



## Pottery Traditions in Katanga (DRC)

### A Comparative Examination of Roughing-out Technologies

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**Abstract.** – The results of a recent ethno-archaeological fieldwork on pottery making in Katanga (DRC) are presented in this article. This work is part of a project where the spatial and temporal distributions of practices are used as a methodological interface between archaeology and linguistics and is an essential step in the comparison of past and present pottery traditions in the area. Observations concerning the whole manufacturing process are reported with a specific focus on the initial phase of the building process: roughing-out or primary shaping. New data are discussed in the light of previous enquiries and the existence of technical boundaries in Katanga is suggested. [*Ethno-archaeology, pottery technology, identity, roughing-out, shaping, Luba, Sanga, Bemba*]

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### Introduction

The famous W. F. P. Burton was apparently the first, in a paper he wrote for the *Geographical Journal* in 1927, to report the presence of archaeological artefacts in the Upemba depression (Katanga, DRC). This initial discovery opened the way for a series of excavation at the end of the fifties, throughout the sixties and seventies, ending in the establishment of one of the longest archaeological ceramic sequence in Africa (de Maret 1979, 1985a, 1985b; Nenquin

1963). This archaeological sequence spanning from the 9th to the 19th century A.D. is divided in four main archaeological cultures: Kamilambian, Kisalian, Kabambian and Early Luba.

The successive ceramic traditions are characterised by elements of continuity, as well as dramatic stylistic ruptures. While the latter part of the sequence, the phase labelled Early Luba, displays an obvious relationship to the culture of Luba-speaking populations living in the area, the connection with the earlier phases is uncertain. To provide new insight on the relationship between these ceramic traditions, we decided to go beyond the usual stylistic approach and examine the technology of these different traditions. As shown by a series of researchers the study of pottery manufacturing processes, like any technical behaviour, allow for a more detailed view on social dynamics underlying pottery traditions (Gosselain 2000; Mayor et al. 2005; Sall 2005; van Doosselaere 2005). Paradoxically, if one considers that to understand the past one may need to understand the present, little is known of contemporary pottery traditions the south-eastern part of the Democratic Republic of Congo. Early references are rare and generally rather poorly documented (Burton 1938; Collé 1913; Manoly 1937; Theuws 1983).<sup>1</sup> The first detailed and illus-

1 Additional information can be found in Maesen's fieldbooks (1955), unpublished interviews collected by Verbeek in the area of Pweto (Verbeek, n. d.) and a video film recorded by Professor Muya Wa Bitanko (2001) on a Bemba potter in Lubumbashi.

trated description of pottery production is published by de Maret and Bulckens (1978), but it only reports on two artisans. Further enquiries by Petit (1998) led to the first synthesis on Luba pottery production. But, although Petit considers the whole manufacturing process, his main concern is the integration of pottery practices in the greater framework of Luba society. He shows that pottery making, much like others crafts, was intricately connected to a series of visible and invisible actors of Luba society. He rightfully states that pottery production cannot be considered by itself, but must be interpreted in the broader cultural background in which the actions take place. Thus his contribution, if extremely interesting from a specific and methodological point of view, is not centred on technology and its materialisation – which can provide a connection with the past. Furthermore, his work is centred on Luba potters living in the core area of the Luba polity and lacks the input of a comparative approach.

In this article, I want to expand on Petit's work, focusing on the technical aspects pertaining to primary shaping among the Luba, but also among some of their neighbours (roughing-out<sup>2</sup> processes are generally considered as powerful tools for the analysis of social identities). This approach is part of a project on the methodological integration of archaeology and historical linguistics, where pottery practices, their spatial and temporal distribution, are used as a methodological interface between archaeology and linguistics (Livingstone Smith 2007; Livingstone Smith et al. 2006). This is a first step towards comparing present and past pottery tradition to gain a better understanding of the dynamics of peopling in the area. In order to expand our ethnoarchaeological reference system and collect first hand data, a series of enquiries were made between September and October 2006 in the area of Lubumbashi and Likasi (Katanga, DRC). Here, my first aim will be to present observations made during this fieldwork and to discuss these new data in the light of previous enquiries to re-appraise Luba pottery technology. I will focus on the shaping stage of the manufacturing process as it appears to be a key element in the characterisation of pottery traditions in the area. In doing so, I intend to highlight regional differences and the existence of technical boundaries in Katanga (DRC).

<sup>2</sup> Pottery building techniques are generally divided in two stages (see for instance: Gosselain 1995; Livingstone Smith 2001; Roux 1994): roughing-out (during which elements of clay are assembled and deformed to constitute a cylinder or cone) and shaping (during which the rough-out is given the geometric shape and dimension of the future vessel).

## Methodology

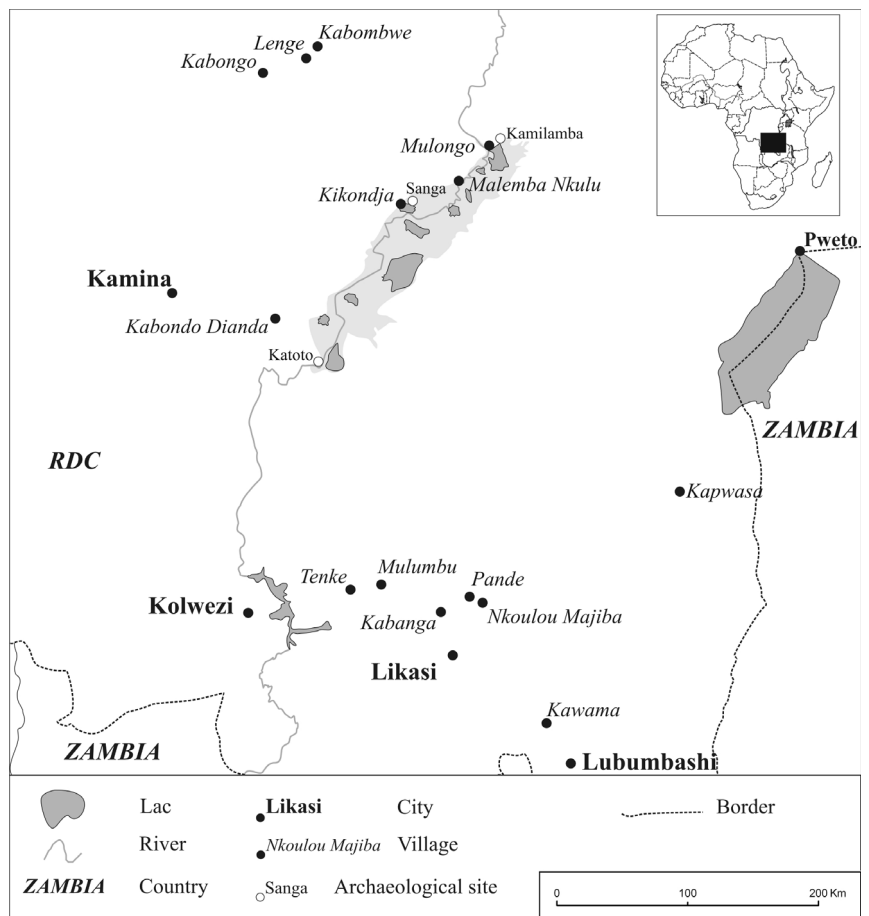
The interviews were led following seven main axes of discussion: (1) identification (name, gender, linguistic affiliation, etc.), (2) learning, (3) socio-economic context, (4) symbolic representations, (5) vessel shape and function, (6) the pottery manufacturing process (raw material selection, preparation of the clay, shaping, decoration, pre-firing treatments, firing and post-firing treatments), and (7) the vocabulary pertaining to the activity. The interviews are based on an enquiry form devised by Gosselain and expanded by participants of the "Ceramic and Society Project" (Gosselain 1995, 2002; Gosselain and Livingstone Smith 1997). In this case, due to particular logistical circumstances, the interviews were shortened and the enquiry form used as a guideline. As I said above, the main focus of this fieldwork was on shaping techniques.

Direct or indirect information was collected on 16 artisans between Lubumbashi and Kabondo Dianda (Fig. 1).<sup>3</sup> Potters are always given a code of three letters (for the village) and two or three digits depending on the number of potters interviewed in the village. The references of the informants can be found at the end of the paper (see list of informants).

## Context

As regards the identity of the artisans, pottery making in this area is mainly a women's craft, but three male potters were also interviewed. They claim the following ethno-linguistic affiliation: Luba (LUB.01, NKO.01, and KAB.01), Sanga (KPD.01, BGA.01–02, MUL.01), Bemba (LUK.01–02, LAS.01), and Lomotwa (LAS.02–03, TEN.01). As a general rule, the potters do not claim any other identity than the ethno-linguistic group to which they belong today (i.e., there are no ancestors belonging to another group). There is one exception: Mme Kazadi (MUL.01) mentioned the fact that her mother was Kaonde (according to her Sanga and Kaonde are very close). Other elements suggest that transfers of technical knowledge between groups are rare, but possible. One potter interviewed in Tenke is more proficient in kisanga, the local language, than her own (kilomo-

<sup>3</sup> Three interviews were led by Jerry Kalonji, a member of the "Observatoire du monde urbain" at the University of Lubumbashi (UNILU). Taking advantage of a visit at Kabondo Dianda (southern tip of the Upemba depression, East of Kamina), he interviewed potters at Kabondo Dianda, Mulumbu, and Tenke (Kalonji 2006).



**Fig. 1:** Location of places mentioned in the text.

two). Furthermore, three potters were taught by a member of another group.<sup>4</sup>

Some artisans now live near the place where they were born (NKO.01, BGA.01),<sup>5</sup> others however, have moved away from their birthplace. For instance, a potter (LUB.01) was born in Goymani Luamba, got married at Malemba Nkulu and then moved to Lubumbashi with her husband. Two potters of Kawama (Lukalanga, Km 25), originally come from two villages in Zambia: Chimbalonge (LUK.01) and Mwamba (LUK.2). Thus, the traditions recorded in the area of Lubumbashi sometimes find their source in relatively remote places. Interestingly, although none of the potters seemed

to care about the ethno-linguistic affiliation of would be pupils (“Anyone can learn!”), some did stress the importance of kinship systems as regards marriage. Several informants reported that, in the past, some rules applied as regards matrimonial policies (LUK.01–03, BGA.01–02). According to them, Sanga and Bemba people followed a matrilineal system whereas the Luba are patrilineal, a situation that prevented movements between the groups<sup>6</sup> in the past.

As regards apprenticeship, most artisans claim they were taught by a member of their family – mother (LUK.02, BGA.02), father (LAS.03), elder sister (LUB.01, LUK.01), elder brother (LAS.02), grand-mother (NKO.01, KPD.01). Indeed, some consider the craft to be a family heritage going back

4 LAS.01 (Sanga) and LAS.02 (Bemba) were taught by LAS.02’s elder brother, who learned his craft from a Bemba friend. Thus one artisan (LAS.01) was taught by a man belonging to a different group – and the tutor himself was taught by a man from yet another group.

5 NKO.01 was born in Likasi, but her parents are originally from Kinkondja, in the Upemba depression. She explained that a lot of Luba people moved in the area.

6 Another important element of people’s identity is the clan. Several potters (LAS.01, LUK.01–02, and BGA.01–02) told me that belonging to the same clan was more important than classic linguistic affiliation (BGA.01 and BGA.02 belong to the *Beena Nzovu* clan, litt. “people belonging to the elephant”).

several generations (LUK.01–02 and NKO.01). As elsewhere in Africa, the process of learning is described as involving both a casual participation as a child and a more formal apprenticeship as a teenager or a young adult. An element constantly stressed by potters is that one needs a combination of will and intelligence to learn the craft. For instance, Mme Eli N’fula (LUK.01) claims to have followed a proper apprenticeship since she was 12 years old until she got married (“*Before that, children watch (their mother work) but they are not serious!*” LUK.01, 20-09-2006)<sup>7</sup>. Some of the artisans, however, claim to have learned when they were already adult, just by watching their “instructor” working (LUB.01, LAS.01). Few of the artisans (except LUK.01 and LAS.02) have transmitted their knowledge.

In some cases, the potters were taught by someone who does not belong to their family. This is the case for instance with Mr Nestor Nowa Lundo (LAS.01) who learned pottery from the elder brother of a friend (LAS.02). The man had himself been taught pottery making by a friend known as *Monsieur Timothée* whose origin and linguistic affiliation are unknown.

For all these people, pottery making is a dry season secondary activity. The women work in the fields and the three male potter’s first activity is brick making. Most of the artisans work alone or in very small groups (two or three artisans in the same village),<sup>8</sup> but reputed centres of pottery production are reported. Two potters of Kawama (Lukalanga, Km 25) state that they come from villages in Zambia where all the women were potters.<sup>9</sup> As regards renowned centres, a Luba potter claims that a lot of women were making pottery in Malemba Nkulu (Upemba depression), her hometown, because pots were an important part of matrimonial transactions. Finally, informants also spoke of potters residing at Lwena (according to NKO.01), Milangwe and Kitana (according to KPD.01), and Kifwanshi (ac-

ording to KAD.01), but these locations were not visited.

Today, pottery production is limited to a few specific shapes and functions. Only a few artisans seem to produce a range of household vessels to cook and serve food (LUB.01, LUK.01–02).<sup>10</sup> The essential part of the production consists in water storage vessels and small pots used in traditional healing.<sup>11</sup> The artisans generally sell their production at home. Only one potter (NKO.01) sells her vessels in markets, along with some of her crops.<sup>12</sup>

## Symbolic Representations

Very few information was collected as regards the symbolic aspects of pottery practices (see also clay sources below). Some potters mention the fact that sexual intercourse should be avoided until the pots are fired (LUK.01–02). Sexual intercourse must also be avoided just before a potter goes to the clay source and a woman cannot extract clay during her menstruation (LUK.01–02) or if she gave birth to twins (NKO.01). Non potters should not touch unfired clay or look inside an unfired pot (LUB.01). Some think that arguments should be avoided on the day of the firing (NKO.01), while others state that bad spirit should be avoided during the whole process (LUB.01). All these prescriptions are often associated with pottery making in sub-Saharan Africa (see for instance Gosselain 2002: 199–215). Disrespect of taboos is said to cause breakage during the firing. This explains why some potters prefer to isolate themselves when they work, particularly when it comes to firing the vessels (LUB.01, LUK.01–02).

Only one potter reported that, in the past, there were special vessels that could only be made

7 Her grand-mother, her mother, and her elder sister were potters. The situation is similar for LUK.02.

8 There are three potters in each of the following localities: Lukalanga, Kabanga Banga, and Rwuashi (Lubumbashi neighbourhood).

9 They come from Chimbalonge (LUK.01) and Mwamba (LUK.02) in Zambia. According to LUK.01 and LUK.02, people follow a matrilineal kinship system in both villages. At Chimbalonge the inhabitants of the village belong to the Mwina Mfula clan (“people of the rain”), whereas at Mwamba the inhabitants belong to the Mwina Mumba (“people coming from the pottery clay”). They say that men are farmers and basket makers: “Lorsqu’un homme vient se marier il doit d’abord faire un champ, puis il doit apprendre la vannerie” (LUK.02, 20-09-2006).

10 A Luba potter (LUB.01) for instance produces large water cooling jars (*mulòndò*), average and small cooking pots (*kisùku*), jugs (*kikanchibi*), and small drinking pots (*kikùndürìà*, loanword from Swahili). In the past larger vessels (*mudjiba*) were produced to store food or produce “traditional wine” and large neckless jars (*mutěko*) were made for palm oil making. LUK.02, a Bemba, also knew about special vessels made in the past for the ancestor’s cult or the initiation of girls. The latter was called the “Lion pot”. Another Luba potter (NKO.01) makes mainly cooking pots (*Kiungu*), flower pots (*kaltchibi* = *kachibi*, used in the past to store fetishes and prepare medications) and large water jars (*mulòndò*).

11 As regards the vessels for healing, it is interesting to note that they are often made in one day, to answer an urgent demand. As a result, they often bear signs of poor firing (cracks and spalling).

12 She lives near Pandé and her husband sells her pots at Likasi, Fungurume, and Kapolowe.

by elderly women (LUK.01). Such vessels include wedding pots (with four small openings at the shoulder), pottery related to the first menstruation of a girl and vessels related to women virginity (the “lion pot”). The making of “wedding pots” apparently involved the invocation of the clan ancestor, who also blessed the weddings (LUK.01).

Finally, as in many other places in Africa, there are also some parallels between pottery and medical practices as some of the plants used during post-firing treatments are also used in healthcare (see below: firing and post-firing treatments).

### General Manufacturing Process

Clay extraction was only observed at Kawama (Lukalanga, Km 25) among Bemba potters (LUK.01–03). The pit is located in the middle of the fields at approximately 4 km from their workshops (some 300 meters from the road going towards Lubumbashi). It was discovered by one of them on her way to a field, thanks to desiccation cracks. Opening the source apparently required no ceremony.<sup>13</sup> The locus belongs to no one and the owner of the surrounding field leaves free access. Indeed, the place is also used for brick making.

Once the clay is back at the workshop it is generally left to soak, from a few hours to a full day. The clay is then kneaded and various elements may be added as temper: grog (pounded potsherds, BGA.01–02), burnt earth (similar to grog, LUK.01–03), pounded brick (LUB.01),<sup>14</sup> crushed and grinded laterite (NKO.01) or crushed and grinded mining refuse – found near the *mine de l'étoile*, one of the main mines in the Lubumbashi area (LAS.01–03).

Once shaped (see below) the vessels are decorated<sup>15</sup> with a stylus or a comb. Ornamental techniques include simple impression, tracing, grooving, and rocker stamping. Decoration is generally

limited to the upper part of the vessel and ornamental motives are predominantly geometric, but floral designs, an innovation, are also used on water jugs (LUK.01–03). The vessels are left to dry in the sun from one day (LUK.01–02) up to one week (LAS.01).

All the artisans use bonfire, spreading a layer of woods and leaves on the ground, before laying out the pottery (LUK.01–02, LUB.01, NKO.01, and BGA.01). The structure is then covered with wood and dry leaves, but, because wood is hard to find around Lubumbashi, some artisans use charcoal (LAS.01–03). At the end of the firing, the vessels are extracted with a wooden pole and smoked in green leaves and/or treated with a decoction of roots (*kikamba*, *bemba*, LAS.01), bark (*mukongolo*,<sup>16</sup> *luba*, NKO.01; *mulombwa*<sup>17</sup> or *musâfwa*,<sup>18</sup> *bemba*, LAS.01), or plant (*mujimwino*, *sanga*, BGA.02). For instance, two Bemba artisans smoke the pots with green leaves (*mutondo*) before they sprinkle them with a *musâfwa* bark decoction (LUK.01–02).<sup>19</sup> Post-firing treatments are said to enhance the beauty of the vessel, but one potter says that it also strengthens the vessels (BGA.02).

### Shaping

Primary shaping techniques observed during this fieldwork may roughly be sorted into at least three clear cut technical categories labelled as follows: *Cylindrical coiling with slab bottom (pinching of superimposed coils)*, *drawing of one ring with drawn bottom*, *drawing of superimposed rings with drawn bottom*.<sup>20</sup>

13 The opening of a new clay source is sometimes reported to be an important event. According to a Sanga informer (Mr N'Kubitue from Mulungwishi, Chief, 26-09-2006), opening a new clay source involves sacrifices to a spirit of the earth. The rituals are similar to those of a salt production site (see: Petit 1998; Petit 2000 as regards similar practices among Luba populations). For her part, Mme Wanumbi (LUB.01) sometimes leaves a coin in the earth at the clay source. The money is like a payment for the spirit of the earth.

14 In the past she used grog, but there was none to be found when she moved to Lubumbashi and thus resorted to using bricks.

15 Decoration is sometimes applied before the vessels are completely shaped, see below LUK.01–03.

16 This is probably *Julbernardia paniculata* (Benth.) Troupin (Doutrelepon, pers. comm. 2006).

17 *Pterocarpus angolensis*, much used as timber. Its pith is sometimes used in making *nkula* powder (The White Fathers 1954).

18 A kind of tree bearing the *isâfwa* fruit, used as remedy against eczema, its leaves are used to scent water.

19 These plants are also used to cure bellyaches (green leaves) and children diarrhea (barks).

20 The distinction between different roughing-out methods is based on the following criteria: 1) the morphology of assembled elements of clay (lump, disc, slab, coil, etc.); 2) the way the elements are adjusted (superimposition, internal or external overlap, etc.); 3) modes of deformation (pinching, crushing, drawing, etc.); 4) sequence of building for the various parts of the vessel.

### Cylindrical Coiling with Slab Bottom (Pinching of Superimposed Coils)

The first technique consists in pinching superimposed “ring-like” coils (Fig. 2–6) – as opposed to the superimposition of coils in a spiral. The artisan starts by laying a first coil in a circle on the support – a potsherd or an inverted enamelled dish (Fig. 2). She then lays a series of coils to form a cylindrical rough-out some 20 cm high. The coils junctions are then crushed downward with the thumb and smoothed (Fig. 3). The bottom of the pot is then formed using a flattened – disc shaped – lump of clay (Fig. 4). The junction between the bottom and the belly is carefully smoothed (Fig. 5). The belly and the shoulder are shaped by internal and external pressures using a calabash fragment and a corn cob respectively. For large vessels, the potter may add more coils thus alternating roughing-out and shaping until the desired size is reached. Once the upper part of the vessel is shaped and decorated, the vessel is turned upside down and the outside junction between the belly and bottom is scraped with a knife. Finally, the exterior surface is beaten with a wooden paddle (Fig. 6). A variant of that primary shaping technique consists in forming the bottom with a disc first (KAB.01),<sup>21</sup> then building the walls with superimposed coils (instead of forming the bottom after the walls are formed).



**Fig. 2:** Superimposition and pinching of “ring like” coils, or cylindrical coiling (NKO.01, Luba potter, Nkulu Majiba). Contrarily to spiral coiling, the roughing-out process starts with the belly of the vessel.



**Fig. 3:** The coil junctions are smoothed by drawing the clay downwards with the thumb (NKO.01, Luba potter, Nkulu Majiba).



**Fig. 4:** A disc shaped slab of clay is fashioned to rough-out the bottom (NKO.01, Luba potter, Nkulu Majiba). In some cases, the bottom is made in this way before the rest of the vessel (KAB.01, Luba potter, Kabondo Dianda).



**Fig. 5:** The slab is positioned in the centre of the rough-out and the junction between the bottom and belly is smoothed carefully (NKO.01, Luba potter, Nkulu Majiba).

<sup>21</sup> Interview by Kalonji (2006).



**Fig. 6:** Once the vessel is shaped and decorated, the potter cuts the outer junction between belly and bottom and beats the external surface with a wooden paddle (Photo: P. Petit).

### Drawing of One Ring with Drawn Bottom

The second main roughing-out technology is the drawing of a ring of clay (LUK.01–03). Here a single ring of clay is fashioned from a lump of clay and laid on a support. The artisan starts by drawing down the outside of the ring towards the support. Once this is done she then proceeds to draw the internal part of the ring upward (Fig. 7). Once a 15 to 25 cm high cylinder is formed she shapes the upper body, shoulder and lip of the vessel (Fig. 8). Decoration is applied, before the future vessel is turned over to rough-out and shape the lower part of the body and the bottom. This is done by drawing the excess clay by rolling a maize cob upward (Fig. 9). The right hand rolls the cob on the outside of the rough-out, while the left hand supports the walls on the inside.



**Fig. 7:** Drawing of a ring (LUK.01, Bemba potter, Kawama). The potter sets a ring shaped lump of clay on the support. Having crushed downwards the outer part of the ring to fix it to the support, the potter inserts her hand inside the ring and draws the clay upward.



**Fig. 8:** The initial ring is drawn to rough-out a 15 cm high slightly conical cylinder. This part of the rough-out constitutes the body and shoulder of the future vessel (LUK.01, Bemba potter, Kawama).



**Fig. 9:** Once the body, shoulder, and neck are shaped and decorated, the rough-out is left to dry for a while. The future vessel is then turned upside down to rough-out the bottom by drawing the excess clay upwards (LUK.01, Bemba potter, Kawama).

### Drawing of Superimposed Rings with Drawn Bottom

The third category of roughing-out techniques probably includes several variants, depending on the number of rings and the way to draw upwards, and certainly needs further attention.

In Mulumbu Kazadi the method involves the drawing of two superimposed rings of clay (MUL.01).<sup>22</sup> Firstly, two rings of clay are shaped from a lump of clay and superimposed on an enamel dish. Once superimposed the two rings are drawn upward so as to build a 15 to 25 cm high cylinder. Drawing is performed from the outside. The left hand is inside the rough-out and supports the wall, while the right hand draws the clay upward. The potter then proceeds with the proper shaping of the upper belly shoulder and neck of the pot. In general, using a calabash scraper internal pressure is applied horizontally, with the right hand while the left hand holds the wall of the rough-out from the outside. External pressures are applied from the bottom up with a wooden rib. Once the upper part of the vessel is formed it is left to dry for a while before being turned over to shape the lower part of the belly and the bottom by drawing the excess clay by hand.

A variant of this technique was observed in two Sanga villages (BGA.01–03, KPD.01), but only for small demonstration vessels. The process begins with the potter rolling a lump of clay between her hands to form a coil. This first coil is laid in a semi-circle on an upturned enamel dish. She then prepares a second coil to close the ring. The procedure is repeated two (KPD.01) or three times (BGA.01–03). The clay is drawn upwards by external scraping with a calabash fragment (Fig. 10). When the upper part of the vessel is shaped and decorated, the rough-out is left to dry. After a short time, the potter turns it over and starts drawing the excess clay to build the belly and bottom (Fig. 11). Thus while the first steps of the procedure are similar to the ones followed by MUL.01, the sequence of operations and the forming of the belly and bottom are different.

Finally, a possible variant was observed in Lubumbashi (LUB.01), although the method involves the roughing out of the bottom with a disk shaped slab, as for cylindrical coiling (see above). Having kneaded the clay thoroughly, the potter takes a lump of clay and forms a ring that she sets on an enamel dish (Fig. 12). Rolling another lump of clay between her hands, she superimposes a thick



**Fig. 10:** After laying coils in semi-circles to form two or three rings, the clay is drawn upwards by external scraping with a calabash fragment (BGA.01, Sanga potter, Kabanga Banga).



**Fig. 11:** When the upper part of the vessel is shaped and decorated, the rough-out is left to dry. Later, the potter turns it over and starts drawing the excess clay to build the lower belly and bottom (BGA.01, Sanga potter, Kabanga Banga).



**Fig. 12:** A ring is shaped from a lump and laid on an enamel support (LUB.01, Luba potter, Lubumbashi).

<sup>22</sup> This method was filmed by Jerry Kalonji, but there is no photographic record.



**Fig. 13:** Two coils are laid over the first ring to form a second one (LUB.01, Luba potter, Lubumbashi).



**Fig. 14:** The superimposed rings are drawn slightly upwards and outwards to give the rough-out a conical shape.



**Fig. 15:** After a cursory drawing of the rings the potter fills the bottom of the rough-out. This is done by crushing a lump of clay and careful smoothing of the bottom belly junction. Further coils are then superimposed to rough-out the rest of the upper part of the vessel.

coil on the initial ring (Fig. 13). Rolling a second thick coil she adds it to the previous one to close a second ring. With her right thumb she pushes the clay downwards to join the two pieces of clay – inside and outside – and adds two thick coils to make a third ring (Fig. 14). Working with the fingertips of her right hand she joins the three rings on the inside, drawing the clay upward and outward as she does. Although, this is not proper drawing, the movement and its effect on the clay is different from the simple junction of coils. The bottom is formed by crushing a lump of clay in the centre of the rough-out (Fig. 15).

## Discussion

The data presented in this paper show that at least three main pottery roughing-out technologies are present in south central Katanga: *drawing of a ring with drawn bottom*, *drawing of superimposed rings with drawn bottom*, and *cylindrical coiling with slab bottom*.

The first method is essentially performed in the southern part of the study area and is related to Bemba speaking potters, the second is mainly used by Sanga potters around Likasi, while the third is essentially associated with Luba potters in central Katanga.

As regards the *drawing of a ring* it is only performed by Bemba potters in the area of Lubumbashi. It is striking that the combination of tools and movements is almost identical to those reported by Lorenz and Plezner for Bemba and Lumbu (Chitambwa Lungu) potters at Mbala in North-eastern Zambia (1989: 20) – including the use of a rolled corn cob to draw the clay towards the bottom at the end of the roughing-out process. In Zambia, however, two rings of clay are superimposed and drawn.<sup>23</sup> Thus drawing of single ring and superimposition and drawing of several rings appear as variants of the same "core" technology (see below). This should not be seen as a case of technical determinism (i.e., use of several rings to make larger pots), as in many instances in sub-Saharan Africa (Gosselain 1995; Livingstone Smith 2001) potters always use one ring (i.e. they use a thicker or larger ring to make larger vessels).

As regards the *superimposition and drawing of several rings with drawn bottom* it is used mainly by Sanga potters, but we still lack detailed data on this method and there seems to be some diversity in

<sup>23</sup> One should note that the authors refer to the doughnut shaped rings as coils.

the way to build pots with this method. However, while it is related to the drawing of a single ring technique in Zambia, there is no doubt that it is a distinct tradition in many places – in other words, people may use the superimposition of rings without ever using the drawing of a single ring.

As regards the *cylindrical coiling with slab bottom* method it is used by a Luba potter near Likasi and another one at Kabondo Dianda.<sup>24</sup> The potter living near Likasi being originally from the area of Malemba Nkulu (her parents moved to Likasi), this technique seems to be essentially performed by people in the central part of Katanga. These observations fit very well with data published by Petit (1998: 368–370) for Luba potters in Kabombwe, Kabongo, and Lenge, except for the fact that he refers to this technique as *superimposition and drawing of rings of clay* (in french: *superposition d'anneaux étirés et colombins*). This may be considered as a moot vocabulary point, but it is important to distinguish these methods, as they are clearly different in regard to the shape of assembled elements, the modalities of deformation, as well as the sequence of shaping. The specific characteristic of this method lies in the fact that the body of the vessel is made by superimposing and pinching coils, with the bottom being made with a disk shaped slab before or after the roughing-out of the belly. There is no drawing of the clay for the belly and there is no drawing of the clay to rough-out the bottom at the end of the roughing-out sequence. There could be some variations in the Luba area, however, as shown by the photographs published by de Maret and Bulckens (1978: 81 f.), where a Luba speaking potter of Mulongo clearly starts shaping with a ring of clay – made from a 7 cm diameter coil. The following pictures and the description indicate that the potter superimposes from 2 to 8 bands of clay depending on the size of the vessel and that the bottom of the vessel is made by crushing lumps of clay. The extent and importance of the upward drawing of the clay is not clear, however. Be that as it may, there appears to be a correlation between this description and the observations made in Lubumbashi (LUB.01), also with a Luba potter. In both cases, the artisans start with a single ring, but overlay the initial ring with several coils and crush a lump of clay to rough-out the bottom. Clearly, we cannot define a technical tradition, with only two potters, one of which is summarily published, but the data presented in this paper show we need to keep an

open mind as regards the diversity of roughing-out techniques in the Luba area.

## Conclusions

Thus we can summarise the situation as follows. Luba potters perform cylindrical coiling with disk shaped slab bottom in the north, while Bemba potters use the drawing of a single ring with drawn bottom method in the south. While the superimposition and drawing of several rings may, in some cases, roughly be compared to the cylindrical coiling performed among the Luba, the roughing out of bottoms by drawing the clay clearly relates these techniques with the method used by the Bemba. In a way, the roughing-out method(s) used by Sanga potters may constitute a sort of hybrid technology between those used by the Luba in the north and the Bemba in the south. Technical variations seem to define boundaries, mainly between the Luba, the Sanga, and the Bemba and could be related to differences in kinship systems, as the Luba are patrilineal while the Sanga and Bemba are matrilineal. But this remains a tentative hypotheses awaiting further fieldwork in the area.

There is a lot of inaccuracy and confusion concerning roughing-out methods in the literature dedicated to pottery technology. This is not surprising as, in spite of Gosselain's seminal work on pottery shaping methods in sub-Saharan Africa (Gosselain 1995, 2002) or other major regional contributions to the subject (see for instance: Gally, Huysecom, and Mayor 1994; Mayor et al. 2005; Sterner and David 2003), there is no agreement on the description and identification of pottery shaping techniques in general. However, as technical behaviours are related to the history of populations in which they are performed, we cannot stress enough the importance of properly illustrated and detailed description of African pottery manufacturing processes.

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24 Jerry Kalonji also reports this method at Kabondo Dianda in the Luba area.

Edisé (KAB.01) of Kabondo Dianda (interview by Jerry Kalonji), and Mrs Nestor Nowa Luendo (LAS.01), Bernard Kabuta Mujinga (LAS.02) and Eric Senge Siya (LAS.03) of Lubumbashi (Quartier Rwuashi).

This research was funded by the Royal Museum for Central Africa (Tervuren, Belgium), thanks to an “Action I” project of the Belgian Federal Science Policy Office. The Musée National de Lubumbashi (MNL) provided administrative support and the director and employees of the MNL did their best to facilitate my work. Thanks to Donatien Muya Wa Bitanko, Henri Bundjoko, Désiré Kapata, Philippe Mikobi, Nicole Matanga Sapato, Jean Maisa.

My thanks also go to Hubert Maheux for his help “above and behind the call of duty”, Ghislain “Gulda” El Magambo and the members of the Vicanos Club, Jo and Colette Dassas, Père Léon Verbeek, Chief N’ Kubitwe of Mulungwishi, Jerry Kalonji, Pierre Manda Mundje, Sophie de ville and Laetitia Dujardin, Anneleen Van der Vecken and Jacky Maniacky. Finally, last but not least, I would like to thank Els Cornelissen for her extraordinary support!

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