SUPPLEMENTAL MATERIALS

Latin American Antiquity

Reimagining creolization: The deep history of cultural interactions in the Windward Islands, Lesser Antilles through the lens of material culture.

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**Ceramic *chaîne opératoire* (roughing out and preforming): Afro-Indigenous or Afro-Caribbean tradition, Grenada**

See Figure 5 and Supplemental Figure 1 (photos Sébastien Manem).

***Roughing out: interpretation***

The roughout is obtained from a heterogeneous elementary volume by (*see below for diagnostic features corresponding to the letters in italics associated in the text and figures): (a)* the coiling technique *(b)* pinching *(c)* (Roux 2019:55), therefore involving discontinuous pressures *(d)* in order to join the coils together. The coils are not assembled together against a passive support *(e)*. The coil-forming procedures seem to be a segment procedure with small segments (i.e., less than the perimeter of the vessel) *(f),* or in other cases long segments (i.e., larger than the perimeter of the vessel) *(g)*. The operating procedures for the junction between each assembled element are semicircular joining (U-shaped) *(c)*. Therefore, the coils are superimposed.

***Roughing out: diagnostic features***

***(a1)*** As segmental building (Fewkes 1940), discontinuity is observable on the radial section with the naked eye on ancient breaks and ***(a2)*** on a fresh cross-section with a binocular. This discontinuity is characterized by the presence of long regular fissures indicating a technique on assembled elements (Roux 2019:163; archaeological examples: Gomart 2014, Fig. 14.b with fresh break; Balfet 1953, Pl. 1; Pétrequin et al. 2009, Fig. 10b with ancient break). ***(a, b1)*** Rhythmic and horizontal undulations are perceptible to the touch and also visible on surfaces; they can be associated with the coils (Shepard 1954:185; Roux 2019:160; ethnological examples: May and Tuckson 2000, Fig. 9.14; Pétrequin and Pétrequin 2006, Fig. 496b; archaeological examples: Ard 2014, Fig. 59; Mutin 2013:257). ***(b2)*** We can observe numerous over-thicknesses on the inner surface due to poor erasing of the joints between the coils (Roux 2019:160). ***(a, b3)*** On both surfaces, we note the presence of often equidistant horizontal fissures, confirming a roughing technique on assembled elements and more particularly the coiling technique due to the equidistance over short distances between the fissures (Balfet et al. 1989:53; ethnological examples: Barbour 1989:42; Fowler 2014, Fig. 2d; archaeological examples: Holmes 1903:51; Fairbanks 1937:179; Guthe 1925, Fig. 2a). ***(b)*** The horizontal fissures observed on the inner surface continue in section, confirming the link between the discontinuities observed in section and all fissures on the surface (archaeological example: Manem 2017, Fig. 14.2). Specifically, this confirms that a horizontal fissure does not indicate a change in technique as can be seen when a lower part is based on clay mass (example: moulding or hollowing a lump of clay, without discontinuity in cross section) and the upper part with assembled elements as coiling (ethnological example: Gosselain 2002, Fig. 62; archaeological example: Manem 2008:44-49). The distance between two joints is visible on the radial section and indicates the coil’s size (Roux 2019:163) as well as the distance between fissures on the surfaces. ***(b4)*** We can still observe relic coils under the binocular and in fresh section with the distribution of coarse inclusions and voids inducing the compression combined with a revolving movement of the deformed mass linked to the shaping of the coils (Quinn 2013:177,179; Roux 2019:156-157) with the hand and a support (ethnological example: Harrington 1908, Pl. XIX) or two hands (ethnological examples: Krause 1985:129; May and Tuckson 2000, Fig. 2.16). ***(c)*** The morphology of the discontinuity takes the shape of an inverted U except at the edge where the discontinuity becomes oblique in outward to inner direction. This induces that the coils are slightly deformed and confirms the coiling by pinching (Holmes 1903:51; Manem 2012, Fig. 10.2; Roux 2019:58,161). ***(d)*** Depressions with diffuse contours typically show finger discontinuous pressures (ethnological examples: Bell 1994:56; Gosselain 2002, Fig. 63). ***(e)*** Rhythmic and horizontal undulations are perceptible on both surfaces proving that the coils are not built against a passive support. If this was the case, the inner or outer surface would have no concentric undulations (ethnological example of coiling on mould in O’Brien and Hastings 1933:189-190). These undulations are also observable in profile, the latter being irregular. ***(f)*** A joint between two ends of coils of the same horizontal level is visible on the exterior surface: it takes an oblique shape (Roux 2019:160; ethnological example: Roux et al. 2017, Fig. 6b), but can also be visible with rings (Livingstone Smith 2016, Fig. 4). ***(g)*** Sometimes fissures between coils on the surface are not horizontal but oblique inducing that the coil may be larger than the perimeter of the vessel and it is finally crossing itself (archaeological example: Amiran 1965, Fig. 3). It also confirms the absence of ring procedures (Fewkes 1944).

***Preforming: interpretation***

The preform is obtained on leather-hard paste *(see below for diagnostic features corresponding to the letters in italics associated in the text and figures)*: *(h)* by shaving, *(i)* from horizontal movements (Roux 2019:68).

***Preforming: diagnostic features***

***(h)*** Preforming leather-hard paste shows in fresh radial section several laminar fissuring sub-parallel to the wall because of strong pressure (Roux 2019:176). ***(i1)*** Shaving combines rubbing and removing chips with a cutting tool (ethnological example: Gallay et al. 2012:63; Pétrequin and Pétrequin 2006:490). As a result, there is a discontinuity on the surface with the presence of horizontal secant planes or facets (Rye 1981:87; Coutet 2010:178) at the general curvature corresponding to the pulp chips removed with a hard tool during thinning operations. ***(i2)*** Working with leather-hard paste sometimes causes tearing the paste when the angle of the shaving tool is too obtuse (Roux 2019:177). ***(i3)*** There are many crevices, ***(i4)*** a compact micro-topography with inserted grains, erratic striations, and ***(i5)*** deep striations with a compact bottom (ethnological example: Gelbert 2005:70; Lara 2017:140; Roux 2019:177). ***(i6)*** The bottom of these striations is also marked by inserted grains, thus confirming that the inserted grains on the surface are related to the leather-hard paste (percussion also generates inserted grains, but other diagnostic features of percussion are not present here) and that they are not related to any other technique (example: surface treatment by burnishing, but this operation cannot access inside the striation). The shaving technique may be associated with the goal to remove anti-adhesives when a support is used during the roughing out (Gelbert 2005:72). As mentioned above, rhythmic and horizontal undulations are present on both surfaces, inducing the absence of a link, in our context, between this technique, anti-adhesive and the use of a support to guide the assembly of the coils.

**Ceramic *chaîne opératoire* (roughing out and preforming): Saint Lucia, Giraudy**

See Supplemental Figure 2 (photos Sébastien Manem).

***Roughing out: interpretation***

The roughout is obtained from a heterogenous elementary volume *(see below for diagnostic features corresponding to the letters in italics associated in the text and figures)*: *(a)* by coiling technique *(b)*, but contrary to the ceramic sherd from La Poterie described above, the coils are not prepared beforehand by a revolving movement, but they are probably shaped by tapping *(c)*. The roughing out technique, on the other hand, is similar: coiling by pinching *(d)*, therefore involving discontinuous pressures to join the coils together. The coils are not assembled together against a passive support *(e)*. The operating procedures for the junction between each assembled element are different to the La Poterie ceramic sherd. The coils of the Saint Lucia sherd are placing on the previous one, with a slight bevel joining and from the inner surface *(f)*.

***Roughing out: diagnostic features***

**(*a1*)** Equidistant discontinuities are observable on the radial section with the naked eye on ancient break and *(****a2****)* on fresh section with binocular. The diagnostic features are the presence of long regular fissures indicating a technique on assembled elements. ***(b1)*** Rhythmic and horizontal undulations are perceptible to the touch. ***(b2)*** Horizontal fissures can be observed on the surface, confirming the coiling technique. ***(c)*** Diagnostic features of relic coils are absent. Coarse inclusions and voids visible in fresh section under the binocular show a very oblique distribution with parallel orientation and compressed voids. It is typically a feature of a percussion technique, but because the distribution is not parallel to the ceramic walls, this induces that it is related to the preparation of the coils and not to the shaping of the ceramics. It is likely that a mass of clay has been flattened by tapping to form a disc. Then, pieces may have been cut from this disc to form the coils, as illustrated in Fewkes' Catawba study (1944, Fig. 4). The involvement of percussion in the shaping of the discs used to shape the coils would then explain the distribution of voids and coarse inclusions. This type of preparation of the coils is very different from those observed on the sherds from La Poterie. ***(d)*** In cross-section we can see that coils are slightly deformed, contrary to the two other coil techniques (by spreading or by drawing). ***(e)*** Rhythmic and horizontal undulations are perceptible on both surfaces proving that coils have not been built against a passive support. ***(f)*** Presence of preferential fracture shows the type of junction between coils, as well as the cross-section.

***Preforming: interpretation***

The preform is obtained on wet paste by scraping *(see below for diagnostic features corresponding to the letters in italics associated in the text and figures) (g)* and probably with adding water.

***Preforming: diagnostic features***

***(g1)*** Some traces of preforming have not been completely erased by the surface treatment by burnishing. Inner and outer surfaces show deep and erratic striations. If the edges of striations are modified by the burnishing operation, the bottoms are preserved and show a fluidified surface which indicates a wet paste worked during preforming (Roux 2019). (***g2***) A presence of ribbed edges not erased by the burnishing induces a wet paste with added water. Scraping and wet clay induce the presence of protruding grains on the surface. Unfortunately, only inserted grains are visible and they result from surface treatment operations on leather-hard paste.

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