; Pinçon, 1997).

First, artisans must locate new clay sources and identify zones, where they can collect other raw materials involved in the manufacturing process. Some of these materials are easily found; others require more arduous searches. This is particularly true if their usage is specific to pottery making and the incoming artisan has no opportunity to mix with other specialists. In addition, certain materials can simply be unavailable in a region, as happens for certain plant species used in postfiring treatments (Gosselain 2002, 194–195).

Next, the artisan might need to target a new clientele and satisfy other requests and tastes. One immediately thinks of decoration in this respect (e.g., Sall 2001), but artisans may also be confronted with particular requirements as regards the form, color, and even physical properties of the wares. For example, several Zarma potters of Southern Niger explained to me that they used three different clays when making pottery that they intended to sell on neighboring markets, and a single one when making pottery for themselves or friends and relatives. The reason, they said, was to maintain their reputation on marketplaces, since it was widely acknowledged that

"good pottery" was made with three clays. In Senegal, Tukulor potters who settled in the upper valley of the Senegal River have started to use vegetal fibers rather than dung for processing the clay because their Soninke clients consider dung an impure material (Gelbert 2001, 82). Customers may also consider that vessels are stronger when black and shiny, as among Doayo of Cameroon (Vander Linden 2001), or orange red, as among Gurensi of Northern Benin. Specific firing and postfiring techniques are consequently used to obtain such properties.

A third implication for incoming potters is that they are led to interact with a new group of colleagues when settling in a different community. This is a crucial element that brings us back to the social dimension of learning and to the meaning attached to potting practices. We have seen that potters are initially socialized into the craft through participating in the work of confirmed artisans. Starting with less complex and less vital tasks, they are progressively drawn toward more central aspects of the craft through a process of "legitimate peripheral participation" as coined by Lave and Wenger (1991) in their pioneer study of communities of practice. An essential aspect of this participatory process (see Wallaert 2008 for a detailed example) is that skill and knowledge acquisition combines with the development of an identity of a "member," as the apprentice increases her/his participation in the community and progressively reaches a more central position. In this context, the shared repertoire of practices acts together as a binding element, which reinforces the link between members of the community and their sense of group identity, and as a vehicle that helps newcomers negotiating their insertion within the community (see especially Bowser and Patton 2008; Corniquet, in press). What matters here is that such negotiation does not stop at the outset of the learning process. Seen from the perspective of individual actors, the learning process never ends, insofar as the "social world of activity" (Lave 1996, 5) is continuously evolving: potters may join new communities, as stated above, but their own community may also be modified due to the insertion of new participants, changing relationships between older participants as they shift status through their life trajectory, or new connections with other potting communities.

Far from being a "closed package" that the apprentice sticks to and brings along throughout her/his whole life, the repertoire acquired during initial learning is an open aggregate whose individual components are both constantly liable to be reassessed and modified, and enrich the repertoire of other practitioners. Of crucial importance is the fact that the evolution of a repertoire does not depend on the nature of its constituting elements, but on the meaning attached to them at the time they are put into practice. As this meaning is strongly dependent on the social world of activity, there is no way to tell, a priori, whether an element is reproduced, borrowed, modified, or abandoned. What is sure, however, is that meaning is continuously reconstructed by individuals through their lifetime and expressed in a variety of ways, be they technical, social, or economical. In that regard, individuals are continuously engaged in a process of reconciling past and current experiences and unifying elements that often prove to be contradictory (Kaufmann 2004). It is a "fine if I do, fine if I don't" kind of tension that one is frequently confronted with in the field: on the one hand, potters emphasize the inherited nature of their behavior, "I do as my

mother did, and as did her own mother," on the other hand, they obviously tune this behavior in order to fit with local ways of doing. What follows are some examples of the conditions under which pottery traditions may be either reproduced or transformed.

Dynamics of Technical Knowledge: Some Ethnographic Examples

In southern Niger, the spatial distribution of clay processing recipes follows two distinct patterns. In the west, recipes often vary from one village to the next and sometimes within the same village community. If shared by distinct communities, they usually cluster in micro areas. An important aspect of the craft throughout this western region is that it is carried out by people bearing distinct, and often competing, socio-professional status. In the east, pottery making is (mostly) open to anyone and carried out by people who do not bear any particular status. As for clay processing recipes, they tend to group within large and bonded areas. I have shown elsewhere (Gosselain 2010) that where pottery making is constitutive of the potter's identity, individuals take great care in avoiding blurring social boundaries through using inappropriate processing recipes. They do so according to what is known locally about other ways of doing and what are perceived as meaningful boundaries, which translates into microscale processes of technical homogenization. When an incoming potter brings with her another recipe that is locally inappropriate, it is either abandoned or used as a secondary recipe.[3] Conversely, where a potter's identity is not at stake, such as when pottery making is simply a source of income, the processes of homogenization occur at a much larger scale. Here indeed, the absence of "social filters" creates conditions under which processing recipes propagate progressively according to "classic" factors, such as personal mobility, marriage networks, communication routes, or the density of settlements (see also Livingstone Smith 2000).

The shaping stage offers us other illustrations of the way representations attached to technical procedures are liable to alter its evolution. Of particular interest here is the strong connection between shaping techniques and the deeply rooted facets of identity – as opposed to more situational ones. In Cameroon, for example, I met a Gbaya potter in Yoko, Central Province, who practiced the drawing of a lump technique, but also mastered the coiling technique, learned from a neighbor in a former village. She had chosen to teach the latter to a young Hausa neighbor in her new village community because, as she explained, "I'm a Gbaya and she's a

[3] For example: "One may add dung to the clay if the amount of grog available is not sufficient"; "One may add millet husk to the clay if it is too wet." Note that if local representations change, secondary techniques may regain a primary status.

Hausa. She needs her own technique." Among Niger's Songhay blacksmiths, I met women who had acquired the molding technique from their Bella neighbors, but who had chosen to pass on the pounding technique to their daughters, pounding being regarded as the "true Songhay technique" (see details in Gosselain 2008b). In the same region, women from a village deemed the main pottery production center proudly explained that "for more than five generations, only pounding has been practiced here" – the equivalent, all in all, of a seal of quality based on the notions of "tradition" and "soil." Conversely, in the central region of Niger, potters of Tuareg origin, who occupy the lowest social position in their society, have been transforming themselves into Hausa, a population associated with Muslim orthodoxy, urbanity and wealth (Nicolas 1975), within which artisans do not bear any status. Besides adopting the Hausa language, clothes, and architecture, they seem to have "purified" their technical repertoire, shifting from the pounding technique, that local people associate with a Tuareg identity, to molding, which is locally associated with Hausa.

We are now in a better position to understand why shaping techniques seem to change at a slower rate than other steps of the manufacturing process, and why their variations frequently coincide with social boundaries, such as language, socio-professional affiliation, or gender. Rather than being due to the combined effect of motor habits and the spatial extension of matrimonial networks, as I previously emphasized (Gosselain 1998, 2000), such situations may result from a deliberate conservatism among the potters. How to shape a pot is not a trivial issue as it relates both to group affiliation and the psychological bonding of teacher and apprentice during the second phase of learning. Acting usually as a strong stabilizing factor, this bonding creates also the conditions for sudden shifts in techniques, such as when artisans are engaged in a redefinition of their identity.

Although I formerly thought that decoration would be more likely to reflect more superficial and situational facets of identity, another example from Niger shows that the preoccupations developed about ornamental designs may parallel those observed at the level of shaping. In the River Region, polychrome painted vessels are currently the most appreciated pottery. Produced mainly on the eastern bank of the river by the Bella, former Tuareg slaves, it is sold on both banks of the river and throughout Zarma and Songhay country. Many female Zarma and Songhay potters consider the Bella's painted pottery more beautiful and more prestigious than their own. Numerous earthenware jars from the eastern bank may thus be found in the homesteads of Zarma and Songhay potters and in those of other members of their community. When asked why they do not adopt this style, which would increase their sales on marketplaces, Songhay potters reply, "To each her own." By discussing in more detail, it becomes apparent that Songhay potters refuse to adopt the polychrome style in order to continue differentiating themselves from the Bella. Belonging to the socially stigmatized but (according to them) less lowly group of the blacksmiths, their decision is all the more important. That being said, much of the dynamics observed at the level of ornamental practices relate especially to the emergence of new fashions, a process in which customers play a central role, to the arrival of a new clientele, and to competition between potting communities

and individuals. For instance, Corniquet (in press) documents how a new pottery style has recently appeared in the Arewa Region of Niger, and how it has been subsequently incorporated in the repertoire of a series of local potting communities. Its pattern of distribution coincides with that of marketplaces frequented both by members of these communities and by the middlemen who initially brought exemplars of this new style. Schildkrout et al. (1989) provide another example of the effect of the consumption sphere upon local practices. At the onset of the twentieth century, in north-eastern Congo, Mangbetu potters started to produce a new category of vessels, anthropomorphic jugs, that were bought by notables as gifts for European colonists. This style was not a complete innovation, as it was built upon elements borrowed from neighboring populations and other media. Although still displayed as an emblem of "Mangbetu culture" in museum collections, it disappeared after 1 or 2 decades, when other types of political and economical relationships started to develop between Congolese populations and Europeans.

Postfiring treatments give us a last example of the way technical practices may be adapted to fit with local practices and representations. In northern Cameroon, Koma Ndera women only started producing pottery two or three generations earlier. The techniques that they use at the various levels of the operating chain are similar to those used by neighboring populations, from whom the techniques have obviously been borrowed. Two aspects nonetheless diverge: the prohibitions linked to certain production stages and the ingredients used for preparing the organic coating applied at the end of firing. With regards to the latter, it is striking that, on the one hand, the new ingredients are used locally for medicinal or ritual purposes; and on the other hand, that the same functions are filled, among neighboring populations, by the "rejected" ingredients.[4] There seems to have been some sort of technical adjustment, making it possible to ensure the compatibility of technical practices and certain symbolic representations (Gosselain 1999).

Conclusion

The data discussed in this chapter show that pottery traditions comprise a heterogeneous collection of elements that, while initially acquired as a whole by individuals over a short period of time, are constantly reevaluated during practice and may be manipulated accordingly. A good part of these manipulations result from interactions with new social actors. Setting up in another environment, negotiating a position in the community of practice to which one belongs, or adapting to the changing tastes of customers can have a significant impact on individual practices. In this respect, pottery traditions are strictly comparable to any other cultural

[4] Both are available in comparable quantities in the region.

assemblage, or even to what we call "culture" in general, that is, inherently unstable, situated, and historicized configurations (see Brumann 1999).

With regards to pottery cultures, African artisans theoretically have at their disposal an extraordinary panoply of appropriate practices for realizing their objectives (Drost 1967; Gosselain 2002, 2008a). In reality, however, they consider only a limited number of possibilities, both because they simply ignore the existence of alternative ways of doing, and because they filter their choices when alternatives become conceivable. In other words, pottery cultures are not constructed chaotically, according to the whim of people's interactions or the mechanical diffusion of components, as water would flow in a system of pipes, but arise from a strong channeling of elements at both the collective and individual levels. Kaufmann (1997, 37) talks in this respect about "control processes" and "leeway restrictions," while stressing especially the role of individual constructions. The reason for this is that pottery making does not exist independently from other practices and value systems. As repeatedly shown over the last decades (e.g., Dobres 2000), numerous representations are mobilized during each technical act; representations which, from the actor's point of view, are completely inseparable from other types of knowledge. Corresponding to what is usually called "world views," these representations allow artisans to classify, without too much difficulty, what it is locally appropriate to use, make, and produce. Alongside these "collective" representations, there exist others that are more personal and more diversified as to their origin. Following Lave and Wenger (1991; see also Bowser 2002; Bowser and Patton 2008; Corniquet in press), I have illustrated the effect of both the learning process and the functioning of communities of practice on the development of individual representations. We have seen, for example, how the way in which the protagonists of learning engage during the second phase of skill acquisition, when training to shape vessels, leads them to view shaping technique as both an "inheritage" and an index of the most rooted facets of their identity. Conversely, the way in which they are socialized into the craft during the first learning phase leads them to view (and use) another part of the technical repertoire as a vehicle for ascertaining social ties and negotiating one's position into a community of practitioners.

Thus, there exists an inherent tension in every potting practice between a desire to maintain and reproduce the link with those from whom the knowledge was initially acquired, and the unavoidable adjustments imposed by the social and economic contexts within which individuals carry the craft throughout their life trajectory. Far from being mere procedures, transmitted and reproduced mechanically from one generation to the next, the components of technical repertoires are meaningful and deeply invested in daily experience. In this regard, the scale at which they are distributed is only a part of the question pertaining to the identification of meaningful social boundaries in the material world. Be they large-scale phenomena, as those evoked in the introduction of this chapter, or more modest ones, spatial distributions simply ensure the *availability* of elements liable to be incorporated in local repertoires. What matters, from that point on, is the meaning that people give them, that is, how they give them a social life and define the conditions of their evolution.

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