

Archaism in Chican Ostionoid Ceramics: *La Arena* Site, Puerto Rico

Peter G. Roe and Hernán Ortiz Montáñez
with the collaboration of Amy W. Roe and Jeffrey B. Walker

Abstract: The small north central coastal site of *La Arena*, excavated by Ortiz Montáñez in 2007 with its six tiny circular residences and work sheds clustered around a central plaza, affords an opportunity to examine the possible role of archaism in the formation of Puerto Rican Chican Ostionoid ceramics. The senior author's ethno-archaeological studies among cognate lowland South Amerindian cultures suggest that archaism is recursive stylistic emulation. It occurs when a later society takes inspiration from an earlier culturally-related one via valued artistic and cultural achievements worthy of re-creation. Specific vessel form components and surface decoration modes retrieved from the site: a general affinity for sharp keels, slightly concave flat bases on "presentation cook ware," ring bases, and sharply in-sloping gruel mugs with intricate fine-line incision, sometimes forming slide-reflected labyrinthine designs, all argue that both the antecedent Cedrosan and Huecan Saladoid sub-series formed the prototypes for such aspects of Taíno pottery.

Résumé: Le nord petit site côtière centrale de *La Arena*, fouillé par Ortiz Montáñez en 2007 avec ses six petites résidences et des hangars circulaires travaux regroupés autour d'une place centrale, offre une occasion d'examiner le rôle éventuel de l'archaïsme dans la formation de la céramique Puerto Rican Chican Ostionoid. Ethno de l'auteur principal des études archéologiques des cultures amérindiennes du sud des basses terres analogues suggèrent que l'émulation stylistique archaïsme est récurrente. Elle survient quand une société plus tard, s'inspire d'une ancienne culture et un rapport par l'intermédiaire de réalisations d'une valeur artistique et culturelle digne de re-création. Spécifiques des composants de navires forme et la décoration de surface modes extraites du site: une affinité générale pour quilles Sharp, légèrement concave bases à plat sur "ware présentation Cook," les bases d'anneau, et fortement en pente tasses gruaux avec fines et complexes incision de ligne, formant parfois des slide-reflété dessins labyrinthiques, tous font valoir que tant l'antécédent Cedrosan et Huecan Saladoïdes sous-série formée des prototypes pour ces aspects de la poterie Taïno.

Resumen: El pequeño sitio costero central arqueológico norteño de *La Arena*, fue escavado por Ortiz Montáñez en el 2007 con sus seis diminutas residencias circulares y lugares de trabajo agrupados alrededor de una plaza central, permite una oportunidad para examinar el rol posible del arcaísmo en la formación de las cerámicas Ostionoid puertorriqueñas. El autor principal de los estudios etnoarqueológicos entre las culturas cognitivas sudamericanas de la selva sugiere que el arcaísmo es una emulación recursiva estilística. Esto ocurre cuando una sociedad más moderna toma inspiración desde una relacionada culturalmente más temprana vía valuados artísticos y logros culturales dignos de recreación. Las vasijas específicas forman componentes y motivos de decoraciones en la superficie sacados del sitio: una afinidad general por terminaciones afiladas, bases planas ligeramente concavas en "presentación de artículos de cocina," bases anilladas, y unas jarras para sopa espeza con inclinación desde el hombro de la vasija hacia adentro con incisiones finas en línea intrincadas, algunas veces formando diseños de laberinto en copia en serie con la misma orientación, todos dicen que ambos el Cedrosan antecedente y las subseries Huecan Saladoid forman los prototipos para tales aspectos de la cerámica Taíno.

Introduction

This paper presents a possible case of archaism between Chican Ostionoid pottery, *Capá* style (Roe 2008), and Cedrosan Saladoid, Hacienda Grande style ceramics, at the small and remarkably intact Taíno single-component site of *La Arena* excavated by Ortiz Montañez in 2007 (Fig. 1), north central coast of Puerto Rico. It cites a specific vessel form as well as other ceramic modes that emulate Cedrosan Saladoid precursors.

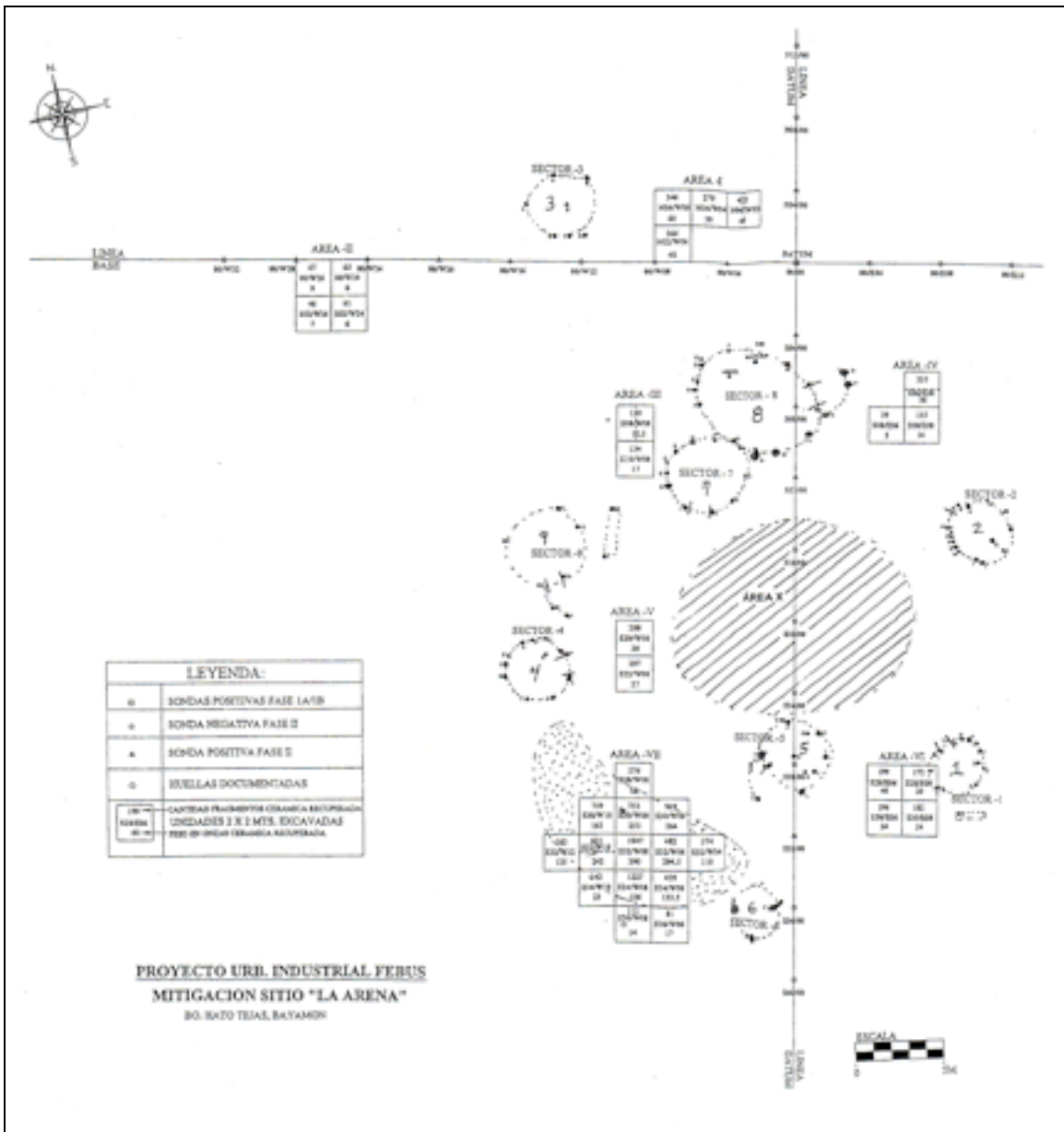


Figure 1. Map of the La Arena Site

Recursive Acculturation: Archaism in South Amerindian and Caribbean Prehistory

Archaism is the mining of ancient artistic and technical styles for specific aspects of form and decoration which can be incorporated into more recent styles, thus forming a kind of “recursive acculturation” of the latter by the former (Roe 1995). Archaism is a kind of “safe” innovation in traditional styles; the new brought in under the cover of the old and revered. In that way elements and rules of form as well as cultural themes from the past recycle into new aesthetic statements. Archaism occurs in every media of material culture from architecture to raiment, and has been studied particularly in the ceramics of the New World. Because tradition conditions ethno-aesthetics, members of cultures tend to borrow archaistically from those past cultures that are affiliated with them, or are in some way regarded as ancestral to them. For example, we moderns turn our university campus buildings into Greco-Roman, Neo-Classical pastiches because we admire those Classical civilizations, share many of their aesthetic notions and regard their structures, now in ruins, as enduring sources of beauty and elegance.

The same phenomenon has been documented archaeologically in the ancient high civilizations of Peru, where Moche potters from the 3rd century B.C. to the 7th century A.D. produced stirrup-spout bottles that archaistically emulated Chavín pottery from the 13th to the 3rd centuries B.C. (Rowe 1971). This was because the Moche were the direct descendants of the Chavín-affiliated Cupisnique culture of the coast and shared some of the same cult figures and aesthetic canons with the precursor civilization (Benson 1972). Similarly, in an ethnographic case in the Peruvian *montaña*, modern Shipibo potters archaistically copied from a 9th century A.D. Cumancaya Tradition annular-based bowl (Roe 1976) because the latter site is regarded by them as their mythic origin site, an assertion now verified by stratigraphic excavations (Raymond, DeBoer and Roe 1975). Indeed, the Shipibo also created a whole new vessel category, the human effigy liquid storage and transport jar, the *joni chomo*, via archaistic innovation from Caimito phase anthropomorphic burial urns from the 13th-15th centuries A.D., probably as the latter gradually emerged from Shipibo village plazas due to sheet erosion (Roe 1996).

There is even a mechanism for such stylistic transfer over the millennia. We often think of abandoned archaeological sites as precisely that, abandoned. But they are really “resource patches” regularly revisited by the living for their own purposes, and thus are still very much involved with human utilization and inspiration. Modern Shipibo potters, for example, visit ancient sites and “mine” them for *quëñquësh*, their term for “archaeological potsherd.” The ancient earthenware pottery, having been subjected to millennia of water filtration, is softer than their current pottery, and hence easier to grind up in their rocker-mortars to make grog temper which they add to their modern ceramics. Doing site survey in the jungle, one has only to ask a Shipibo where there is some *quëñquësh* and he will jump in his canoe and paddle one to the site! Thus in the process of excavating such ancient potsherds, Shipibo are constantly exposed to the designs and vessel forms of prehistoric pottery, thereby providing inspiration for their own current creations.

Rouse (1992: 110) mentions the same phenomenon in ancient Puerto Rico (*Borinquen*) when he recounts how he encountered potsherds being taken from other sites, presumably due to their allure as “curios,” and perhaps indicating a perceived relationship that the prehistoric collectors felt for them. Similarly, it has been reported that Cedrosan Saladoids visited abandoned Huecan Saladoid middens in Sorcé-La Hueca, Vieques and collected interesting *adornos*, or decorative lugs, from their mounds as curios. In all these cases the living collected or

emulated the alien tradition (dead or alive) they felt themselves related to, using archaism to inject new vigor into sated styles.

Such archaism is still going on today in Puerto Rico for reasons of nationalism and ethnic identification with the ancient Taíno in preference to Spanish, African or North American cultures. Taíno designs from petroglyphs and pottery adorn everything from jewelry and ceramics to public monumental art (Roe and Hayward 2008). A similar process characterizes the Dominican Republic's "Neo-Taíno" art in multi-media (Vega de Boyrie 1987). Such acts of recursive acculturation certainly happened in the past and would explain the stylistic similarities between elaborate Taíno design layouts, especially those in ultra-fine-line labyrinthine incision and excision on stone (Roe 2004: Figure 7.6c) and in wood-carving (*Ibid.*: Figures 7.14 and 7.15), in comparison to Cedrosan Saladoid fine-line linear incision and excision on pottery (Roe 1989: Figure 42). The similarities extend from individual design elements and motifs to cognate design layouts and shared symmetry operations.

But since both technical and aesthetic styles invariably change in the intervening centuries between the dead donors and the live borrowers, archaic "copies" are not exact copies at all. They can easily be recognized from the originals by their differing techniques, aesthetic judgments and stylistic treatments, a natural byproduct of the passage of time and "autonomous" culture change (Anderson 1989: 156-157). The Moche pots, for example, could never be confused with their Chavín prototypes although they are clearly inspired by them. The same holds for the Shipibo-Cumancaya example where the modern potter copied the ancient form (an elaborate annular-based bowl with appliquéd nubbins on the base and exterior fine-line incision and zoned pre-fire hematite slip-painting on the outside of the flaring plate-like bowl with an interior of negative-resist decoration) because she was excited by the formal possibilities of a new vessel shape not in her form vocabulary, but covered the exterior of her otherwise accurate copy with her own characteristic variations on the theme of traditional Shipibo pre-fire geometric painted designs. Thus she archaistically innovated in form, but not in surface decoration, her own design tradition being sufficiently complex and ethnically-distinct to satisfy her. The same thing happened with the Caimito burial urn - Shipibo instance.

It might be thought that vessel shapes are more enduring because they pertain to traditional cuisine structure, whereas surface decoration is more subject to the whim of fashion as non-instrumental form (Maquet 1971). In fact, due to a style's signaling function in establishing ethnic groups and boundaries (Barth 1969), and its cross-media isomorphisms, or formal similarities to decoration in other material domains like body painting, surface decoration is often the more conservative and zealously adhered to.

The La Arena Site: An Intact Small Hamlet

The *La Arena* site, *Barrio Hato Tejas, Bayamón*, on the north-central coast of Puerto Rico (Fig. 1), is small, but extraordinary, with at least six (Structures 1, 2, 4, 5, 7, 9) tiny well-preserved residential *naboria* circular huts (betrayed by their dark post-molds in the light clay soil), perhaps nuclear-family *bohios*. These structures are clustered around a nearly-sterile plaza (Area X-diagonally hatchured) in a circular pattern, with the possible remains of a larger, oval structure, 8, maybe the local petty-*Nitáino's caney*, at one end of the plaza. There are remains of a separate, probably wall-less, work structure, maybe associated with lithic production (Walker 2008)-structure 3, as well as a possible second wall-less work structure, perhaps for ceramics

(building 6). A well-defined refuse area (VII-stippled) down-wind, behind the structures to the south, forms a classic “trash-yard.”

Three bits of evidence are consistent with all of these structures being contemporary: (1.) the settlement is a shallow, single-component one indicative of a short period of occupation, (2.) there is no pattern of building overlap indicative of successive rebuilding episodes, and (3.) with the exception of the work structures all the huts obey a uniform settlement pattern as if built together in a short period of time and in emulation of a common South Amerindian and Caribbean circular arrangement centered around a public plaza.

Such a settlement pattern coheres with Curet’s (1992) theories of social evolution based on his survey of the Maunabo Valley in eastern *Borinquen* (P.R.). The *la Arena* site addresses that fragmentation of the Saladoid-Elenan Ostionoid series of communal huts into isolated small circular huts which were the putative residences of nuclear families. This is consonant with broader evolutionary patterns whereby kinship (especially in the form of unilineal descent groups) wanes in importance as society stratifies and other elements beyond kinship, such as artisanship, organize commoners.

The *La Arena* ceramics reveal such artisanship and provide spectacular examples of archaistic borrowing. Ortíz Montáñez noticed that the percentages of decorated ceramics at this site were quite high, given comparable samples from other sites like VA-9 (*Breñas* in *Vega Alta*, Roe 2008). Drawing the sample, Roe recorded its exceptional execution, noting a number of influences. Indeed, such is the quality and diversity of these ceramic materials that they suggest the site’s possible role as a peripheral satellite producer of pottery for primate Taíno villages from present - day Dorado to Bayamón.

While the Chican material from *La Arena* is largely of the Esperanzan style (“style” being the equivalent of a sub-sub-series, as in the Hacienda Grande style of the Cedrosan sub-series of the Saladoid series), *La Arena* has some material from *Capá*, with its characteristic dot finials, brought in as trade items (Figs. 2A). Lastly, a very fine, hard, compact paste with an ultra-smooth, almost soapy surface treatment characterized other dot finial sherds, *Boca Chica* imports from eastern Hispañola (Figs. 2B-E).

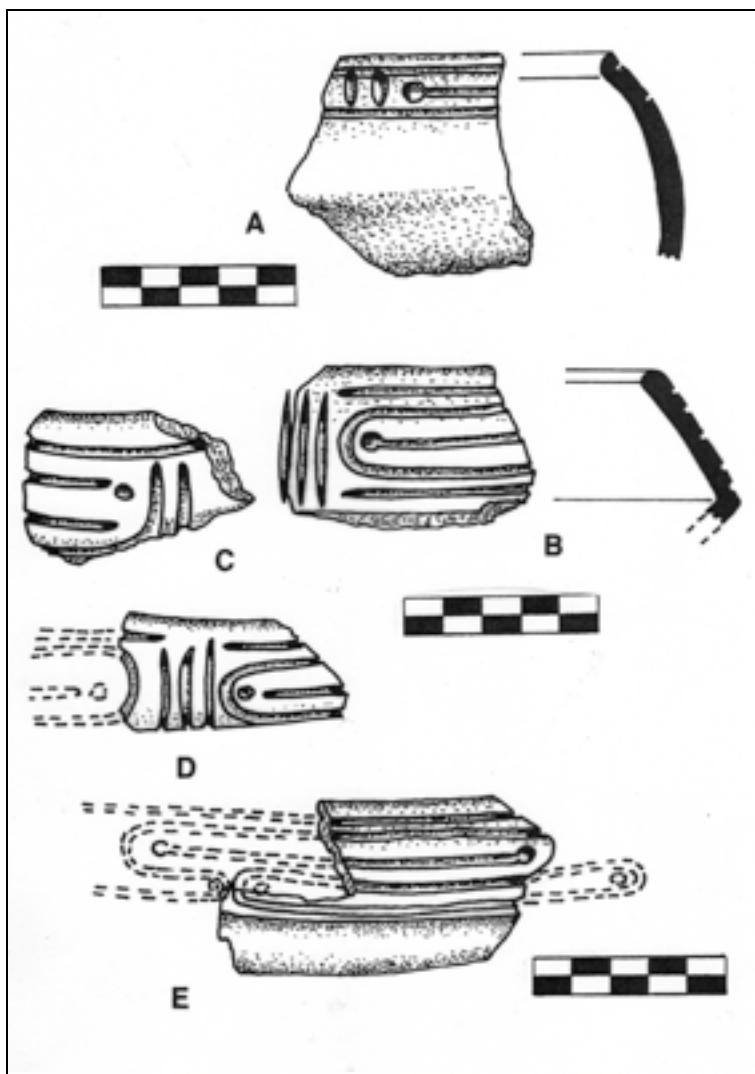


Figure 2. Capá-style sherds

Salute! Enter the Archaistic Beer Mugs

Recovered from the midden (S32/W08, 20-30 cm.), one specific vessel shape of evident ceremonial function hints at archaistic recreation. This curious vessel (Fig. 3A) looks like it is archaistically inspired by the “flying saucer” Cedrosan Saladoid mugs (doutless for quaffing manioc gruel) with their marked carination and labyrinthine linear fine-line incised designs (Fig. 3B). The similarities are striking, particularly in the extremely in-canted rim with a sharp, beveled lip, the exceptional thinness and hardness of the vessel wall, its symmetry and fine floated surface. The dark cordovan brown slip and paste as well as the areas of excision (defining the top and bottom of the junction of the linear incision oval nested motifs on its above-shoulder / below rim design layout) also echo Taíno woodcarving. Indeed, it is probably an imitation, in ceramics, of a finely-wrought carved wooden cup. This vessel is exceptionally thin and well made with an exaggerated keel and a direct rim with a thinned, pointed rim. Large at a 9cm. rim diameter, 20cm. maximum width at keel, and a 14cm. height with a base of @10 cm., the whole vessel has an undeniable Saladoid caste. The long lozenge-like designs in fine “linoleum-block cut” crisp incision, complete with their central

closed “eyes” hark back to Saladoid linear incised designs, but without the pre-fire paint to highlight the incisions. Instead, this vessel probably used post-fire kaolin crusting, an easier technical solution within its artisan’s more limited capabilities. This vessel argues for archaism in the creation of Chican Ostionoid. Moreover, it is not unique. Similar sherds have surfaced in Taíno contexts at the *Punta Mameyes* site, Dorado.

Other *La Arena cazuela* vessels have an even more extreme, very steep, in-sloping upper vessel body wall of only 10-15 degrees, practically horizontal (Figs. 4A-C)! These Esperanzan vessels might be archaistic replicas of the much earlier Hacienda Grande style chalices (Roe 1989: Figure 4), with their exaggeratedly in-angled profiles to highly restricted orifices. Such upper body walls close to a direct inwardly-canted “beveled and thinned” rim ending in a flat lip. This produces a vertical facet on the interior of the rim, probably the elegant desired result. It too harks back to Cedrosan Saladoid precursors.

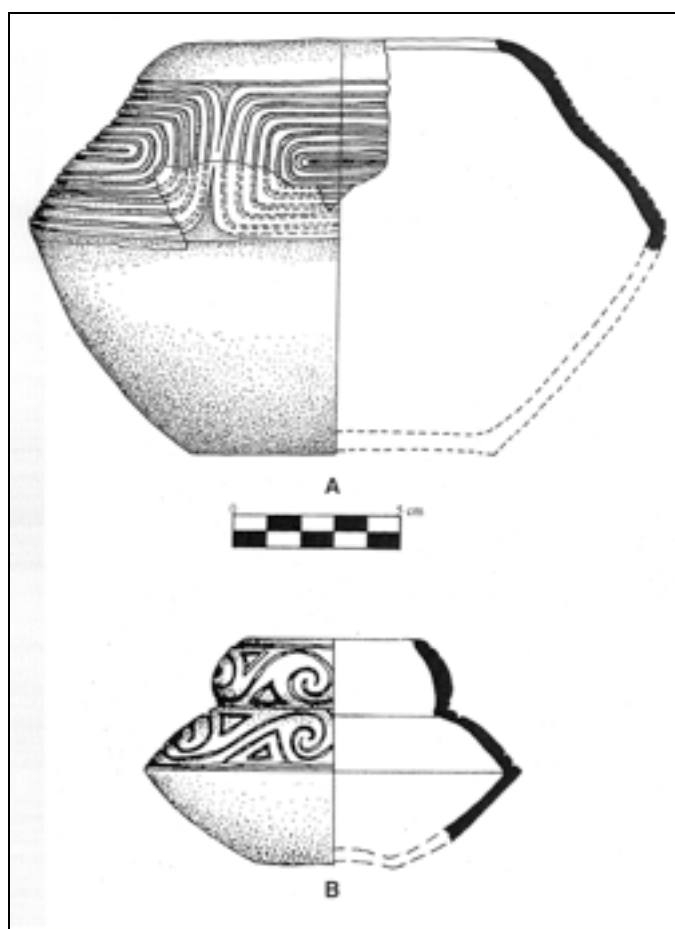


Figure 3. Archaistic vessel from La Arena Site with its Hacienda Grande prototype

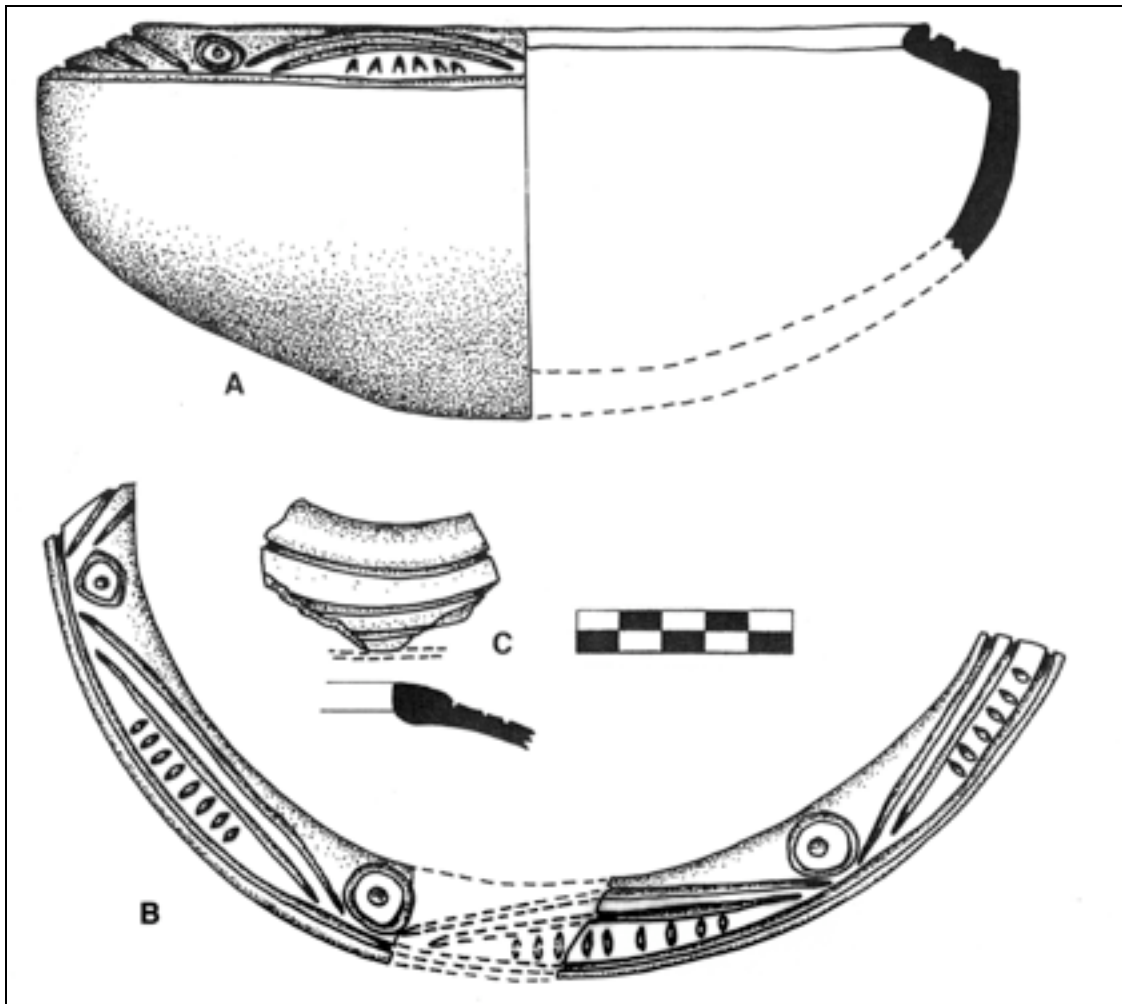


Figure 4. Severely in-canted bowls reminiscent of the upper section of Hacienda Grande chalices

You Can Never Go Back: Stylistic Changes in Archaistic Pottery

One possible additional factor for the relative period of Pre-Taíno simplicity and the sudden “re-complexification” of ceramics under the Taíno therefore could be the archaistic modeling of Taíno pottery recursively on Saladoid prototypes. Yet these later Taíno “copies” are easily distinguishable from the Saladoid originals. The principal alteration comes in surface decoration: the lack of paint, especially pre-fire slip paint, on Taíno pottery. Instead, reliance was placed exclusively on plastic decoration that could pass through fire. The percentage of such decoration (incision, modeling and appliqué) in Chican Ostionoid is much higher than in the Elenan phase, although some of it clearly derives from Elenan antecedents. Thus while Taíno pottery represents a “second ceramic apogee” in the Greater Antilles (Roe 2004), it still cannot compare with the incredible plethora of vessel forms and decorative techniques of the tribal Saladoid potters. Instead, Chican pottery was more stereotyped and was produced in greater quantity and uniformity, a “craft commodity” in a stratified society, not an “art.” This explains why there was no “fine-ware” (that was reserved for carved wooden *cohoba* snuffing vessels), since all pots could be cooked in. There was, however, a “presentation cook ware” for ceremonial and ritual use which was

better made, more elaborate and often had effigy features added beyond the minimal embellishment of the ordinary cookware. While most of the presentation ware had flat bases, the cook ware had rounded bases to sit well in the ashes of the fire. Moreover, much of the incision on Taíno presentation ware may have carried white kaolin, red hematite and yellow limonite post-fire crusting to highlight the designs, just as many of their petroglyphs were so-highlighted (Alegría 1941a-c). The same could be said of the intricate incised and excised designs on Taíno woodcarving. Proof for such post-fire resin crusting comes from the *La Arena* assemblage. Orange hematite (anhydrous ferric oxide) was rubbed into the incisions of the miniature sea turtle effigy bowl (Fig. 5A-B), like Huecan and Cedrosan Saladoid precursors (Fig. 5C-D).

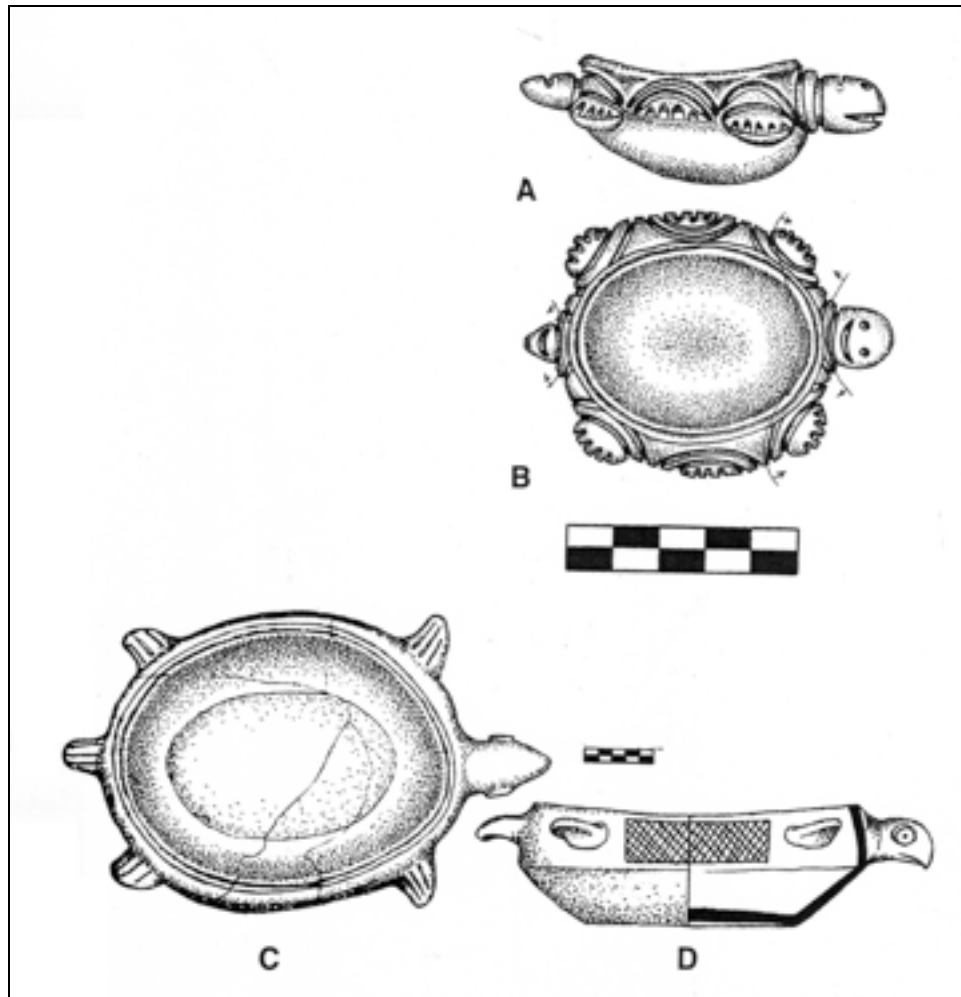


Figure 5. Miniature turtle effigy bowl (A, B) with its Hacienda Grande prototype (C, D)

Other alternations lie in the dimension of vessel shape like the absence of Saladoid true carination, although the Taíno potters tried their best to duplicate it by giving some of their pots a very sharp keel (Fig. 6A-B) and a shallow-angled, in-sloped rim. An additional form alteration was the persistence of flat bases with a slight concavity from Saladoid - Monserratean pottery (on the “presentation cook ware,” Figs. 7A-C), and even ring or shallow annular bases (Figs. 7D-E) in emulation of the tall annular bases of Saladoid pottery (Roe 1989: Fig. 2a). While most are 5-6 cms. in diameter and from 2.5-3mm. thick at the ring, one small example is only 4.5 cm. in

diameter and just 1 cm. tall (Fig. 6A). It, and others (Fig. 6C), present almost impossibly “tippy” bowls.

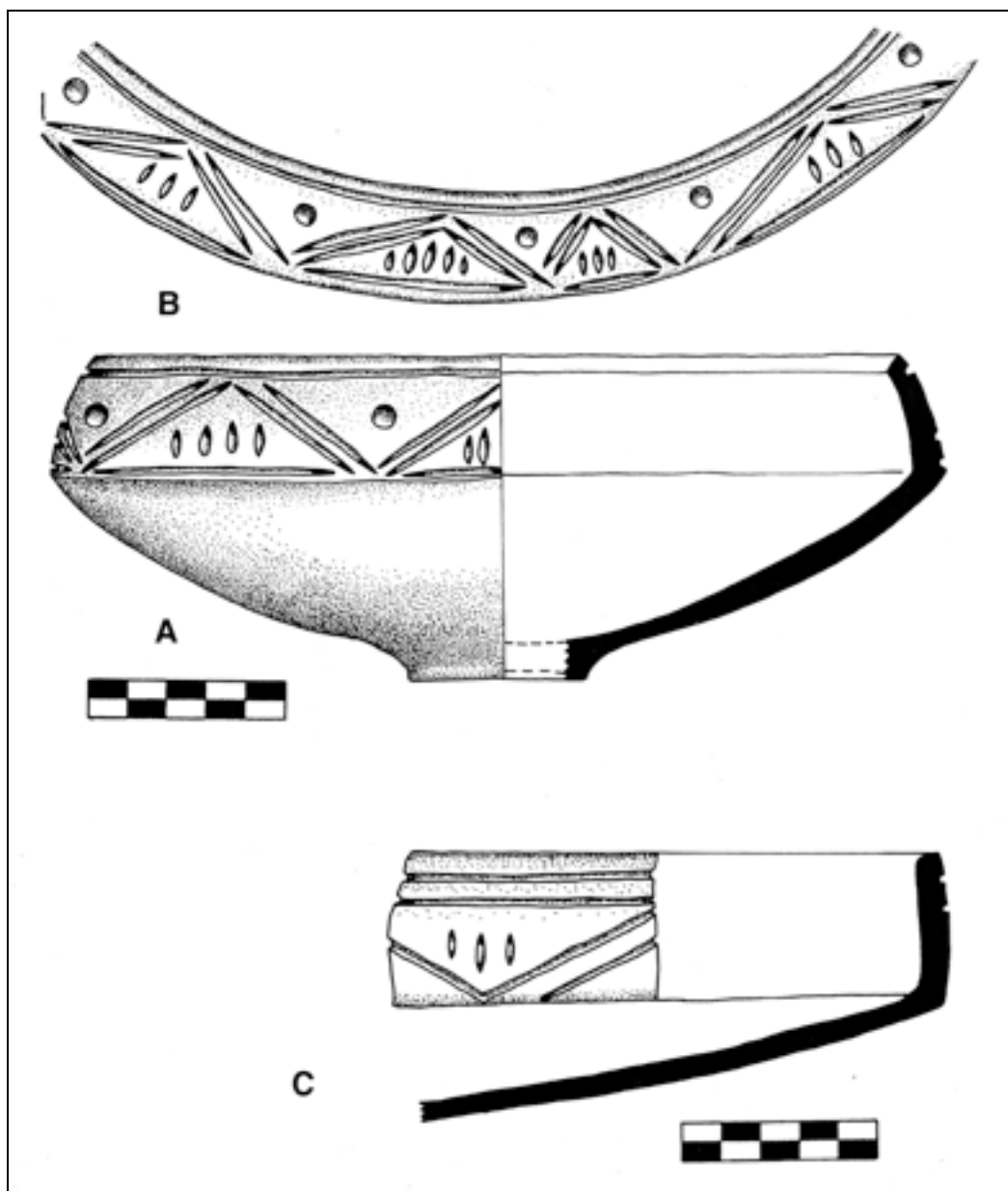


Figure 6. Exaggeratedly narrow ring-based bowls from La Arena

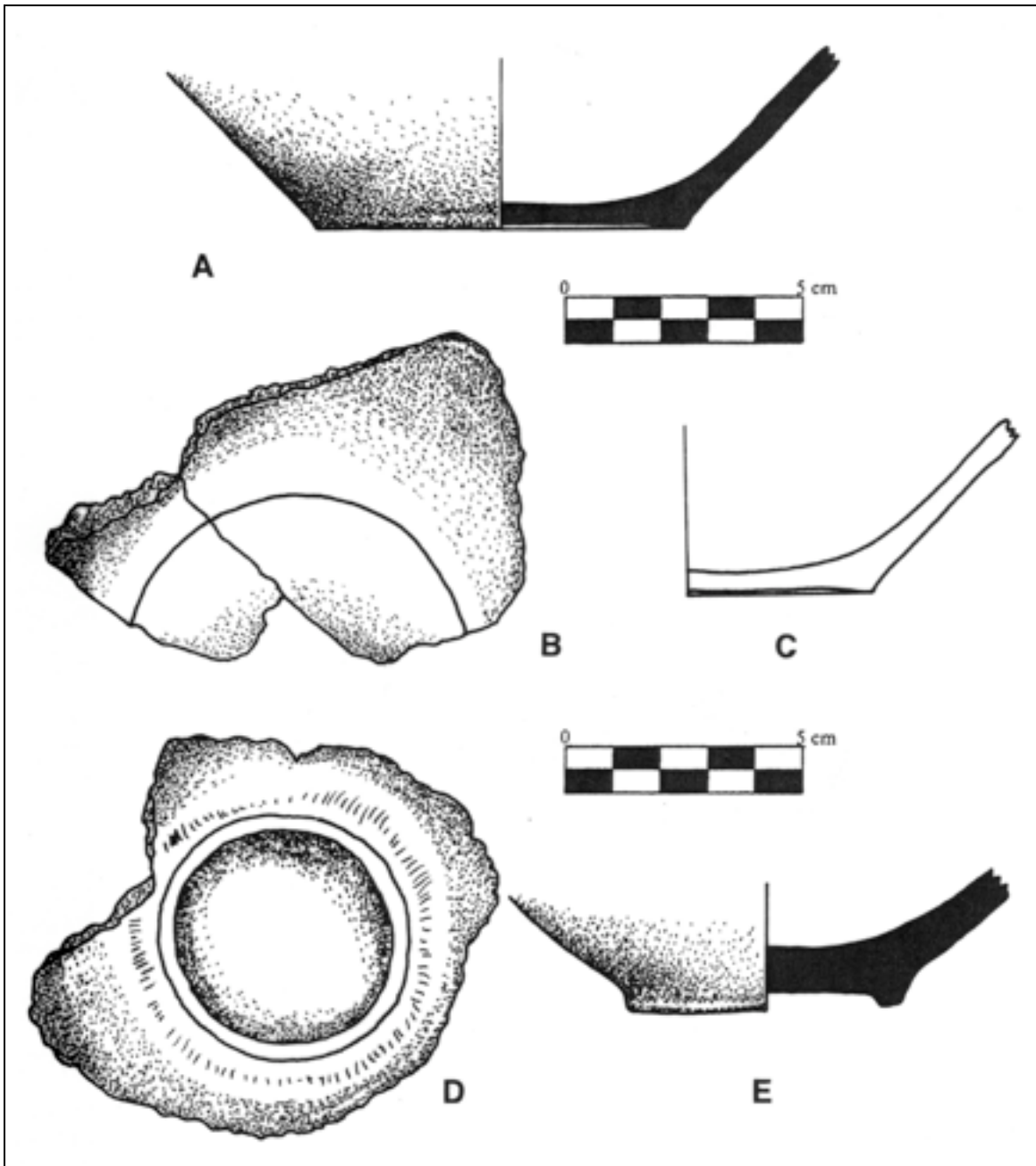


Figure 7. Saladoid-descendant concave flat bases and ring bases

There was also the tendency to put some upward-looking *adornos* on expanded flange rims that emulate, in a similar minor (shortened) mode (Fig. 8A), the exaggerated labial flanges of Saladoid pottery. These rims also continue the Saladoid tradition of “anotropic organization,” (X) the creation of dual images by inversion (Figs. 8A where an upright effigy forms a human face with a notched coiffure crest, but inverted, 8B, it transforms into an insectivore visage with the crest forming a flattened nose). Other vessels have an internally-and-externally-expanded rim with a flattish lip with rounded edges. This is an outward-canted form that leaves a narrow “flange” which forms a design field for horizontally-banded incision (Figs. 9A-C). It is associated with slightly-restricted cook bowls that change shape allometrically from round in these small examples to oblong in the larger specimens (Figs. 10A-B). Their flange rims too are distantly related to Saladoid labial flanges.

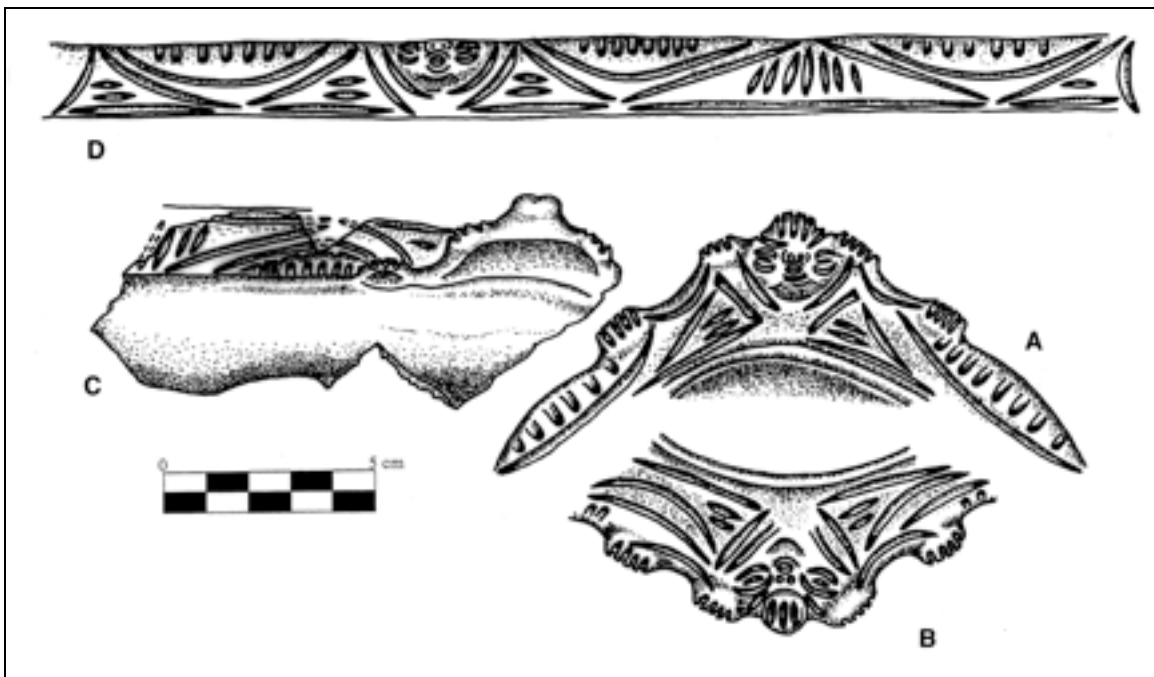


Figure 8. Upward-looking flange-rim adorno

Saladoid-inspired inward-looking *adornos* (figural lugs) decorate elongated anthropomorphic solid-food presentation trays (Figs. 11A-D) and turtle effigy bowls (Figs. 12A-C) continue important Cedrosan Saladoid mythic themes (Roe 1989: Fig. 3).

Another case of “attribute reappearance,” absent in Pre-Taíno times, is the decoration of the interior of *buréns*, or manioc griddles. In Taíno griddles the incised designs appear as marginal encircling bands (Figs. 13A-D). One of these bands uses a set of “goggled” eyes, probably representing the owl, as a spacer (Fig. 13D). This is a common motif which also appears in petroglyphs (Roe 1991: Fig. 18b-d). Such an instance establishes a cross-media isomorphism (the same design in multi-media, c.f., Roe 1993) that ties such rock art images to these ceramics. One *burén* fragment does have rare interior incision (Fig. 13E) that recalls the practice of overall incised Cedrosan Saladoid patterns (Rodríguez Ramos 2005: 77). This would have resulted in manioc bread with a positive pattern, not as anomalous as it sounds since Roe has witnessed modern Carib (Waiwai) cooks on the Upper Essequibo in Guyana sprinkling agglutinated manioc soupy-flour on the surface of a baked cake to provide a design. Thus the “aesthetic

imperative” so common in Amerindian culture, the desire to inject art into non-art domains (Roe 1995) even applies to food! These *La Arena* specimens also retain the earlier Cedrosan Saladoid *burén* raised lip (Fig. 13C) indicating the bitter manioc mash was still liquidly before baking.

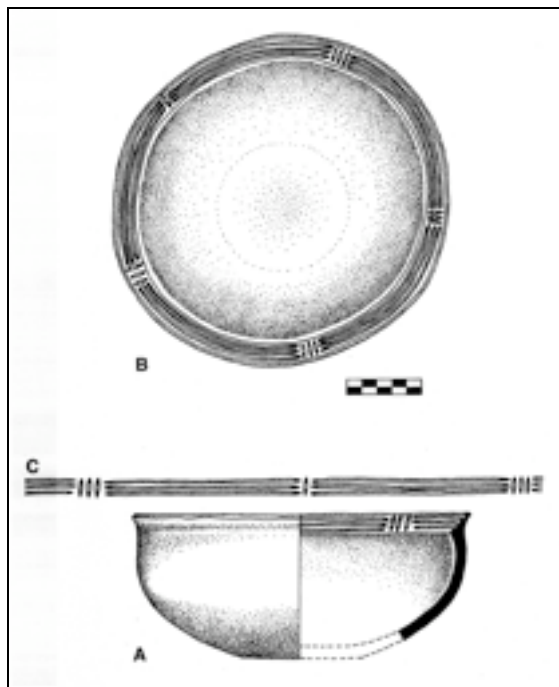


Figure 9. Circular incised flange-rim bowl from La Arena

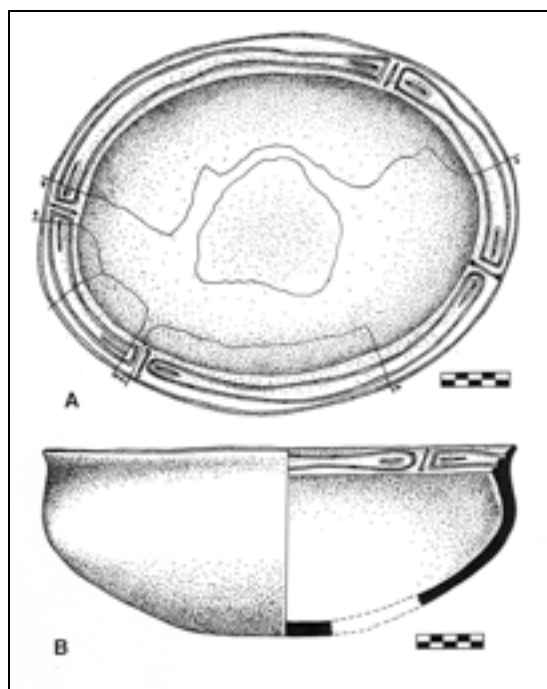


Figure 10. Oval incised flange-rim bowl from La Arena

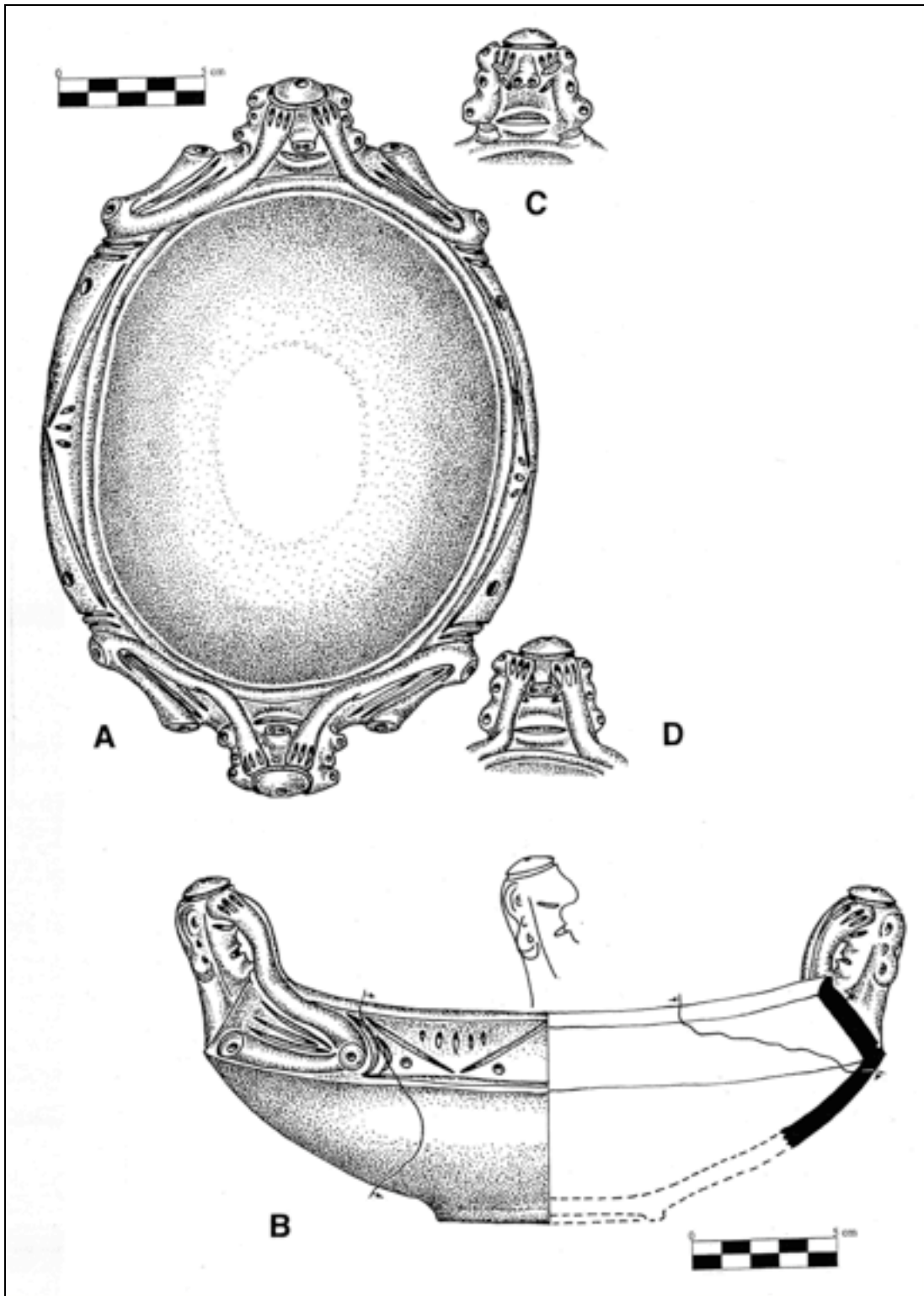


Figure 11. Inward-facing anthropomorphic adorno bowl from La Arena

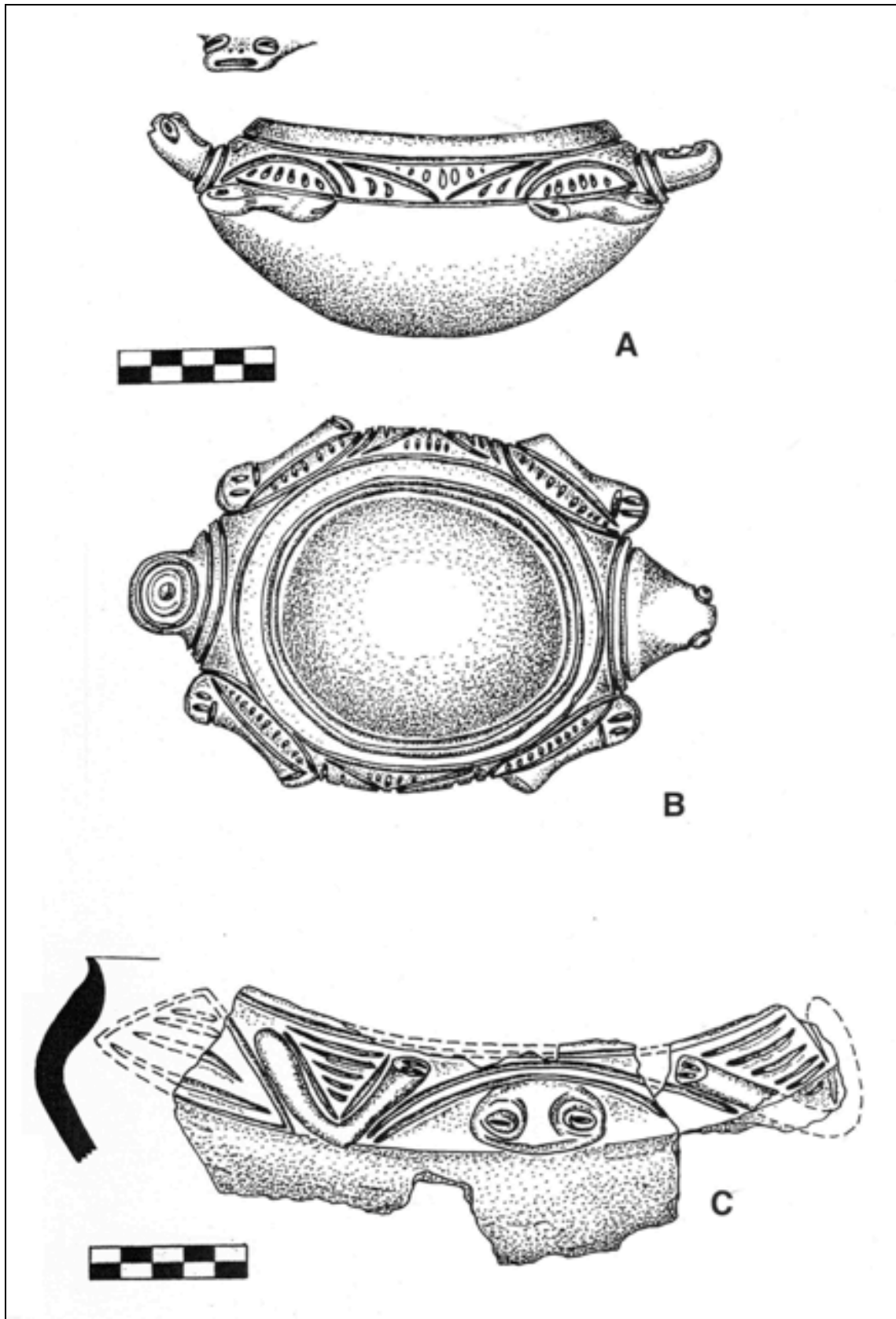


Figure 12. Medium (A, B) and large-size mode (C) turtle effigy vessels from La Arena

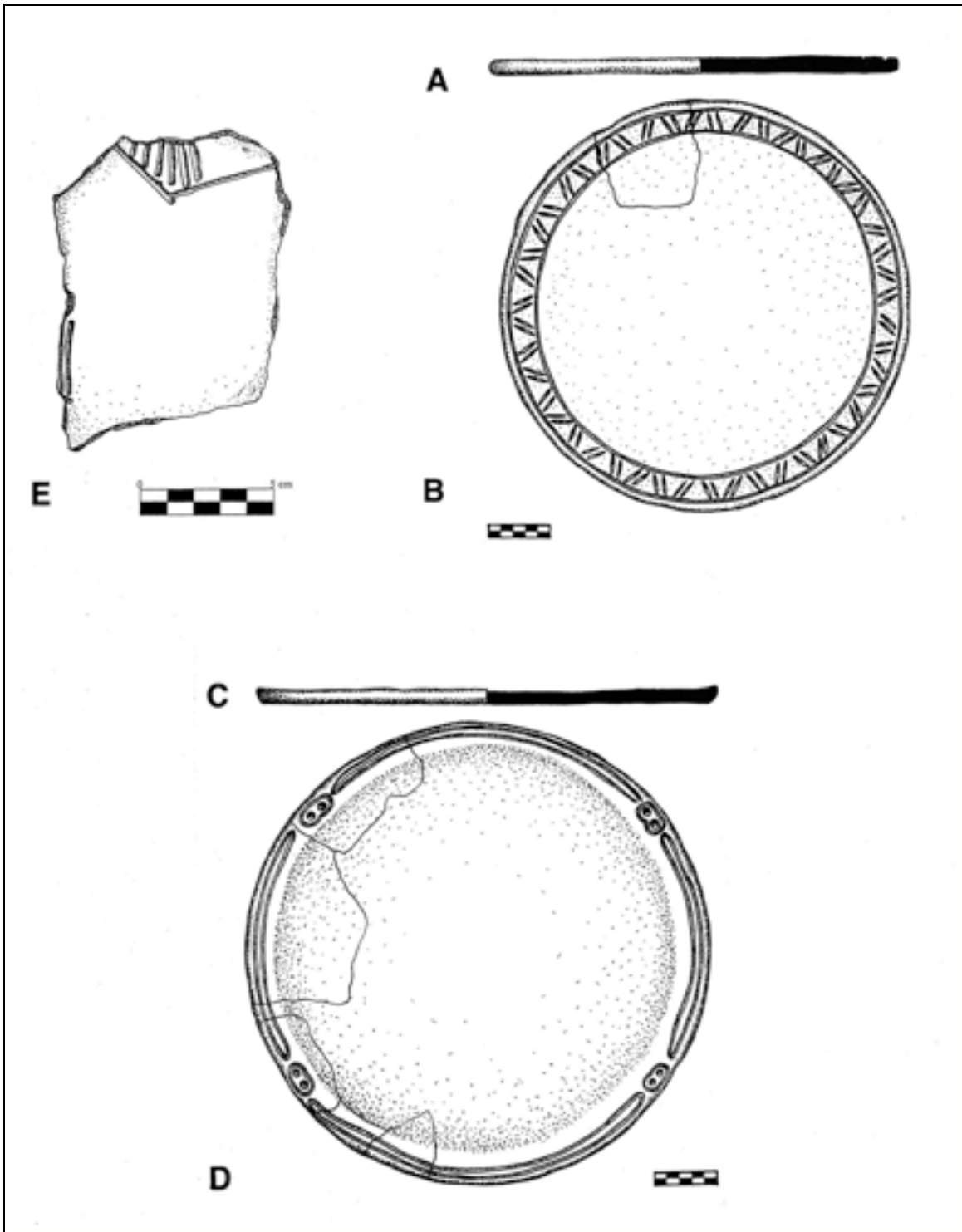


Figure 13. Burens with internal incised designs from La Arena

The Designs Descend: Generative Grammatical Analysis also Suggests Archaism

The Chican Ostionan style, as exemplified by the corpus from *La Arena*, derives four of its six main types of designs from the ancient Saladoid series (Roe 1989: Fig. 52). Mode 1's scroll-based designs descend from the ancient Cedrosan Saladoid scroll and its associated triangular motifs (Fig. 14A2-5). Via a single intercalary stage (hypothetically based on the last Saladoid derivative by simply floating the nested triangular element rather than having it attached to the scroll=A6), these early designs, in turn, produced the classic Chican Ostionoid roundel-and-triangle motifs (Fig. 14B1-2) by the simple expedient of severing the connection of the scroll with its diagonal shaft, pushing it down to the register of the triangular motif, and closing the spiral of the scroll-head into a concentric circle, or roundel, the enlarged tip of the spiral becoming the central dot of the roundel.

Arc motif-based designs compose Mode 2. They are generated by enclosing the roundel with two horizontally-reflected triangular elements. Mode 3 encompasses the triangular, zig-zag-based designs, derived from isolating the triangles from the triangle-and-roundel design of Mode 1 and utilizing it as the repeat unit. These designs appear on anthropomorphic images' ligatures and on stone collars, probably emulating snake patterns.

Mode 4 is composed of the "I" and "□"-based narrow, rectangularized banded designs from both Huecan and Cedrosan Saladoid (Fig. 14C1-4). They become similar Chican Ostionoid elongated motifs (14C7-9) by collapsing two opposed "□"s into a closed lozenge (14D1-2) and elongating that into a bared lozenge (14D4), the ends of the central line becoming the finial dot.

The "interlocking" designs comprise Mode 5, which is, once again, based on the Cedrosan Saladoid precursors. It transforms the downward-facing "C" into a double-lined variant and the elongated lozenge with central parallel line into an elongated lozenge with central paralleling line ending in dot finials. Then, slide-reflection on two stacked registers produces interlocking patterns joined at their terminae (Fig. 14D5). Mode 6 forms the rectangularized version of the lozenges from Mode 4. They too derive from the antecedent Huecan and Cedrosan Saladoid series and ultimately simplify into "empty" paralleling lines with terminal vertical lines (14C11).

In short, the design analysis coheres with the vessel form modes to argue for the strong emulation of Saladoid modes in Chican Ostionoid pottery from the *La Arena* site and others. Such emulation can best be explained by an acts of archaism based on collected Saladoid sherds from abandoned archaeological sites still used as "resource patches" by both Ostionan and Elenan Ostionoid populations developing into the proto-historic Taíno.

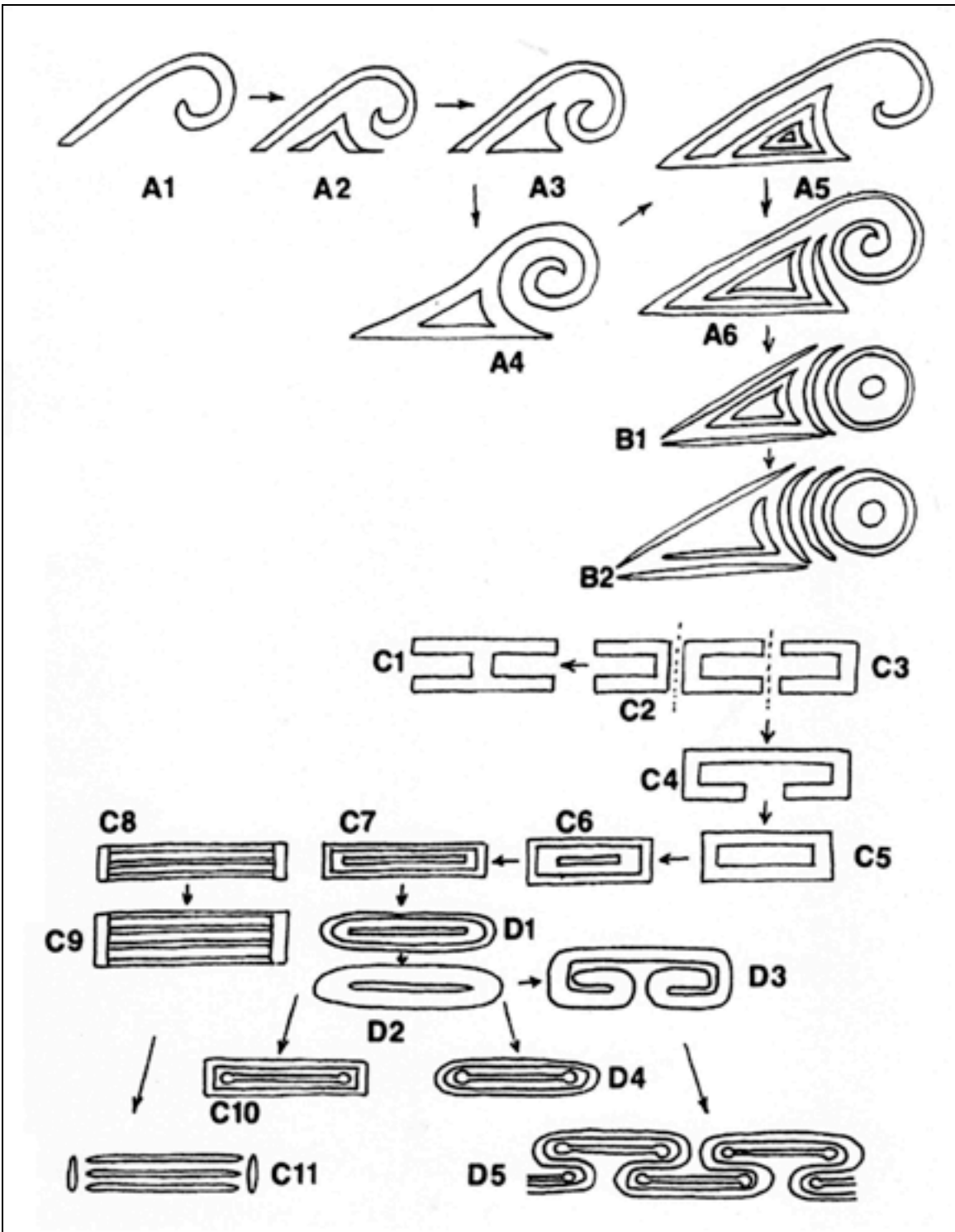


Figure 14. Derivational chains generating Chican Ostionoid design motifs from Saladoid prototypes

Conclusion

While many elements tie the *Esperanza* style of eastern *Borinquen* Chican Ostionoid pottery to the anterior Elenan Ostionoid sub-series, there is evidence for the strong role of archaism back directly to Saladoid (especially Cedrosan Saladoid) modes in the creation of the western *Borinquen* Chican Ostionoid (Capá) style. A specific vessel type, the “flying saucer” manioc beer mug from the *La Arena* site, indirectly seconds Rouse’s suggestion of archaism helping to create the *Boca Chica* style of Hispanola. The past can, indeed, live again, even in the past.

Bibliography

- Alegría, Ricardo E. 1941a "Petroglifos Indígenas." *La Torre* 2(55): 6.
- _____ 1941b "Notas del trabajo del campo." Old San Juan, PR, collection of the author.
- _____ 1941c "Lugares visitados: En los cuales hemos halado rastros de nuestros indígenas." Old San Juan, PR, collection of the author. Authorized copies of 1941b, c in the library of Dr. Peter G. Roe, Department of Anthropology, University of Delaware, Newark, DE 19716.
- Anderson, Richard L. 1989 *Art in Small-Scale Societies*. 2nd. Ed. Englewood Cliffs, N.J.: Prentice Hall.
- Barth, Fredrick 1969 "Introduction." In Fredrick Barth (ed.), *Ethnic Groups and Boundaries: The Social Organization of Social Difference*. Pp. 9-38. Boston: Little, Brown.
- Benson, Elizabeth P. 1972 *The Mochica: A Culture of Peru*. London: Thames and Hudson, Ltd.
- Curet, Luís Antonio 1992c "House Structure and Cultural Change in the Caribbean: Three Case Studies from Puerto Rico." *Latin American Antiquity* 3 (2): 160-174.
- Maquet, Jacques 1971 *Introduction To Aesthetic Anthropology*. A McCaleb Module in Anthropology. Reading, Mass.: Addison-Wesley.
- Raymond, J. Scott, Warren R. DeBoer and Peter G. Roe 1975c *Cumancaya: A Peruvian Ceramic Tradition*. Occasional Papers 2. Calgary, Canada: Department of Archaeology, University of Calgary.
- Rodríguez Ramos, Reniel 2005 "El utillaje pétreo huecoide." In Luis Chanlatte Baik and Yvonne Narganes Storde (eds.), *Cultura La Hueca*. San Juan: Museo de Historia, Antropología y Arte, Universidad de Puerto Rico, Recinto de Río Piedras. Pp. 72-77.
- Roe, Peter G. 1976 "Archaism, Form and Decoration: An Ethnographic and Archaeological Case Study from the Peruvian *Montaña*." *Ñawpa Pacha* 14: 73-94, Pls. 26-29.
- _____ 1989 "A Grammatical Analysis of Cedrosan Saladoid Vessel Form Categories and Surface Decoration: Aesthetic and Technical Styles in Early Antillean Ceramics." In Peter E. Siegel (ed.), *Early Ceramic Population Lifeways and Adaptive Strategies in the Caribbean*, Pp. 267-382. Oxford: British Archaeological Reports International Series.
- _____ 1991 "The Petroglyphs of Maisabel: A Study in Methodology." *Comptes Rendus des Communications du Douzième Congrès International d'Archeologie de la Caraïbe*, Cayenne, Guyane Française, 1987. Pp. 317-370. Martinique: Association Internationale d'Archeologie de la Caraïbe.
- _____ 1993 "Cross-Media Isomorphisms in Taíno Ceramics and Petroglyphs from Puerto Rico." In Alissandra Cummins and Philippa King (eds.), *Proceedings of the Fourteenth*

- Congress of the International Association for Caribbean Archaeology*. Pp. 637-671. St. Ann's Garrison, St. Michael, Barbados. 1991.
-
- 1995 "Style, Society, Myth and Structure." In Christopher Carr and Jill E. Neitzel (Eds.), *Style, Society, and Person*. Pp. 27-76. New York: Plenum Publishing Corporation.
-
- 1996 "Estilo artístico e identidad étnica entre los Shipibo y los mestizos de la montaña peruana." In J. Jorge Klor de Alba, Gary H. Gossen, Miguel León Portilla and Manuel Gutiérrez Estévez (eds.), *De Palabra y Obra en el Nuevo Mundo* Series, Vol. 4. *Tramas de la Identidad*. Pp. 343-408. Madrid and Mexico City: Siglo Veintiuno. 1995.
-
- 2004 "The Ghost in the Machine: Symmetry and Representation in Ancient Antillean Art." In *Embedded Symmetries: Natural and Cultural*, edited by Dorothy Washburn. Albuquerque: University of New Mexico Press. Pp. 95-143.
-
- 2008 "Laboratory Ceramics Analysis: The *Breñas* Site." In *Sitio VA-9, Breñas. Proyecto Cliffside Villages, Dorado, Puerto Rico: Fase de Mitigacion, Informe Final*. Prepared for: Ing. Juan González Colón, MA. Caribbean Archaeologist & Assoc. Ponce, Puerto Rico. Juan González Colón and Jeffrey Walker, Co-Investigadores Principales.
- Roe, Peter G. and Michele Hayward 2008 "Rock of Ages: Rock Art and Ethnic Identity in Ancient and Modern Puerto Rico." In Inés Domingo Sanz, Dánae Fiore, and Sally K. May (eds.), *Archaeologies of Art: Time, Place, Identity*. Pp. 51-77. Walnut Creek, CA: Left Coast Press, Inc.
- Rouse, Irving 1992 *The Tainos: The Rise and Fall of the People Who Greeted Columbus*. New Haven and London: Yale University Press.
- Rowe, John H. 1971 "The Influence of Chavín Art on Later Styles." In Elizabeth P. Benson (ed.), *Dumbarton Oaks Conference on Chavín*. Pp. 101-124. Dumbarton Oaks Research Library and Collections, Washington.
- Vega de Boyrie, Bernardo 1987 *Arte neotaino*. Pamphlet. Santo Domingo, R.D.: Fundación Cultural Dominicana.
- Walker, Jeffrey B. 2008 "Laboratory Lithics Analysis: The *La Arena* Site." Bo. Hato Tejas, Bayamón. Prepared for: Febus Enterprises, P.O. Box 6360, Santa Rosa Unit, Bayamón, PR 00960-9004 by Hernán Ortiz Montañez, MA. Vega Alta, Puerto Rico.: HO Servicios Arqueológicos, CSP. Submitted To: Consejo para la Protección del Patrimonio Arqueológico Terrestre de Puerto Rico. P.O. Box 9024184, San Juan, PR 00902-4184.