

*Cultural Transmission
and Material Culture*

Breaking Down Boundaries

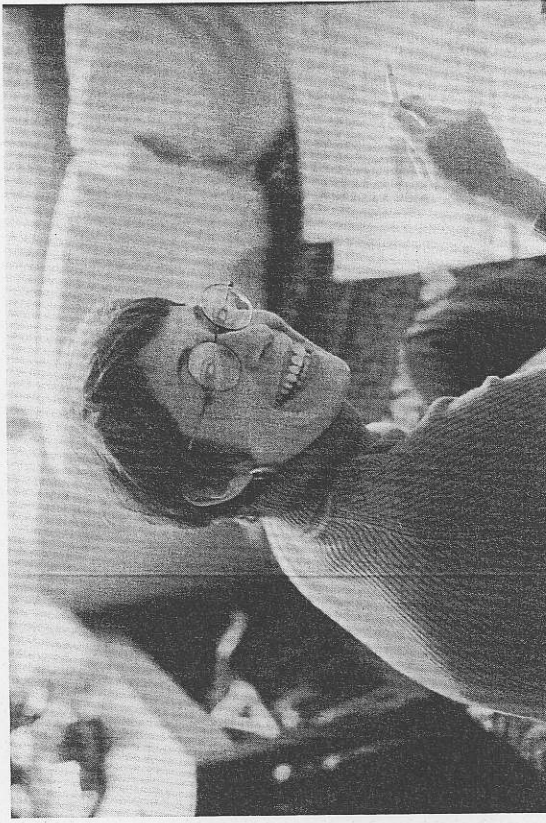
Edited by

**Miriam T. Stark, Brenda J. Bowser,
and Lee Horne**

With a Foreword by William A. Longacre

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In Memory of Carol Kramer



Carol Kramer in 1975 (Photograph by Harvey Weiss)

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Mother Bella Was Not a Bella

INHERITED AND TRANSFORMED TRADITIONS IN
SOUTHWESTERN NIGER

Olivier P. Gosselain

With their small models of reality, economists play like children in pedal cars who think they are driving Ferraris. Good for them! After all, amusement and cheerfulness are part of a scholar's pleasure. Let us amuse ourselves too.

—Bernard Maris (2003:46; translation by the author)

ANTHROPOLOGICAL PERSPECTIVES ON CULTURAL TRANSMISSION and culture dynamics have of late been heavily influenced by biology. Recent publications abound in notions such as “replicative success,” “adaptive fitness,” “cultural heredity,” “cultural phylogenies,” “cultural phenotypes” or “cladogenic change,” and the general idea that parallels exist between biological and cultural evolution, so that culture should be analyzed within a neo-Darwinian framework (e.g., Boyd and Richerson 1985; Cavalli-Sforza and Feldman 1981; Lumsden and Wilson 1981; Mesoudi et al. 2006; Neff 1992; O'Brien and Holland 1992; Richerson and Boyd 2005; Shennan 2000, 2002b; Tehrani and Collard 2002). The neo-Darwinian label actually subsumes a heterogeneous collection of approaches—ranging roughly from a revamped version of Dunnell's functionalism (i.e., O'Brien and Holland 1992) to the muddle of memetics (Blackmore 1999). Yet all these approaches share a common goal—building a theory of human behavior and culture change—and the belief that such a theory should be built in reference to neo-Darwinian theory, since humans are “part of, rather than separate from, the natural world” (Maschner and Mithen 1996:3).

One can easily understand why the development of these neo-Darwinian approaches polarizes social scientists into followers versus dissidents, for the approaches are mainly programmatic and dominated by the use of

biological references and mathematical equations. Admittedly, questions of cultural transmission and culture dynamics have largely been excluded from archaeological and anthropological approaches since the publication of critiques of “the excesses of diffusionism” some decades ago (i.e., Bromberger and Morel 2001). They are only reconsidered of late, with the painful realization that we still cannot adequately answer such basic questions as “What is a cultural tradition?” “How does it propagate?” or “Why does it change through space and time?” As Shennan notes, if there has been a “failure to address big questions which are of real interest to people, is it any wonder that someone else comes along and fills the gap, especially if they apparently have a new and powerful method of doing so?” (2002a:13).

What remains to be seen, however, is whether neo-Darwinian approaches offer a sufficient method for filling this gap. Like others (e.g., Ingold 2004, 2007; Lenclud 1998; Pauketat 2001), I remain unconvinced. My main criticism of such approaches is that they generally ignore social theories developed by social scientists who do not share a neo-Darwinian agenda—possibly because such theories are considered insufficiently “rigorous” or “secure,” as put by Mesoudi et al. (2006:329–30). More precisely, essential problems in neo-Darwinian approaches to culture dynamics inhere in the emphasis put on transmission, a process apparently isolable in time and space but whose characteristics remain unexplored; in the frequent dismissal of horizontal transmission processes in so-called traditional cultures (Guglielmino et al. 1995), which contributes to culture being conceived as an “inheritance system” (but see Collard and Shennan 2001, this vol.; Jordan and Shennan 2003; Welsch et al. 1992); and in neo-Darwinians' privileging of theoretical models mechanically borrowed from the natural sciences.

According to neo-Darwinian scientists, the crux of culture dynamics would thus be the moment when, and the conditions under which, a transmission occurs between two or more individuals. *What* is transmitted doesn't really matter; it just has to possess some sort of “adaptive advantage” (be it in biological, environmental, economic or political terms). What people *do* with it—besides enjoying the advantages thereby procured—doesn't matter either. At this stage, the important question is whether what has been acquired is worth being transmitted and acquired again.

That such conceptions of cultural transmission have largely been built independently from empirical work, or that they are strongly reminiscent of the dominant Western ideology, doesn't seem to worry those scholars who, ironically, argue that their explicitly scientific models transcend current theoretical boundaries in social science. For more than two decades, and with an unshakeable composure, neo-Darwinian scientists have thus offered us virtual models of reality, and endless—and sometimes surrealistic (see Roberts et al. 1995)—discussions on the relative importance of phylogenesis and ethnogenesis, or on the merits of particular mathematical tools. With few exceptions (e.g., Tehrani and Collard 2002; Jordan and Mace, this vol.), ethnographically derived field data, when used, have simply served to validate or illustrate what theory had already ascertained.

Practice Matters

Having had the opportunity to analyze the dynamics of pottery cultures in the field and to observe how people inherit technical traditions and put them into practice, I must confess to being taken quite aback by the current models developed regarding culture dynamics. For example, potting practices never seem to evolve quietly within salient cultural boundaries such as language or ethnic affiliation, or to spread between neighboring communities in gradual, S-shaped ways (see Rogers 1995 [1962]). Rather, traditions—that is, specific sets of procedures, gestures, tools, materials, finished products, and beliefs and attitudes toward actors and materials—display an amazing propensity to mix old elements, borrow elements, invent new traditions, manipulate material culture strategically, and be the loci of constant redefinitions by individuals and local groups (Gosselain 1999, 2000, in press). These characteristics of pottery traditions are by no means limited to the African potters I have worked with (see Arnold 2000; Bowser 2000, 2002; Dietler and Herbich 1998; Livingstone Smith 2000; MacEachern 1998; Sall 2005; Sillar 1997; Stark 1999, 2003). They indicate that we cannot hope to understand the spatial and temporal evolution of pottery traditions without paying attention to the specific social and historical contexts to which they belong. Clearly, contingency is a critical factor here, and it is the reason we cannot satisfy ourselves with essentialist or decontextualized, lawlike explanations.

Another element highlighted by field observations is that “information” (see Boyd and Richerson 1985:36) is too restrictive a definition of what actually shapes cultural behaviors. At a basic level, one would easily agree that it is not possible for an artisan to master a technique by reading an operator's manual alone: beginners have to engage in the activity, practice the gestures, use the tools, and finally obtain “something” in order to progress. But there is more. As demonstrated by a growing number of empirical studies (e.g., Argenti 1999, Jeanjean 1999; Kaufmann 1997; Keller and Keller 1996; Lemonnier 1993b; Tisseron 1999; Warnier 2001), mind and body do not operate separately in daily practice. Rather, there exists a “marriage of the hand and mind” (Keller and Keller 1996:174), insofar as agents, representations, behaviors, and materials are always intimately connected, and it is their changing dialectical relationships that shape what people actually do *and* think in particular places and moments (examples collected among African potters are discussed in Gosselain 2008; for a clear and detailed theoretical discussion, see Dobres 2000:chap. 4 and 5).

This brings me to another important element derived from field observations. Current neo-Darwinian theories deem transmissions—vertical, oblique, or horizontal—to be the crux of culture dynamics. At first glance, ethnographic studies of pottery making appear to corroborate this view. For instance, the literature—mine included (Gosselain 1992, 1998)—abounds in accounts of transmission from parent to offspring, or from older to younger people (Shennan 2000:40, 49, 274; Shennan and Steele 1999), which would thus support the phylogenesis hypothesis. Conversely, some studies have recently pinpointed the crucial role of borrowing in the synchronic and diachronic evolution of pottery traditions (e.g., Gelbert 2000; Sterner and David 2003), thus favoring the ethnogenesis hypothesis.

Yet, when looking closer at these studies—once again, mine included—one gets the feeling that parent-to-offspring accounts of transmission could be partially fictional, a research artifact due perhaps to an overreliance on interviews during fieldwork, some preconceptions about craft learning in informal contexts, and the emphasis put by the artisans themselves on “tradition” and “heritage,” especially when confronted by foreigners. In addition, studies that examine the role of borrowing (Gelbert 2000; Sterner and David 2003) do not offer a real alternative, because they are basically built on materialistic preconceptions (e.g., the

belief that techniques propagate because of their intrinsic qualities), view phenomena from the outside, and use a macrolevel scale of analysis. They rarely explore the hows and whys of actual processes of borrowing. Also, they implicitly view borrowing as a *transposition* of elements rather than an *appropriation*, keeping aside the question of change in use and meaning. Once again, transmission dominates the picture to the expense of acquisition and practice.

Another View of Culture Dynamics

Following recent empirical studies or grounded theories that see culture, traditions, and identities as processes closely connected to people's life histories (e.g., Bowser 2002; Bowser and Patton, this vol.; Cohen 1994; Dobres 2000; Giddens 1991; Kaufmann 2004; Kopytoff 1986; Pauketat 2001), I want to shift from a perspective that deliberately 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 but are continuously reassessed as people enter and characterize specific communities (see especially Bowser 2002; Dobres 2000:149–52; Dodier 1993; Keller and Keller 1996; Wenger 1998). This is what Lave and Wenger (1991) define as “legitimate peripheral participation”: learning that involves “an evolving, continuously renewed set of relations” (ibid.:50) as “[v]iewpoints from which to understand the practice evolve through changing participation in the division of labor, changing relations to ongoing community practices, and changing social relations in the community” (ibid.:96). In other words, learning and practice should not be studied in isolation or viewed as distinct moments in the trajectory of an individual, but should be analyzed as closely connected processes that contribute, simultaneously, to the construction of the self.

My aim in this chapter is to provide accounts of the ways learning and practice interconnect in actual contexts, and how they shape the evolution of pottery traditions through time and space. Practically, this means reconstructing the biographies of particular technical traditions in western Africa, relating them to the life histories of the artisans and identifying the general processes that underlie their dynamics.

In contrast to previous papers (Gosselain 1999, 2000, 2001), I have chosen to focus on the microscale level of analysis and on the processes

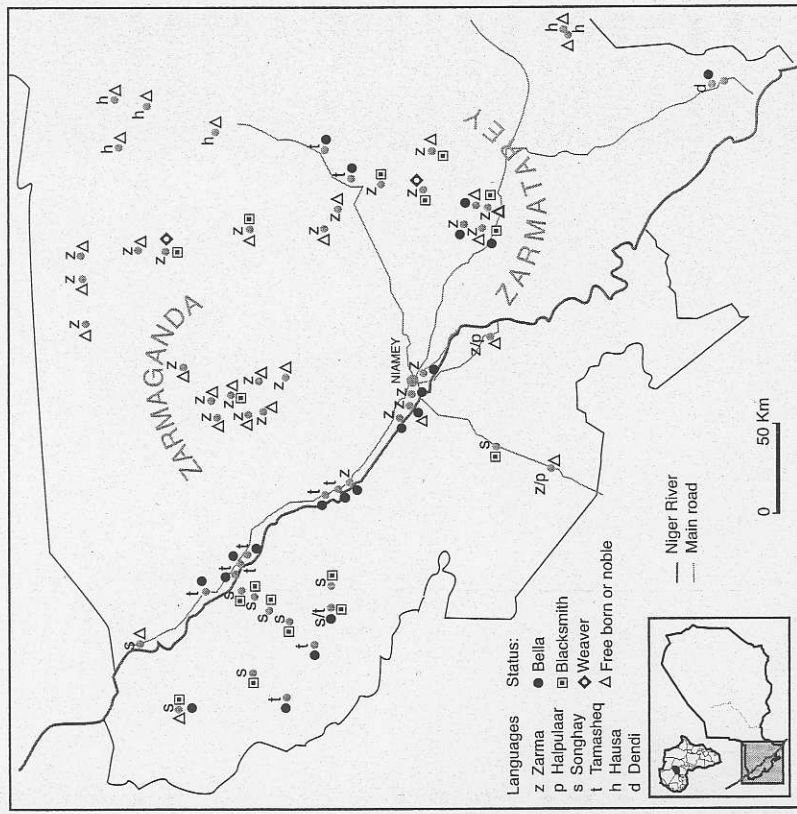


FIGURE 8.1 The study area in southwestern Niger, showing locations of villages visited between 2002 and 2004, and the language and status of potters interviewed.

themselves, rather than focusing on macroscale issues of spatial distribution of manufacturing techniques and social boundaries. This study is part of the multidisciplinary research project Multiscale Analysis of Culture Dynamics (MACULD) developed at the University of Brussels, with the aim of renewing the analysis of the spatial patterning of cultural behaviors through the combined analysis of micro- and macroscale phenomena.

Fieldwork

The data discussed in this chapter were collected from 2002 to 2004 in fifty-seven villages of southwestern Niger, on both sides of the Niger River (fig. 8.1). Field inquiries, made among some 130 female potters,

included observations, interviews, and the collection of tools, materials, finished products, and vocabulary. The aim was to obtain information about the social identity and life history of each potter, document processes of learning, characterize techniques used at each level of the *chaîne opératoire* as well as finished products, ask potters about what they knew and thought about differences in local practices, and try, as much as possible, to reconstruct the recent history of local traditions.

Social Background

Southwestern Niger is currently peopled by seven ethnolinguistic groups: Songhay, Zarma, Dendi, Fulbe, Gurmance, Hausa, and Tuareg. Zarma, Songhay, and Dendi are by far the most important in number in the area (totaling 2.1 million individuals), and their respective dialects belong to the same linguistic grouping: Songhay. They are said to share a common history, which may be tentatively traced back to the fifteenth century AD but which has been more recently characterized by political fragmentation, local antagonisms, and the combined hegemony of Tuareg on the eastern bank of the Niger River and Fulbe on the western bank (Bernus 1981; Gado 1980; Olivier de Sardan 1984; Rouch 1953).

Social Identity of the Potters

When asked about the identity of pottery producers in southwestern Niger, most individuals answer that "pottery is the work of Bella women" or that "pottery is a slave activity." Bella constitute quite a problematic social category. First, the name Bella is an exonym used by Zarma and Songhay to designate former slaves (*iklan*) of the Tuareg. Such people, whose origin is probably highly variable, typically speak Tamasheq (as do the Tuareg) and have a pastoralist and nomadic way of life. Scattered across Mali, Burkina Faso, and Niger, they live in small compounds, usually away from other people. Most of them, however, do not make pottery and do not even use earthen vessels.

Bella engaged in pottery making are a specific category of *iklan*. Referring to themselves as having a "Tuareg origin" rather than being "former slaves," they have a sedentary way of life, practice agriculture, and live in independent villages or in Zarma and Songhay localities, along the Niger

River and in the southeast part of the study area. Until the first half of the twentieth century, they provided food for Tuareg masters to whom they were subjugated. Some of them were also attached to particular Zarma and Songhay families, with whom loosely defined kinship ties have been developed. As for other Bella, their origins remain unclear. They probably settled on the eastern bank of Niger from the late eighteenth century onward and progressively emancipated themselves from Tuareg rulers while simultaneously shifting from a pastoralist to an agriculturalist way of life (Bernus 1981; Olivier de Sardan 1984). Nowadays, they are hardly distinguishable from their Zarma and Songhay neighbors, whose languages they increasingly adopt. Besides Tuareg patronyms, all that remains from their former condition is the somewhat dismissive way in which non-Bella refer to them.

Other categories of potters are also found in southeastern Niger. On the western bank of the river, Songhay-speaking potters of the blacksmith subgroup concentrate in several villages. Blacksmiths also have a low status, and they are often jokingly referred to as "slaves," but interviews show that they think of themselves as being of a higher status than Bella. Moreover, they stress that they have never been anyone's slaves and that they are "true" Songhay—albeit of a different status—since they speak the same language as agriculturalists or "nobles." Potters of the blacksmith subgroup are also found on the eastern bank of the Niger River, especially in the southeast of the study area. Those are Zarma speakers who do not seem to be affiliated with their Songhay counterparts. Moreover, they frequently intermarry with other subgroups, such as weavers or Bella, which tends to blur social boundaries.

Finally, many potters do not have a specific social status in the area. This is always the case among Hausa and Fulbe—who do not have caste-like subgroups and do not rank people according to their activities—and generally the case among Zarma. In the southeast, that is, where Bella potters are present in most potting villages, Zarma explain that they have recently learned the craft from the Bella affiliated with their family. In the central and northern part of the Zarma area, however, people say that potters do not have a specific status because the craft is open to everyone. Yet, many people add that Bella are "the masters of pottery," that it is probable that Bella women taught their own ancestors, and, when referring to some other potting villages in the area, that "everybody knows that these people are Bella, no matter what they call themselves and what

language they speak.” Interestingly, many Zarma of the region call the person from whom they learned the craft *bèlléniá* (mother Bella), adding that their mothers definitely were *not* Bella, but that such a name underlies both the prominence of Bella in pottery making and the probable Bella origin of Zarma traditions. Note, however, that the word “*bèlléniá*” is phonetically very close to *báyryniá* (mother knowledge) or *bèrànyiniá* (respectable mother), which means that informant explanations of the meaning of the word do not necessarily reflect historical reality; rather, they reflect current conceptions about who initiated or epitomizes the craft. In sum, although people of various social origins and statuses are currently engaged in pottery making in southwestern Niger, the activity is associated with Bella in many ways, real and ideological, especially on the eastern bank of the Niger River.

Transmission of Knowledge

In southwestern Niger, as in most other parts of sub-Saharan Africa (Gosselain in press), learning is not a particularly visible process. One is seldom confronted with situations where knowledge is explicitly transmitted from a teacher to an apprentice. When asked about the origin of their skill, however, most potters explain that they learned it from a single person, in a particular place, and at a particular time (fig. 8.2). This “single person” is reported to be the biological mother in about one-half of the cases, the paternal grandmother in less than one-fifth of the cases (but note that in southern Niger, the first-born daughter of a couple is usually raised by the father’s mother), the paternal or maternal aunt, a friend, or an in-law in about one-tenth of the cases respectively, and, very rarely, a sister, a cousin, a great-aunt, or a niece. At that simple level, we are thus faced with nearly all the putative “routes of cultural transmission” described by Boyd and Richerson (1985), with the interesting fact that—except for free-born or “noble” Zarma potters, who live in contact with Bella and most frequently acquire the craft from non-relatives—these different “routes” are irrespective of socioprofessional contexts. The place where one learns depends largely on the age at which the event takes place: the majority of the potters interviewed learned the craft at the age of six to twelve, in the village where they were born or raised. More than one-half stayed in the same place after marriage, while



FIGURE 8.2 A young Bella girl in Boubon learns to shape pots under her mother’s supervision.

the remaining ones moved to another village in a radius of 2 to 150 kilometers. Those who learned later mainly did so in the village where they moved after marriage, but some also acquired their knowledge while staying temporarily in another village.

What especially interests me is the way people recount having actually learned the craft. Indeed, they give the impression that the gestures used in producing a vessel lie at the heart of the transmission process, while other types of knowledge and know-how are "easy" and already mastered when the actual learning begins. Such accounts are emblematic of other narratives collected in the field in West and Central Africa (Gosselain 2002, in press; Wallaert-Pêtre 2001; Wallaert, this vol.). There, as in southwestern Niger, most knowledge is acquired through participation in the work of master potters: apprentices assist them in a series of operations such as clay extraction and processing, decoration, and firings, familiarizing themselves with materials, collection sites, recipes, and the physical characteristics of clay, as well as symbolic and social prescriptions pertaining to the craft.

Some interesting elements must be highlighted about this participatory phase. First, most people do not view it as actual learning, even though it provides them with most of their skill. They simply "give help," without aiming to acquire or master specific knowledge. Second, the tasks are usually undertaken communally. What is transmitted is rarely imputable to a single person but corresponds to the shared norms of a particular group, be it a family, a local socioprofessional grouping, the potters of a whole district, or some other grouping. Apprentices are thus trained, at an early stage, to conform to local norms. Third, there is no particular order in what apprentices learn, and no necessary coincidence with the actual ordering of a pottery chaîne opératoire. As described by Lave and Wenger (1991:96): "production 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."

This notion of centrality leads to what people consider to be the actual learning phase: mastering the shaping technique. Up to then, the apprentice assists in several operations and has a playful relationship with shaping but does not really try to make vessels. If the apprentice is sufficiently "motivated" and "gifted" (two notions that crop up constantly

in interviews), the teacher redirects the game toward the acquisition of expertise and adopts a more active role with her pupil. There is clearly a shift in status at this stage, which some Bella, Songhay, and Zarma teachers signify by giving the apprentice a miniature model of a terra-cotta pestle used for pounding clay. To help the apprentice overcome her difficulties, the teacher now works alongside the apprentice, correcting her errors and movements and, quite often, holding the apprentice's hands so that the latter can physically sense the correct movements and hand positions.

Such a close interaction implies that both parties get along well, a fact often stressed by the potters interviewed. Some even explain that they chose their teacher for psychological reasons and not because of kin relationships. This close connection with the teacher, as well as the development and maintenance of affective ties when learning to shape vessels, may explain why potters usually consider their shaping technique a heritage, or why they identify a specific person when asked about the origin of their knowledge, and usually emphasize this part of the learning process in interviews. This situation has strong implications for the dynamics of shaping techniques.

Dynamics of Technical Traditions

Clay processing, shaping, and decoration are three stages of the manufacturing process whose dynamics are particularly explicit and often recognized by the potters themselves.

Clay processing

I identified at least sixteen different processing recipes in the study area. Differences may be tenuous, however, and mainly arise from the combination of three main tempering materials: grog, rice or millet husk, and crushed dung (fig. 8.3).

At a macrolevel, the spatial distribution of these three materials and their combination does not reflect existing social boundaries. The microlevel, in contrast, reveals more about technical dynamics, first because the distribution of processing practices may coincide locally with particular social boundaries, and second because many people do actually interpret technical variations as an index of social distinctions. In four

hands when kneading the clay." Other potters are familiar with certain techniques but refuse to use them because they are considered "foreign" ("That's how people process clay there, but here, we do otherwise"). Similar accounts were given by those who use archaeological sherds instead of modern vessels to make grog or, less frequently, those who mix two or three clays. Processing recipes are thus comparable—in discourse at least—to "technical signatures" that distinguish members of specific potting communities.

At least two phenomena may explain this strong adherence to particular steps in the ceramic manufacturing sequence. The first stems from local processes of social affiliation and differentiation. This implies a process of "technical regulation" between members of the same potting community, although that process does not seem to be very coercive and may be facilitated by the habit of conforming to the shared norms of the potter community in which they work.

The second phenomenon relates to consumer demand and competition that may exist between pottery-producing villages. In at least two Zarma villages (southeastern part of study area), potters explained that they mixed three clays when producing vessels for a neighboring market but used a single local clay when making pots for themselves, friends, or family members. According to them, the quality of the products was the same, no matter which clay was used, but they were forced to make the mix because clients "think that pots made with three clays last longer."

Such observations indicate that potters may modify clay-processing recipes throughout their lifetimes to adapt to changing local requirements. Through such modifications, they are able to position themselves vis-à-vis members of their own community, as well as those of other communities. Salient and meaningful variations in processing recipes are more likely to appear at a local level than to coincide with large-scale social boundaries—such as language or social status—because the variations' dynamics depend on actual interactions between potters, or potters and customers, rather than on the spatial and temporal evolution of learning networks. Furthermore, technical steps that signify cultural affiliation and differences are not chosen randomly. They belong to a common, and rather limited, technical repertoire, within which change may initially appear accidentally and be attributed meaning at a later stage.

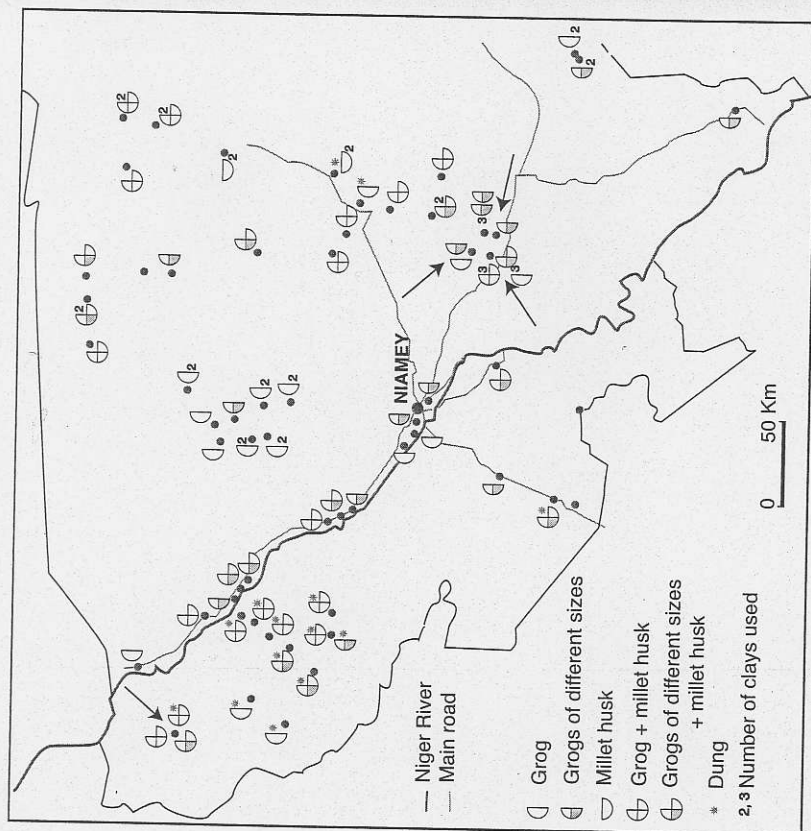


FIGURE 8.3 The nature and distribution of materials added to clay during processing.

villages (see arrows on figure 8.3), for instance, women of various status distinctions make pottery: blacksmith, Bella, and free born (either Zarma or Songhay). Although these women live and work in different quarters, they usually share the same extraction site and sell their pots at the same market. Yet, they use different clay-processing recipes, whose distribution coincides neatly with their respective social identities. Asked about these differences, potters are vague. They simply explain, "Since people are not the same, it is only natural that they do things differently."

In these villages, some potters rationalize their use of particular processing techniques as technically superior. For example, several individuals refrain from putting millet husk in the clay, either because "it leaves holes in the pots after firing" or because "it puts a strain on the

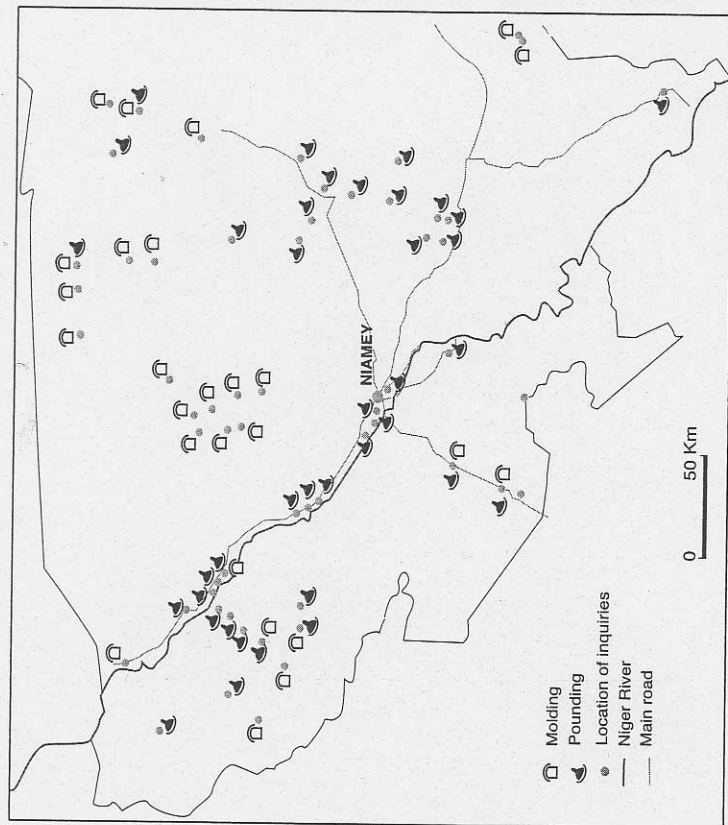


FIGURE 8.4 The nature and distribution of shaping techniques.

Shaping Techniques

Two shaping techniques are used in the study area: (1) molding on a convex mold (an upturned vessel), with the subsequent addition of coils, and (2) pounding with a clay pestle on a mat-covered depression, with the subsequent addition of coils (for technical details see Gosselain 2000, 2002:88–93; see also “tamper and concave paddle technique” in Sterner and David 2003).

At a macrolevel, the spatial distribution of these two techniques says no more about existing social boundaries than do clay-processing recipes (see fig. 8.4). Pounding, for instance, is recorded in thirty-eight villages (out of fifty-seven) on both sides of the river, among Songhay, Zarma, Tuareg, and Hausa speakers of varying social conditions. While the technique is strongly associated with Tamasheq-speaking Bella or Songhay-speaking blacksmiths, neither of them uses it solely or to the exclusion of

other groups. The same applies for the molding technique, recorded in twenty-six villages, on both banks of the river. Here, the technique may be tentatively associated with female Hausa potters (a fact confirmed by fieldwork done in 2004, 2005, and 2006 in other parts of the country) and Zarma-speaking potters of the Zarmaganda region, but once again, it is not exclusive to these groups.

The spatial distribution of shaping techniques is partly explained by the mobility of current potters (fig. 8.5a) and that of older people, most of whom are long since deceased (fig. 8.5b). Indeed, about one-half of the potters interviewed between 2002 and 2004 have left the place where they learned the craft to settle in another village. Most changes in location (mainly matrimonial in purpose) do not affect the spatial patterning of shaping techniques (compare figure 8.5 a–b with figure 8.4) because potters usually settle in communities that use similar techniques. Those changes that do have an impact involve either the introduction of a new technique to a local potting tradition, or a situation in which an incoming potter settles in a village where nobody practices the craft. In these cases, a change of location may generate the development of a new technical tradition (provided the potter does not modify her technical behavior and she transmits her technical knowledge to offspring, relatives, or neighbors). Such a process helps to explain why two shaping techniques are used nowadays in several villages, or why the pounding technique has penetrated the Hausa-speaking area in the northeast part of the study area (see especially figure 8.5b). It may also account for the generalized use of the molding technique in the Zarmaganda region—a striking feature given the historical connection between Zarma and Songhay.

The cases considered so far are those where potters settled for good or for a long time in a new community. Yet, most of these potters—and most of those who did not relocate after learning—also travel and sojourn in other locations throughout their lifetimes. They may thus be exposed to other ways of working and, conversely, expose their hosts to their own way. Moreover, in the cases described above, a technique is mechanically diffused through individual movements and subsequent transmission to local people. That may be true in some instances, but local processes of adoption generally involve a reevaluation of knowledge, and hence, a modification of technical behavior.

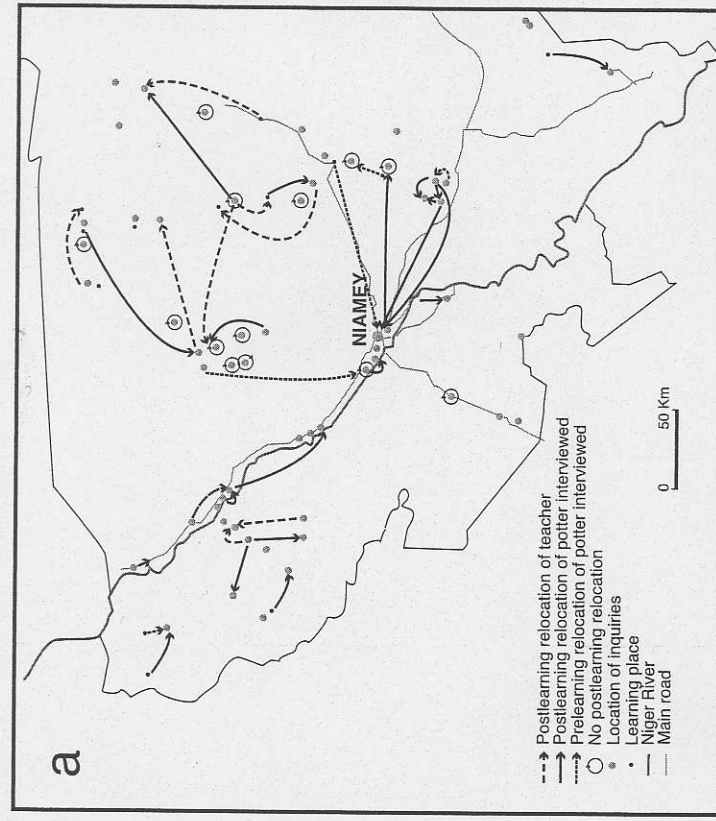


FIGURE 8.5 Individual relocations contributing to the spatial distribution of shaping techniques: (a) relocations of teachers and potters pre- and postlearning; (b) relocations of people long since deceased and diffusion of pottery-making and shaping techniques.

These phenomena become apparent when considering all the knowledge—practical as well as theoretical—that potters have about the shaping stage. Four situations are identifiable at the village level.

Situation 1: None of the potters know about another shaping technique. This situation is by far the most common. Recorded in thirty-four villages, it especially concerns Bella potters living along the eastern bank of the Niger River and in the southeast of the study area. While not excluding this observation as a research artifact, it may indicate that Bella potters are less aware than others of what happens outside their communities.

Situation 2: Some or all potters know about another shaping technique without mastering it. This situation is recorded in eighteen villages scattered

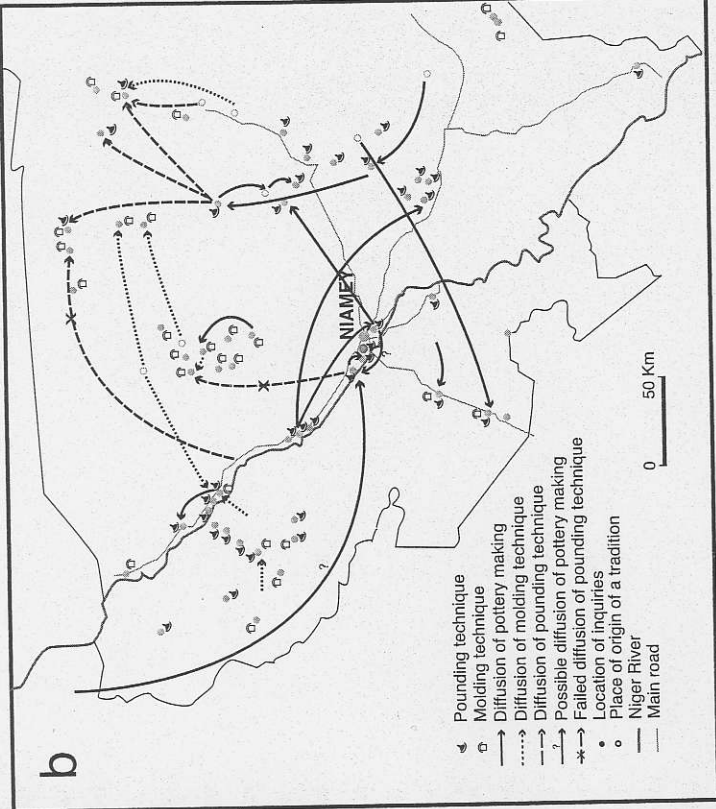


FIGURE 8.5 (Continued)

throughout the study area, among Songhay-, Zarma-, and Hausa-speaking potters. Three phenomena are apparent when conversing with the potters concerned. First, the technique is nearly always associated with specific populations. Zarma of the Zarmaganda, who use molding, refer to pounding as “the technique used by Bella of the river area”; Hausa speakers, who also use molding, refer to pounding as a Zarma or “Bouzou” [i.e., Bella] technique; Songhay-speaking blacksmiths, who use pounding, refer to molding as a Bella technique (meaning Bella of the western bank of the river); and Bella of the western bank, who use molding, associate pounding with Songhay-speaking blacksmiths or Gurma (a population scattered along the border between Niger and Burkina Faso). Thus, the other technique is conceived not simply as “another way of doing it,” but as a socially connoted tradition, with quite accurate correspondences between techniques and social boundaries when considered at a microregional level.

Second, the technique is generally assessed in functional terms and often presented as more efficient. Several of the potters who use the molding

technique told me that pounding was "better and faster" and allowed one "to produce lighter vessels." Some added, however, that the technique was more demanding in terms of raw materials. Similarly, several of those who use the pounding technique told me that molding was "faster and easier" and allowed one "to produce larger and more standardized series of vessels." None of the functional qualities ascribed to either technique are confirmed by field observations, but potters' judgments about the techniques used by others cannot be reduced to mere jealousy or self-deprecation either. Rather, they appear to be influenced by the reputation of those from whom the knowledge is gotten. This is especially true on the eastern bank of the river, where Bella are considered to be the "masters of pottery" and particular qualities are attributed to their techniques.

Third, apparent in the testimony of those who know about a second shaping technique is the spatial orientation of their knowledge. Clearly, what they know about other people's doings is an index not necessarily of spatial proximity but of a space truly experienced; that is, the space within which people travel and develop social interactions. This is especially apparent in the Zarmaganda, where nearly all potters who know about the existence of the pounding technique report having been exposed to that technique through visits to riverside villages, or through discussions with individuals who settled temporarily in this region. Here, the seasonal mobility of farming populations from the inland and the increasing habit of settling in the river area, where one may benefit from better economic conditions due to the development of road infrastructure and new farming practices, play a leading role in the circulation of knowledge. The seasonal mobility explains why potters of the Zarmaganda are more familiar with the techniques used by their western rather than eastern counterparts, regardless of the geodesic distances between communities. Also, because river potters are considered "masters of the craft" and the makers of particularly valued products, one may understand why technical knowledge has come accompanied by notions of "efficiency" and "appropriateness."

Regardless of the social context, all representations pertaining to another shaping technique seem to develop in only two directions: a *social demarcation* (the technique is said to be typical of a foreign group) and a *functional assessment* (the technique is said to have several advantages and some disadvantages). In contrast, the shaping technique that

potters have mastered at an early stage in their career is usually referred to as being *inherited* from ancestors and as a *technical norm*; that is, as an expression of both social integration and appropriateness.

Situation 3: Some potters master and employ two shaping techniques. The contrast between functional and social/psychological assessments of techniques is particularly explicit among potters who master two shaping techniques. In three villages of the western bank, for instance, potters shape most of the vessels by pounding, but also use molding for shaping small bowl-like vessels. This technique is said to be exogenous and recently adopted, either from agents of an unidentified farming project or from Bella potters who used to settle in Songhay villages during the dry season and may have served as models. These potters do not envision any functional extension of the technique: it is clearly restricted to the particular class of ware with which it was introduced.

In another village, where molding is said to have been introduced by itinerant Bella potters, the situation is a bit different. In this Songhay-speaking community, where potters belong to the blacksmith group, pounding dominates the picture, but several women use molding for shaping small vessels. One of them uses it almost exclusively, however, while another appears to shift technique regardless of vessel size or morphology. They both justify their choices—which would be quite recent—by the fact that molding is a "faster" and "easier" technique. Yet, they seem uncomfortable with that shift, and they do not mention it spontaneously. Only when asked about the presence, in their inventories, of large vessels with characteristic molding use-wear do they explain how they actually proceed. Later, one of them explains that pounding "is the true Songhay technique." She adds, "This is the technique that I will teach to my daughter, as I learned it myself from my parents." As for the other potter, I observed that she beats most of her molded 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 appearance of mat impressions on the lower external wall of vessels, a feature that, interestingly, is highly characteristic of the pounding technique and frequently recognized as such by both potters and customers.

Situation 4: Some potters merge two shaping techniques. In two villages of

the eastern bank of the river, Sargan and Dinara, Zarma-speaking potters start to shape vessels by beating a lump of clay on a mat-covered depression, using a fired clay anvil (as with the "classical" pounding technique). Then they put the slightly concave rough-out on an upturned vessel and continue to hit the clay with the anvil until it is spread on the mold (as with the "classical" molding technique). In Sargan, they further beat the lower part of the vessel on a mat, after retrieving it from the mold. But unlike the woman mentioned above, they insist that they are unaware of the pounding techniques. Potters in the second village do not share this technical ignorance, some of them having seen, even tried—unsuccessfully—to learn the pounding technique in the 1970s. Yet, they interpret their behavior not as a technical mix but as the normal way of practicing molding, and one that is clearly different from pounding. Still another situation is recorded in Banteri, on the eastern bank of the river, where Fulbe, Songhay, and Bella women practice the craft, using molding, pounding, or a combination of the two. The combination appears to be used more casually by some potters, notably as a response to problems pertaining to clay texture and plasticity.

Despite distinct specificities, these latter examples show that shaping techniques should not be conceived as "closed technical units," as I did previously (e.g., Gosselain 1992, 2000). Rather, they are as liable to be slightly or more deeply altered—and even merged—as any of the procedures observed at other levels of the chaîne opératoire. But individuals are obviously not keen to keep records of these modifications. Shaping techniques are viewed widely as an inheritance and the material correlates of social identities, so any disruption in the intergenerational "chain of transmission" tends to be obscured or reinterpreted as a socially meaningful and historically rooted manifestation.

This connection of the shaping stage with various social strategies is one of the main conclusions arising from field observations. It helps explain the temporal stability of shaping techniques and their frequent coincidence with social boundaries more convincingly than factors like motor habits and the spatial extension of matrimonial networks, as I previously emphasized (see Gosselain 1992, 1998, 2000). In most instances, potters deliberately seek stability in their techniques and are aware of the technical choices they make. But shaping traditions are also dynamic: like other stages in the chaîne opératoire, they may also be modified through borrowing and innovation, as noted previously in the literature

(e.g., Gelbert 2000; Sterner and David 2003). One must keep these cultural factors in mind when analyzing technical processes. Both technological considerations and potter mobility are part of the equation (see especially Gelbert 2000), and knowing how people develop their knowledge, what they do with it, and how they think about such knowledge in particular contexts is crucial. Few diffusion studies take this approach, despite its substantial variability at the regional, local, and individual levels in southwestern Niger.

Decoration

A preliminary analysis of the data collected in 2003 (Vanassche 2004) has given rise to a series of historical questions that are currently under study. My aim, here, is to give a brief account of observations made in the field in order to broaden the overall picture and show how decoration may echo some of the potters' strategies and representations.

The polychrome painted style is indisputably the most reputed and popular one in southwestern Niger. Especially observed on *trallam* (big water jars) and water jugs of various sizes, this style is characterized by a division of the ornamental zone into several horizontal registers of various colors (white, reddish brown, darkish brown), that may be further divided into vertical units, especially on the neck and shoulder. Most of these registers and units are filled with white or black geometric figures, human and animal outlines, dots, or even letters.

This style is the prerogative of Tamasheq- and Zarma-speaking Bella inhabiting a dozen villages along the Niger River. As far as we know, it developed quite recently (maybe during the last five decades, judging by previous ethnographic studies [e.g., Urvoy 1955]), from the mixing of a simpler painted style—maybe of Zarma origin—with a style characterizing the decoration of leather objects, fabrics, and gourds among Tamasheq-speaking people. Change is an ongoing process, facilitated today by adolescent girls often doing the painting and taking pride in developing new motifs that "catch the eyes of customers."

Zarma potters of the Zarmaganda produce vessels decorated in a style reminiscent of the polychrome one, although less elaborated: horizontal registers are never divided into vertical ones, figures appear only on registers situated on the shoulder, and these figures are essentially triangles

and crisscrosses. Moreover, plastic decoration (roulette impressions and clay applications) is used in several villages, even if roulette impressions tend to be covered or replaced with painted motifs.

When asked about differences in ornamental practices, potters of the Zarmaganda make a clear distinction between their style and that of the river potters. Many of the people interviewed consider Bella jars to be “pretier” than theirs, an opinion shared by customers who may even urge potters to make copies. Accordingly, many individuals have started to modify the ways in which they decorate big water jars, but the results do not tend toward replication. In most cases, horizontal registers are divided into two vertical units instead of the four “canonical units” observed on Bella vessels, and thrust faults appear between registers. Moreover, painted traits are generally thicker and less boldly executed, and the resulting décor gives an overall impression of carelessness (e.g., overflowing, paint running, deletions; see Vanasse 2004). These results are inherent in the context within which the borrowing took place: potters are imitating a style by observation alone, rather than through apprenticeship and guidance regarding the tools and techniques used, and must devise their own solutions by drawing from their personal stock of technical knowledge. This example shows that in matters such as ornamental style, imitation alone does not lead to duplication. Another interesting aspect is that Zarmaganda potters value stylistic innovations that may yield economic benefits (e.g., “Bella vessels sell better”), and these economic concerns can override notions like heritage and tradition at the level of the chaîne opératoire. The fact that, in the Zarmaganda, pottery making is not constitutive of a potter’s identity but mainly perceived as an economic activity may explain such an attitude.

The situation is quite different among Songhay-speaking blacksmiths of the western bank of the river. First, their ornamental style bears no resemblance to that of the river Bella: vessels are covered with a red polished slip and are ornamented with cord impressions as well as punctuated impressions on the neck and, occasionally, white geometric painted figures on the shoulder. Second, blacksmith potters (and Songhay customers in general) are more familiar with the Bella polychrome style than are their Zarmaganda counterparts. Indeed, many of the villages visited are located at a shorter distance from the river, and a large number of the people interviewed buy vessels at markets also frequented by Bella potters. As in the Zarmaganda, Songhay consumers value Bella vessels quite highly. Some

potters go as far as explaining that their products are not as pretty, and many of the people interviewed own Bella jars or explain that they prefer to give such vessels as marriage gifts rather than giving those produced locally (even if they are potters themselves). Despite these stated preferences, Songhay potters make absolutely *no attempts at all* to imitate Bella vessels, even though the necessary mineral pigments are widely available on local markets. When asked, potters explain that the polychrome style “is not theirs” and that “it is appropriate to follow what was shown by ancestors.” They make a conscious attempt at preserving what is perceived as a heritage, and hence, at keeping things separate in matters of ornamental style, even though individuals may be aware that stylistic innovation could be more profitable economically. Although nobody recognizes it explicitly, the real motivations are most likely related to potters’ perceptions of their own identities, especially in relation to Bella identity. In spite of blacksmiths’ low social status in Songhay society, they think of themselves as being higher than Bella, who are considered both “true slaves” and foreigners. Adopting an ornamental style unambiguously associated with Bella not only would introduce a disruption in what blacksmith potters perceive as their own stylistic traditions but, more important, would also contribute to blurring a meaningful social boundary and lowering their social position.

Thus, aesthetic and economic motivations alone are not enough to generate borrowing or innovation at the level of decorative practices. Because decorative style may be interpreted locally as highly emblematic of specific groups (be they defined in familial, factional, ethnic, linguistic, or regional terms—see Bowser 2000; David and Kramer 2001; Stark 2003:204–5), transfer may take place inasmuch as it does not oppose the maintenance of salient boundaries, as among potters of the Zarmaganda. If that is not the case, as among Songhay-speaking blacksmiths, there is simply no transfer at all.

Beyond Transmissionism: A Pragmatic View on Culture Dynamics

I started this chapter by arguing that the neo-Darwinian refusal to incorporate social theory produces a skewed view of culture as a disembodied phenomenon and offers an incomplete perspective on cultural

transmission. Summarizing the main conclusions derived from field observations in Niger illustrates my point. Most Nigerien potters learned the craft from older relatives (the biological mother in half the cases), that is, in a context where "vertical transmission" dominates the picture. About one-half of these potters relocated after learning, mainly for matrimonial purposes (most of these displacements are schematized on figure 8.5a). Practices are often interpreted in technical or economic terms and could possibly be ranked according to their respective "adaptive fitness." Following the neo-Darwinian agenda, potting practices, acquired through learning, should thus diffuse through marital networks and, when coming into contact with other practices, either blend, replace them, or disappear. Figure 8.5a-b indicates that such processes should be especially apparent in the east of the study area, where potters from other areas have consistently relocated for the last decades. Conversely, the western bank of the river should be better preserved from external influences and subjected mainly to "independent evolution."

Findings from my research challenge these theoretically derived expectations. First, the distribution of pottery practices is largely independent of marital networks: spatial patterns are better explained when considering postlearning interactions with various individuals as well as local perceptions of the relationships between technical behavior and identity. Second, as far as diffusion processes are concerned, the arrows should be turned in the reverse direction: due to seasonal migrations, inland potters from the eastern bank are indeed more familiar with and frequently influenced by the traditions developed along the Niger River (see fig. 8.6). Third, depending on the element considered, the western bank appears to be an area where change is either high or low. In respect to shaping techniques, for instance, change is more pronounced on the western than on the eastern bank. Last, economic and techno-functional considerations are clearly not sufficient catalysts for change: other types of representations appear more decisive in that regard, and especially those pertaining to the social appropriateness of behavior. The diverging ways in which Zarma potters of the Zarmaganda and Songhay-speaking blacksmiths deal with the highly valued polychrome painted style of the river area is a perfect illustration of such phenomena.

So, how can we ensure that culture dynamics are approached in a more realistic way? We must first acknowledge that cultural phenomena are never

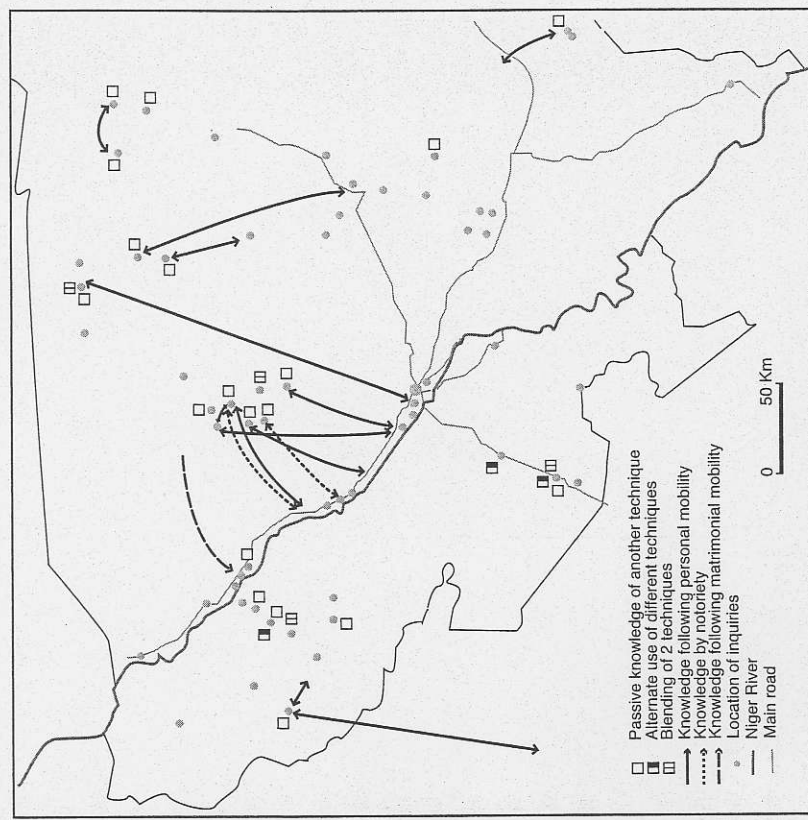


FIGURE 8.6 Type and origin of knowledge of other techniques.

reducible to simple, bounded entities. Instead we confront heterogeneous dynamic aggregates, whose various elements evolve independently, through different mechanisms, and therefore reflect different aspects of human history. We must thus carefully evaluate their respective natures and potential before using them in any model. Similarly, we should always remember what anthropologists have shown for decades: cultural traits or units are artificial constructs or convenient scientific artifacts that help us deal with continuums in cultural practices (de Munck 2000). We must also recognize that cultural transmission is distinct from culture dynamics or cultural change, and that transmission is a continuous process among humans who contribute to the building of local cultural repertoires. Yet, transmission is only a part of the dynamics of such repertoires and probably not the most significant one. Actually, knowledge acquired through

learning (and already potentially modified at this level) is constantly reassessed and readjusted as individuals engage in practice and interact with other individuals. It is through practice and social interaction that particular representations are developed regarding cultural behaviors, such as representations having a critical impact on the dynamic of these behaviors, as observed among Nigerien potters.

What is important to note is that the cognitive registers mobilized to develop new representations are not just intellectual: they involve a close interaction of mind and body, as demonstrated notably by Kaufmann (1997, 2004) and Keller and Keller (1996). These representations are also closely connected to the life history of individuals, particularly the multiple interactions they engage in with other individuals. Concurrently, representations are irretrievably associated with the social, historical, and material context within which they emerged, which means that all attempts at analyzing them (and cultural behavior in general) in universal terms will always restrict us to a crude level of understanding. Learning is a good example. Learning is best understood if envisioned as a continuous process by which individuals acquire knowledge and build their identity through participation in particular communities (e.g., Lave and Wenger 1991), rather than as the particular moment during which two or more individuals interact. A processual and contextual framework helps explain why, for example, Nigerien potters systematically reassess their clay-processing recipes when they relocate to new communities, and why they are more resistant to modifying their shaping techniques under the same conditions of locational mobility.

Another point of importance is the spatial mobility of people. Matrimonial networks—classically studied in cultural geography and anthropology—are not sufficient to understand the spatial propagation of cultural behavior. It seems more interesting to consider the space that individuals truly experience. Indeed, individuals enlarge their repertoire of knowledge and develop their own perception of social boundaries through a variety of displacements and subsequent interactions. As notably illustrated by the distribution of clay-processing recipes, that very perception contributes ultimately to the exploitation of technical practice as a way of expressing and maintaining social boundaries.

Several authors (MacEachern 1998; Schippers 2001; Stark 1998:10) have emphasized the microscale of analysis for understanding how

actual people engage in the daily construction and maintenance of social boundaries. Neo-Darwinian approaches tend to rely on the temporal macroscale to view spatial distributions and boundaries; this macroscale obscures important short-term variability and structure. Within a shorter timeframe, these systems are constituted through a series of small-scale distributions that make sense locally and require analysis at both short-term and long-term scales. Here again, there is no hope of building meaningful models without acknowledging the problem of scale.

What I hope to have shown in this chapter is that we should, and indeed can, extricate ourselves from the extraordinary confusion that has plagued social science since the demise of diffusionism. On the one hand, scholars from different disciplines have made major advances in understanding mechanisms of culture dynamics that the self-centered cackles of postmodernists have masked. On the other hand, the “explicitly scientific” approach of neo-Darwinians throughout the social sciences reduces human action to a series of lawlike theoretical expectations. The best way out is to concentrate on what we do best, and what has undeniably provided the best results through the years: studying what *real people* do and think in *real contexts*. This is exactly what Carol Kramer did throughout her life and why her legacy is so important in archaeology and anthropology.

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